

**Office of the Vice Provost for Research
and
Dean of the Graduate School**

**Annual Report
Fiscal Year 2006**

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Executive Summary

Total **sponsored program awards** for FY2006 totaled \$72,346,209, representing an increase of 21.4 percent compared to FY2005. The composition of FY2006 awards by funding source included \$42,612,306 (59%) from federal sources, \$8,296,926 (11%) from state sources, and \$21,436,977 (30%) from other funding sources such as industry and private foundations.

The Office of Research Support and Sponsored Programs (RSSP) **processed 763 proposals** and requests for continuation of multi-year awards in FY2006, constituting a total funding request of \$165,046,695, a 15 percent decrease in requested funding as compared to FY2005. In FY2005, 794 proposals were submitted through RSSP.

The Office of Research and Sponsored Programs successfully negotiated a new **Animal Welfare Assurance** with the US Department of Health and Human Services, effective for five years.

The Office of Technology Licensing reported **gross licensing income** of \$397,224 in FY06, an increase of six percent over the previous year.

The University of Arkansas and the UA Division of Agriculture jointly funded a new position for a **patent attorney** to work with the Office of Technology Licensing. This position has been filled; Dr. Lisa C. Childs will begin work on October 1, 2006.

Graduate School enrollment was 3084 in fall 2005 compared to 2969 in fall 2004, a 3.9% increase. Doctoral enrollment increased from 877 to 922 in the same time period, a 5.1% increase.

A total of 134 **doctoral degrees** were awarded during the 2005-06 academic year compared with 145 the previous year.

The total number of **African-American, Hispanic-American, and Native-American** graduate students increased from 265 (Fall 2004) to 292 (Fall 2005) and now comprises 11.7% of the domestic graduate student population.

Enrollment in **interdisciplinary degree programs** administered by the Graduate School has doubled since 2001 (from 85 to 172) and collectively awarded 20% of the PhD degrees in the 2006 UA graduating class.

In 2005-06 there were 112 **Walton Doctoral Academy Fellows** and 41 **Walton Distinguished Doctoral Fellows**. Seventy-nine graduate students who contributed to the diversity of their programs held **Benjamin Franklin Lever fellowships**. Seven students held SREB fellowships.

The **Office of Program Assessment** completed its first full academic year in FY06 under the direction of Dr. William Warnock. Degree programs were reviewed in twelve departments.

The Office of Graduate Recruitment and the Associate Vice Provost for Research hosted six seminars in the **Graduate Student Professional Learning Series** during AY 05-06. The seminars focused on professional ethics and the responsible conduct of research.

The **George Washington Carver Project** experienced remarkable growth in FY06 with the participation from 32 students representing 22 minority-serving institutions. This compares to 18 students from 11 institutions in FY05.

The **Ph.D. program in Public Policy** is coming of age with ten graduates in AY 05-06 and an enrollment of 61 students in Fall 2005.

The **Microelectronics-Photonics** Graduate programs have enrolled 127 students during their brief lifetime of which 60 have graduated and left the university. Of these students, 17% are underrepresented minorities and 24% are women.

The new interdisciplinary graduate programs in **Space and Planetary Sciences** had their first graduates in AY 05-06. A total enrollment of 16 students is expected in Fall 2006.

Fifty-two students were enrolled in **Cell and Molecular Biology** graduate programs this year with seven graduating; five earned a M.S. degree and two earned a Ph.D. degree.

The **University of Arkansas Press** had a gala celebration of its 25 years of operation with a guest appearance by Billy Collins--two time US Poet Laureate and UA Press best-selling author.

The **Survey Research Center** engaged in 29 projects during FY06. The staff completely administered 20 surveys during the year and wrote reports for 16 of the 29 projects. These numbers are all increases from a work level of 24 projects, 15 surveys, and 9 reports in FY05.

The **Center for Mathematics and Science Education** became the Northwest Arkansas partner on a \$7.4M-grant from the Donald W. Reynolds Foundation to support a mobile museum exhibit that will visit rural schools throughout Arkansas.

During the past year, **Testing Services** administered more than 366 different test sessions and served over 11,000 students and prospective students who were attempting to satisfy admission/degree requirements at UA and other institutions.

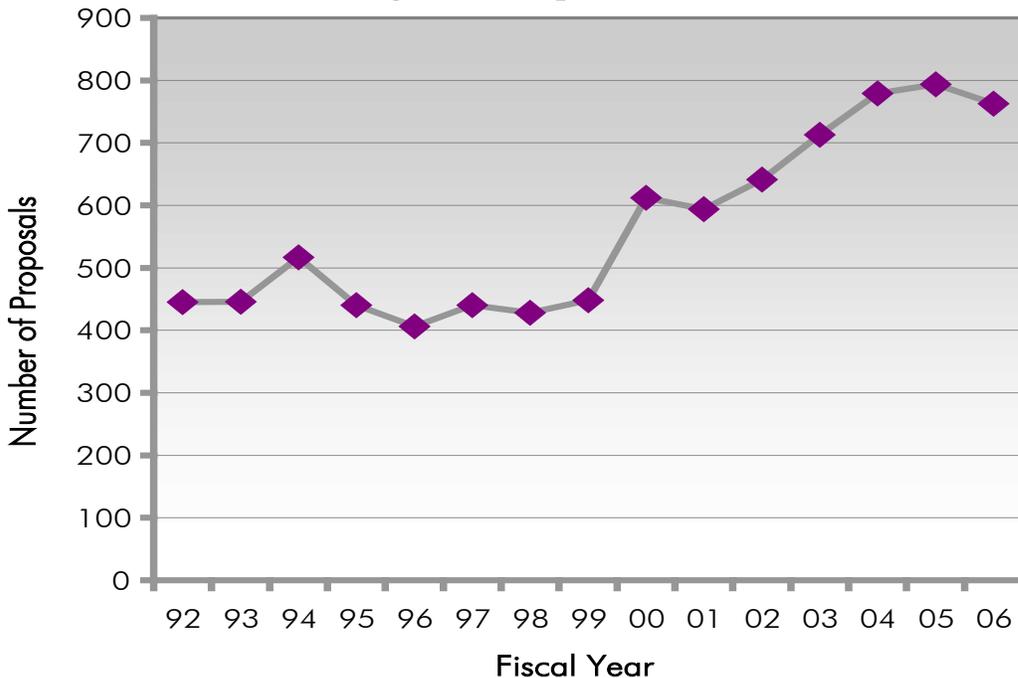
Among a number of **personnel changes**, Dr. Douglas Rhoads was appointed Director for of the Cell and Molecular Biology Program, replacing Dr. John Kirby who took a position at South Dakota State University. Dr. Carolyn Callahan was appointed to one-quarter time position as Associate Vice Provost for Graduate Studies. Dr. Lisa Childs was appointed as patent attorney reporting directly to the Vice Provost for Research and the Vice President for Agriculture. Dr. Johnny Jones, Assistant Dean for Graduate Recruitment, left the university to accept the position of chief academic officer at Arkansas Baptist College. Diane Cook will serve as interim director of the office until a replacement is named. Dr. John Hahn was hired as new staff veterinarian due to the untimely death of our friend and colleague, Dr. Richard Fulton.

Research Support and Sponsored Programs

Total sponsored program awards for FY2006 totaled \$72,346,209, representing an increase of 21.4 percent compared to FY2005. The composition of FY2006 awards by funding source included \$42,612,306 (59%) from federal sources, \$8,296,926 (11%) from state sources, and \$21,436,977 (30%) from other funding sources such as industry and private foundations.

The Office of Research Support and Sponsored Programs (RSSP) processed 763 proposals and requests for continuation of multi-year awards in FY2006, constituting a total funding request of \$165,046,695, a 15 percent decrease in requested funding as compared to FY2005. This includes requests of \$139,814,282 (85%) for federal funding, \$9,913,315 (6%) for state funding and \$15,319,098 (9%) for other types of funding. Figure 1 illustrates the history of submissions from FY1992 through the current fiscal period.

Figure 1—Proposal Submissions



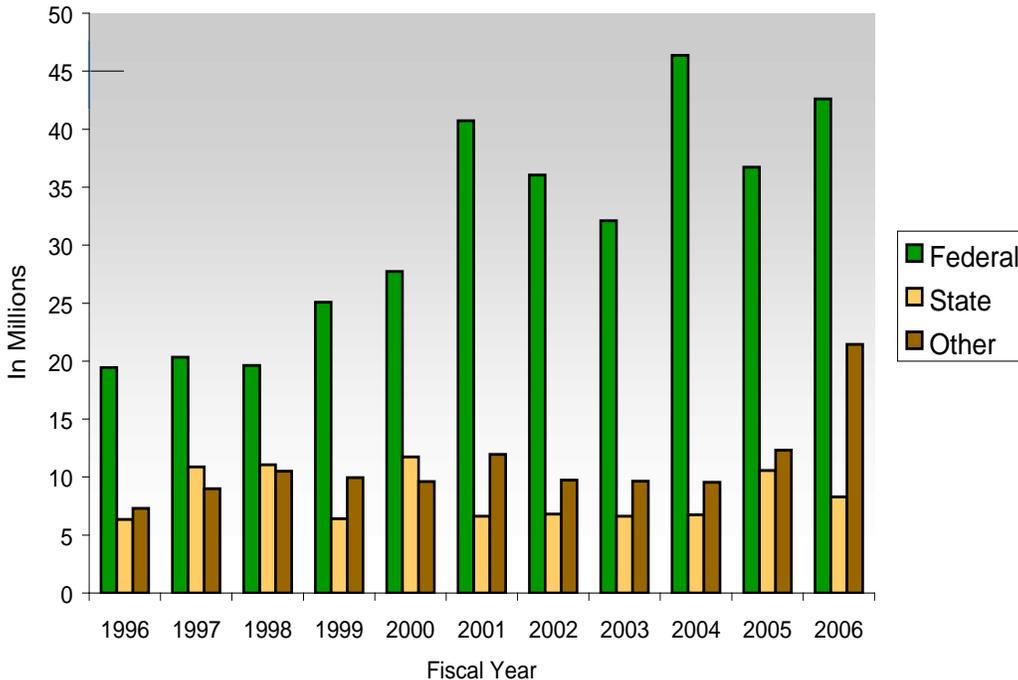
During FY2005 the number of proposal submissions to all sources was 763, a decrease of 3.9 percent over the previous fiscal year. This includes 368 proposals (48%) submitted to the federal government, 220 proposals (29%) to state government, and 175 proposals (23%) to other funding sources such as private foundations and industry.

As shown in Table 1, total sponsored program funding for FY2006 was \$72,346,209 which included awards processed by Research Support and Sponsored Programs for a total of \$59,815,097.

Table 1. Summary of Awards by Funding Source – FY 2006

	FEDERAL	STATE	OTHER	TOTAL
VCFA	\$ 986,322	\$ 750,000		\$1,736,322
AFLS	\$ 8,929,700	\$ 103,976	\$ 5,897,525	\$14,931,201
ARCH	\$ 22,400	\$ 1,755,949	\$ -	\$1,778,349
ARSC	\$ 17,424,077	\$ 1,387,067	\$ 1,075,349	\$19,886,493
WCOB	\$ 125,357	\$ 36,907	\$ 613,117	\$775,381
VCSA	\$ 2,835,148	\$ 29,987	\$ 11,850	\$2,876,985
EDUC	\$ 4,696,242	\$ 2,550,306	\$ 429,956	\$7,676,504
ENGR	\$ 6,332,778	\$ 1,568,935	\$ 13,092,848	\$20,994,561
GRAD	\$ 231,920	\$ 113,799	\$ 269,822	\$615,541
LAW	\$ -	\$ -	\$ 46,510	\$46,510
LIBR				\$0
VCAA	\$ 1,028,362			\$1,028,362
TOTAL	\$ 42,612,306	\$ 8,296,926	\$ 21,436,977	\$72,346,209

Figure 2—Award Trends by Source



During FY2006, there were significant personnel changes in RSSP. Ms. Ellen Thompson joined the staff as Senior Preaward Specialist. Ms. Thompson brings over 17 years of experience such as the performance of A-133 single audits in public accounting, the administration of federal and state grants as Comptroller of the City of Peekskill, and full life-cycle administration of grants for the Transit Standards Consortium, Inc. She most recently was a Preaward Specialist for Columbia University.

The University was saddened by the death of our long-time friend, and IACUC Veterinarian, Dr. Richard Fulton. We are very fortunate to have Dr. John Hahn join the

staff as our new Veterinarian. Dr. Hahn is recently retired from the US Department of Agriculture, Animal and Plant Health Inspection Services, where he served for over 20 years as a Veterinary Medical Officer. In addition to his duties as Veterinarian and member of the IACUC, Dr. Hahn is developing a training program in Occupational Health and Safety (OHS) specifically for animal care users and workers to meet the Federal mandate for an OHS Program.

Implementation by federal agencies of electronic proposal submission through the single portal, frants.gov, brought new challenges to RSSP staff and investigators alike. RSSP provided assistance to investigators in the use of frants.gov software and forms and successfully submitted over 40 proposals to various federal agencies. Frequent programming and other technical problems between agencies and Grants.gov staff was particularly troublesome as was server traffic which often delayed submission. Investigators are now being advised to have proposals which must be submitted through grants.gov completed at least three working days prior to the submission deadline. For those agencies which already have electronic project administration, e.g., NSF Fastlane, all post-award activities will continue to be managed through the agency portal.

RSSP has been working with InfoEd to update the services available through our research administration database. We have been unable to implement the proposal development module to allow internal electronic routing and approval of various activities. Several universities implemented the module and encountered significant difficulties due to deficiencies in the system. InfoEd is working with users to rectify problems in the software. The installation and implementation dates for the Proposal Development module are still uncertain at this time. When fully implemented, this new module will enable investigators to develop administrative data for RSSP's transmittal forms and to distribute them electronically to reviewers based on departmental routing approval chains. It will also allow the electronic submission and review of protocols for both the IRB and the IACUC.

Access to the database has now been made available on a limited basis for data mining. With the assistance of volunteers from three units, the database administrator, Kim Park, has been developing training and user materials which will allow us to make proposal and award data available via a secure web interface to all investigators and administrators. After the completion of a pilot project which is now underway, we expect to implement a "report reminder" system which will electronically remind investigators when they have project reports due to the sponsor.

Key goals of the InfoEd system will be to continue to provide accurate report information, improve compliance management, implement internal routing and approvals for proposals and compliance protocols (IRB and IACUC only), and provide additional reporting services to faculty and staff through direct contact with RSSP personnel or via RSSP's web page.

As in FY 2005, RSSP priorities have again centered on significant compliance issues. Accomplishments during the year include the development and approval, with the collaboration of Research Accounting, of a Direct Cost Policy (FPP 310.1 Direct Cost Policy) which was implemented in May 2006. The export of controlled technology is of national concern due to the current, world political and economic climate. The continued expansion of the scope and nature of research activities by our investigators has resulted in several administrative challenges. External legal counsel has been retained to assess current projects for possible export issues and to assist in developing training regarding Federal export regulations and requirements. While export control is primarily the concern of investigators, all university personnel who assist with or act in support of controlled research must be aware of regulations to ensure that controlled technology/information is not exported, either inadvertently or intentionally, without the required license(s) if any.

The Biosafety Committee has implemented new protocol forms. Further, Dr. Miriam Lonon, Biosafety Officer, and her staff report that laboratory inspections are now up-to-date, providing increased safety for all employees and improved compliance with Federal and State regulations.

The Institutional Review Board (IRB), which oversees human subjects research, saw a significant increase in the number of new protocols and protocol continuations submitted for approval. In FY2007, to meet federal requirements and the terms of our Federalwide Assurance, the IRB will implement mandatory training for all faculty, staff, and students engaged in human subjects research. Training will be provided by Collaborative IRB Training Initiative (CITI) through its *Human Subjects Research Educational Program* which meets the federal training requirements. Approximately 600 institutions and organizations have access to the CITI course site, with about 14,000 people per month completing a CITI course¹.

The Institutional Animal Care and Use Committee (IACUC) completed its semi-annual reviews on schedule. RSSP successfully negotiated a new Animal Welfare Assurance with US Department of Health and Human Services. The Assurance is effective for a period of 5 years.

Office of Technology Licensing

Executive Summary

The Technology Licensing Office (TLO) is responsible for protecting university inventions; securing property rights on them, primarily in the form of patents; and providing the University of Arkansas Technology Development Foundation (UATDF),

¹ CITI Co-Founder, Paul Braunschweiger Ph.D., Dept. Radiation Oncology, U of Miami School of Medicine, https://www.citiprogram.org/citi_information.asp

corporations, start-up companies, and entrepreneurs access to the associated intellectual property rights.

TLO further broadened the base of commercialization projects that have the potential to generate returns to the inventors, the University System, and the campus R&D infrastructure. TLO executed nine options, licenses and assignments covering University intellectual property, including with six Arkansas-based companies. TLO also participated in the first technology validation project with UATDF under the 2005 Intellectual Property Agreement with the University. The progress made on the project throughout the Fiscal Year bodes well for having more resources available for the commercialization of University intellectual property.

Gross licensing income rose six percent to \$397,224 compared with FY05, exceeding expectations. Since 1988 the University has earned almost \$8 million in licensing income from all sources, including royalties, licensing fees, and stock sale proceeds. TLO continues to develop relationships with established corporations and start-up companies, angel and venture investors, faculty inventors, value-add incubators, technology commercialization brokers, technology assessment and valuation experts, and patent attorneys. The relationships will help the University realize a better return on its investment in technology transfer, with spillover benefits for the State.

Technology Licensing

Universities are a key part of what State Science & Technology Institute² calls “intellectual infrastructure” – institutions that generate new knowledge and discoveries. The creation and exploitation of intellectual property (IP) rights is increasingly becoming an important contribution that the University makes to the State of Arkansas on behalf of Arkansans. As former Federal Reserve Chairman Alan Greenspan told the Stanford Institute for Economic Policy Research in February 2004, “...the fraction of the total output of our economy that is essentially conceptual rather than physical has been rising. This trend has... shifted the emphasis in asset valuation from physical property to intellectual property and to the legal rights inherent in intellectual property...”

University Board Policy recognizes that the dissemination of technological advances arising from research to the private sector is a component of a state-supported institution’s economic development mission. Equally important to the success of regional economies driven by technology commercialization is having a mechanism to transfer such intellectual capital from university laboratories, greenhouses, and classrooms to entrepreneurs or companies that can exploit them.

In 2005 the University formally partnered with the University of Arkansas Technology Development Foundation (UATDF) to further the jointly held goal of promoting a

² State Science and Technology Institute (SSTI) is a national non-profit agency that fosters industry-government interaction to spur economic growth <<http://www.ssti.org/>>.

knowledge-based economy in Arkansas. The University is investing to build not only an intellectual property portfolio, but also technology transfer capacity and physical infrastructure in conjunction with UATDF. The Foundation and the University entered into property use/management and intellectual property agreements intended to accelerate the promotion of the Arkansas Research & Technology Park (ARTP), spur the growth of GENESIS Technology Incubator companies, and develop industry ties for the University.

Under the September 1, 2005 Intellectual Property Agreement, TLO brings University inventions to the Foundation for review. If UATDF believes that the technology is appropriate to receive value-added resources under its validation / development / assessment program, then the faculty inventor will be asked to enter into a 3-way standstill agreement (effectively an option period). Working according to prescribed timeframes, UATDF will then decide whether to exercise its option to the intellectual property and request its formal transfer via assignment from the University. TLO plays a fiduciary responsibility on behalf of the faculty inventor, the campus, and the Board of Trustees of the University.

TLO serves as the working-level interface with UATDF, with which it is co-located. TLO and UATDF share contacts to the entrepreneurial, finance, and professional service communities vital for catalyzing technology transfer. In addition, the offices serve as a gateway for entrepreneurs and companies seeking access to the facilities, equipment and expertise found at a research university. This includes engagement with faculty members, students and graduates participating with Arkansas start-ups as officers, shareholders and employees.

Performance for Fiscal Year 2006

License/Option Activity

TLO executed nine option, license and assignment agreements covering University intellectual property. Six of the deals were with Arkansas-based companies, including five GENESIS Technology incubator clients or graduates. The agreements marked milestones in building knowledge-based companies in Arkansas focusing on such potentially beneficial technologies as skin cancer diagnostics, gold nanorod imaging, biosensors, and yeast-based anti-viral vaccines. The University and UATDF also entered into an inaugural standstill (option) agreement for a nanofiber catalytic membrane invention that shows great promise as a filtration and food safety material.

Annual technology licensing performance is subject to large variability. Outlying events, such as negotiating a pharmaceutical licensing deal or cashing in equity after a company licensee goes public, can skew the analysis, in particular, the revenue numbers. License income net of IP protection expenses is comprised of royalties generated from licenses, sublicenses, fees, milestone payments, and equity liquidations received as consideration from licensees for their rights to make, use, and sell products and processes protected by IP

owned by UA. Since 1988, the university has earned approximately \$7.95 million in licensing income from all sources, including royalties, licensing fees, and stock sale proceeds.

In a fiscal-year-to-fiscal-year comparison, gross licensing income rose six percent to \$397,224. This compares favorably to the 14 percent decline that had been forecast based on the loss of a contractual \$100,000 minimum annual royalty payment. There are two main reasons for this positive outcome. First, a higher percentage of TLO out-of-pocket patenting expenses were reimbursed by option/license holders. Second, there was a significant increase in the revenue generated by option/license execution, renewal, exclusivity, and milestone fees. In FY 2007, it will be important to supplement (replace in part) such fee revenue with running royalties.

However, licenses with start-ups often take several years to generate running royalties. TLO has a majority of its options/licenses with start-up companies. For example, some twenty (20) patents and patent-pending inventions are optioned or licensed to ten (10) portfolio companies of a local, for-profit accelerator.

The internal breakdown of gross licensing income by source reveals that the College of Agriculture continues to be the largest contributor, followed again in order by Arts & Sciences, Engineering, and Education. University patents covering the use of alum to reduce ammonia volatilization and decrease phosphorous run-off in poultry growing operations generated the single largest return at more 31 percent of the total. The international patent portfolio licensed to two animal health companies generated another 22 percent of gross licensing income.

Table 1. The Composition of Licensing Income in Fiscal Year 2006

College	Examples of Technologies	Percent Share
Agriculture	alum, avian vaccines, animal health, vineyard mechanization, biosensors	71
Arts & Sciences	nanocrystals, superconducting compounds, ab initio drug design computational software, assays, microfluidic devices,	17
Engineering	environmental quality, roadbed inspection equipment, nanoparticle coatings, ethanol conversion, electronics packaging	7
Miscellaneous	educational publications, displays, exhaust screen	5

Intellectual Property Assets

The campus (including Division of Agriculture) earned five U.S. utility patents in FY 2006.

U.S. Patent 7,049,175 for Method for packaging RF MEMS

U.S. Patent 7,011,824 for Methods of treating manure

U.S. Patent 7,005,722 for RC Terminator and production method therefor

U.S. Patent 6,953,881 for Rice cultivar 'Francis'

U.S. Patent 6,984,776 for Cowpea variety 951135

At the end of the Fiscal Year, the portfolio contained 93 valid U.S. utility patents, 16 plant patents, and 17 foreign patents (mostly covering superconducting compounds, and animal immune complex vaccine technologies), and 81 U.S. utility patents pending. In line with fiscal imperatives and the goal of rationalizing the portfolio, the campus abandoned ten issued U.S. patents and eight foreign patents; lack of commercialization prospects and technology or market shifts also prompted the campus to discontinue prosecution of four U.S. and two foreign patent applications. The University also entered into a royalty-bearing assignment agreement that transferred four U.S. and nine foreign patents to a company. Licenses/options cover 40 utility patents (43 percent) managed by TLO.

The cost of building and maintaining the patent portfolio is considerable. TLO commissioned \$335,331 in legal expenses, e.g., payments to outside counsel, patent office fees associated with applications and maintenance of rights. Option and license holders reimbursed \$162,362 (48%) of that amount, which exceeds the 40 percent target cited by the Association of University Technology Managers (AUTM). It will be important to sustain this ratio in order to free up funds to evaluate, value, market and license inventions.

After paying unreimbursed patenting costs of \$172,969, TLO made royalty distributions to inventors in the amount of \$102,061 and remitted \$13,234 to the UA System for patenting and licensing support and professional services. The balance went to support TLO and Office of Vice Provost for Research needs to expand campus R&D infrastructure and the capacity to pursue technology commercialization projects.

The "Legal Expenses" totals as tracked in Table 2 below include patent preparation, filing, prosecution, and maintenance costs, as well as expenses for patentability opinions. In line with AUTM reporting methodology, the figures starting in FY 2005 exclude major litigation and legal costs associated with infringement and interference cases. TLO paid \$1,126.50 in such expenses in FY 2006.

Table 2. Intellectual Property Protection Cost Structure

Fiscal Year	Legal Expenses	Reimbursed Legal Expenses	Percent Reimbursed	Net Patenting Costs to TLO
1999	197,457.50	13,858.51	7.0	183,598.99
2000	172,205.60	37,753.27	21.9	134,452.33
2001	230,317.63	65,614.90	28.5	164,702.73
2002	383,559.68	71,967.68	19.3	311,592.00
2003	399,313.57	140,369.16	35.2	258,944.41
2004	327,514.55	122,609.49	37.4	204,905.06
2005	249,789.79	73,025.98	29.2	176,763.81
2006	335,330.61	162,361.98	48.4	172,968.63

Inventors submitted thirty-nine (39) disclosures, the same number registered in the previous year. Several disclosures merit mention relative to their potential to bring benefits to society: a process for making large grain polycrystalline solar cells, catalytic nano-fibers and -tubes for use in filtration, sterilization, and decontamination, anti-tampering coatings, an improved osteoporosis therapy, insect-resistant cotton, and spray-cooled power electronics packaging.

Table 3. Summary Statistics – Intellectual Property Pipeline

Fiscal Year	Invention Disclosures	U.S. Patent Applications	U.S. Patents Issued
1999	26	27	13
2000	12	18	9
2001	30	31	10
2002	25	37	16
2003	27	33	8
2004	31	23	11
2005	39	22	12
2006	39	20	5

The rule of thumb is that universities file patent applications on approximately one-half of invention disclosures. Half of those applications result in issued patents, and a third of the patents are licensed, with only 10-20 percent of said licenses generating significant income. In the fiscal year period 1999-2005, of the 198 invention disclosures made to the university, one or more patent applications were filed on 87 disclosures. The 44 percent filing rate is in line with the average in AUTM.

TLO continued to reduce the number of new patent applications filed on unlicensed technologies in order to have the resources to spend on prosecution of ongoing cases

holding out relatively better prospects for generating a return on investment. Column 3 in Table 3 lists all patent applications filed in the indicated fiscal year, regardless of the year the invention disclosure was made, including multiple applications associated with a single invention disclosure.

To take a "snapshot" of the status of the 27 "class of 2003" invention disclosures, patent applications were filed on twelve (44 percent); eight (30 percent) remain patent pending, the University abandoned the patent applications on three (11 percent), and one (4 percent) has received a patent to date. Four disclosures (15 percent) have been licensed, one of which was subsequently terminated; none of the technology disclosures are generating running royalties. These statistics illustrate that technology transfer is risky and that it often takes the market five years or more to validate the initial decision to take assignment and protect early stage university inventions and commence commercialization efforts.

Quantitative Measures of FY 2005 Performance

Goal: Balance Patent & Copyright expenses with available licensing income.

Result: Goal exceeded. Patenting budget surplus of \$66,793 equals 16.8 percent of gross income.

Goal: Maintain the patent cost reimbursement ratio near the industry standard of 40 percent.

Result: Goal exceeded. Patent cost reimbursement ratio of 48 percent.

Goal: License University technology to five Arkansas companies.

Result: Goal not met. One assignment agreement signed with an Arkansas company, but no licenses concluded. However, five option agreements were executed with Arkansas companies, and it is predicted that some, if not all, will be converted into licenses in FY 2007.

Goal: Contain drop in TLO licensing income to 14 percent (to \$314,500).

Result: Goal exceeded. Licensing income rose six percent (to \$397,224).

Discussion of other achievements

The close working relationship between TLO and the Office of Research Support and Sponsored Programs (RSSP) as well as with the Agricultural Experiment Station continued to strengthen university-industry relations in the sponsored projects arena. On numerous occasions the two offices crafted custom intellectual property language to take into account project circumstances. The cooperation will help the University attain a reputation as being industry-friendly. A pragmatic orientation helps the University and faculty cultivate relationships with companies that can lead to benefits not only for our R&D infrastructure and technology licensing initiatives, but also for our students. The best example of this interaction concerns a project initiated with a multinational construction company that

encompasses a multi-year research collaboration, funding for equipment, internships, lectures, IP option rights, and an informal business connection for a start-up licensee.

TLO managed the patent filings on a catalytic nanofiber platform technology and facilitated the inaugural standstill agreement between the University, UATDF, and the inventor for said invention. Throughout the course of the UATDF's validation/assessment/marketing initiative, TLO provided practical experience, contacts and advice. UATDF exercised its option rights to the intellectual property and the University is in the process of assigning the patent rights to the Foundation. This project is the first one realized under the formal IP Agreement between the University and the Foundation, and has been a valuable learning experience that will benefit future collaborations.

TLO team members added skills, capabilities and areas of specialization by working cases and participating in professional development training. Because individuals also came together as a team, TLO was able to prioritize and handle the increased invention disclosure workload.

Goals for FY 2007

- Balance Patent & Copyright expenses with available licensing income.
- Work with the faculty Patent and Copyright Committee to make early and informed go/no-go decisions regarding patenting of invention disclosures so that finite budget resources will flow to technologies holding the promise of higher returns on investment.
- Maintain the patenting cost reimbursement ratio at or above the AUTM standard of 40 percent.
- Execute five license agreements with Arkansas companies.
- Generate \$400,000 in gross licensing income, effectively the same level as in FY 2006. Said projection is based on scheduled drop-off of certain license milestone payments. It is hoped that an increase in royalty payments will compensate so that overall revenue is maintained.
- Provide faculty inventors an annual status report on the technologies that TLO is actively working to assess/protect/market. Use the InfoEd technology transfer module and database to generate a report showing patent status, revenues, expenses, commercialization agreements.
- Become current in meeting reporting requirements on inventions made with federal funds, in compliance with the Bayh-Dole Act.
- Revise the invention disclosure form in consultation with the Patent & Copyright Committee.

Guiding Objectives

- Support RSSP and UATDF relative to intellectual property issues.

- Educate faculty, department heads, and college research deans regarding the benefits of participating in the university's technology transfer program. Increase the participation rate of faculty in the disclosure process so that the inventor community grows.
- Use internal and external resources and expertise to improve TLO recommendations to the faculty Patent & Copyright Committee regarding invention disclosures as well as TLO pay/drop decisions involving the prosecution of patent rights and the maintenance of issued patents.
- Make face-to-face calls on existing licensees to deepen business and research relationship with University. Host licensees and prospects for on-campus visits with faculty inventors.
- Give priority consideration to licensing intellectual property to Arkansas-based companies, provided that there is a comparable expectation of business success ("grow our own" philosophy).
- Educate stakeholders statewide about the positive impact technology transfer is making in Arkansas, e.g., through press releases about newly issued patents or license agreements.
- Update information posted on the OTL Website.

Specific Marketing, Networking, and Professional Education Events in FY 2007

- Webinar for "Developing Effective Technology Transfer Operations", July 25 and 27 (with University administrators and members of the Patent & Copyright Committee) Web Conference
- Arkansas Venture Conference, "The Future is Worth Discovering," November 16-17, 2006
- Association of University Technology Managers (AUTM) Annual Meeting and Trade Show, March 8-10, 2007
- Walton College/MicroElectronics-Photonics course, "Entrepreneurship of Technology"
- Walton College "Governor's Cup" Business Plan Competition

Looking Ahead

TLO will continue to develop relationships with companies, investors, brokers, federal and state funding agencies, faculty, the Patent & Copyright Committee, and administrators that provide a return on investment these stakeholders make in university technologies. The scheduled October 1, 2006 hiring of a patent attorney will round out the skill set profile of the university and provide for more efficient and skilled handling of legally-driven patenting and licensing requirements. Moreover, the addition of a patent attorney will help TLO handle the expected additional increase in caseload, and in particular to bolster marketing efforts that can generate more licensing income.

In marking April 26, 2006 “World IP Day,” Dr. Kamil Idris, the Director General of the World Intellectual Property Organization (WIPO), celebrated “mankind’s inexhaustible capacity for producing ideas.” Echoing Greenspan’s 2004 comments, the WIPO head stated that, “Ideas shape our world. They are the raw materials on which our future prosperity...depend[s].” The WIPO press release also stressed the importance of providing an environment in which innovative ideas are encouraged and rewarded, which forms the “basis for intellectual property rights.” Universities clearly are hotbeds of creative thinking and TLO will work hard with UATDF to ‘educate’ and inform the research culture at the University about the benefits of participating in technology transfer.

Research Services

Both the Glass and Machine Shops served a variety of departments and students. These shops provided services to nineteen UA departments, four universities (in addition to UA) and four private businesses during FY06. Both shops are experiencing an increased request for instructing students, on a one-to-one basis, in the use of various, common machines, e.g., drill presses and polishers, available in the shops. No charge is made for instruction of students.

Machine Shop

Highlights of Dennis Rogers’ efforts include the following projects:

- Dr. Omar Manasreh, Electrical Engineering: On site assembly of Clean Room and fabrication of entrance door into that facility.
- Dr. Jeffery Stripling, Psychology: Design and construct a rat-monitoring helmet to track the movement of test rats.
- Civil Engineering: Fabricate bridge for students entering the A.S.C.E Steel Bridge and Concrete competition.
- Dr. Fred Barlow, Electrical Engineering: Assist students in the design and construction of a novel spray box and packaging machine.
- Dr. Ernest Fant, Industrial Engineering: Complete the multi-year project of designing and fabricating a robot to monitor cooking meat patty temperatures in process line.

Glassblowing Services

Highlights of John Pace’s efforts include the following projects:

- Research Assistant Marvin Mecedo, HIDE: Design and fabricate a thermocouple holder with greatly reduced fragility for use in the specialized silicon wafer of a quartz glass oven.

- Dr. Xiaogang Peng, Chemistry & Biochemistry: Assist in the design and fabrication of specialized quartz cuvettes to fit into a new multi-reflective laser path device.
- Program Associate Eric Vaught, Poultry Science: Periodic rebuilding of quartz plasma torches. The commercial cost of these torches is over \$300 but can be repaired for \$25.
- Dr. Bill Durham, Chemistry & Biochemistry: Assist in the design and fabrication of custom sealed tubes.
- Dr. Ingrid Fritsch, Chemistry & Biochemistry: Repair of several expensive vacuum bell jars that would be strategically very difficult to ship and get repaired at an off campus site.

Revenues Generated in FY05

In addition to services provided gratis to faculty and students who need advice or general assistance, these two units provide services to both external and internal clients at an hourly rate (labor) plus any associated shipping and materials charges. While the Machine Shop saw an overall increase of 19%, the Glass Shop showed a decrease of 22%. (This decrease was due in part to unavoidable, prolonged employee absence.) Overall there was a decrease of 11% in total recharge/billing to clients from FY05.

	Jobs	Shipping & Materials	Labor	Total Income	Change from FY05
Glass Shop	101	\$4,831	\$ 9,490	\$14,321	- 22%
Machine Shop	65	\$1,310	\$ 7,130	\$ 8,439	19%
Total	181	\$6,141	\$ 16,620	\$22,760	- 11%

Central Laboratory Animal Facility

The Central Laboratory Animal Facility (CLAF), an area of approximately 9000 sq. ft. located in the basement of the "A" wing of the Animal Sciences Building (AFLS), has been in operation since early 2000. During FY06, of the 13 rooms that can potentially house animals (primarily the commonly used small rodents and rabbits), 6 were in continuous use, with 2 additional rooms used for experimental procedures (exercise training on treadmills) and 2 rooms were occupied intermittently. There were four investigators who have been the primary users during FY05, three (3) of whom use mice and one (1) of whom uses Golden Syrian hamsters. The new projects (intermittent use) used mice. The investigators were charged a per diem rate for the care of their animals. A total of \$19,655 in per diem charges was collected for the FY06 accounting period. During FY06, the major maintenance expense was the servicing of the cage washer and autoclaves. The facility has continued to cover direct costs (feed, bedding, cage-cleaning chemicals, routine maintenance costs and labor incurred for the care of the animals) as a result of the per diem charges to facility users.

Graduate School

The Graduate School Vision Statement, Mission Statement, Core Values and Goals have not changed from the last Annual Report, and may be found on our website at www.uark.edu/grad. We also included the Mission Statement and Core Values in the 2005-06 *Graduate School Catalog*.

Significant Achievements and Changes

There were several achievements and changes in the Graduate School during the 2005-06 year:

- Sandy Bramlet and Catherine Cunningham were named Employees of the Quarter;
- William Cooper, a graduate of our Horticulture program, won the Outstanding Thesis Award of the Conference of Southern Graduate Schools;
- We reorganized the Office of Graduate and International Admissions, and Sponsored Student Programs so that there are now three assistant directors – for domestic students (LeAnn Suggs), for international students (Susan Byram), and for sponsored students programs (search in progress);
- We hosted the most successful Carver project to date, with 32 students, compared to 18 students last year. We have signed Carver agreements with 22 institutions, compared to 11 last year. We also recruited the first Hispanic-American student to the project;
- We participated in the *Arkansas Alliance for Graduate Education* to create a pipeline into our graduate programs for state-wide McNair students;
- We created a partnership with Tennessee State University so that they are now a Carver institution and we are part of their Graduate & Professional Opportunities Organization;
- We created a partnership with the University of Texas, Pan American;
- The Black Graduate Student Association, with our assistance, hosted the *Arkansas Graduate Experience*, a symposium for underrepresented students on how to apply to graduate and professionals schools;
- We developed a Strategic Plan which was presented to the Chancellor, Provost and academic deans by Collis Geren;
- Dean Geren requested and received funds for the recruitment of international students;
- Dr. Johnny Jones, Assistant Dean for Graduate Recruitment, left the University to take the position of chief academic officer at Arkansas Baptist College; Diane Cook agreed to serve as interim director of the Office of Graduate Recruitment until we can fill the position;
- Leslie Henslee was hired as the assistant functional lead for the ISIS project, replacing Kim Park; Leslie and Robyn Moore, the functional lead, successfully guided us through the ISIS upgrade to 8.9;
- Shanon Ford left the University to take a position more in line with her degree; her

position and that of the Secretary II in the Graduate Dean's Office were recombined into two new positions. Kim Yoachan has one of these and Michael Rau has the other;

- In the Office of Graduate and International Admissions, and Sponsored Student Programs, in addition to the office reorganization mentioned above, there were other staff changes: We are searching for a replacement for Susan Anders, who was Director of the Sponsored Students Program; Jeremy Turner was hired to replace Vickie Armstrong; Jessica Presley was hired to replace Joni Teddleton, who moved to another position in the Graduate School; Mollie Whitmire was replaced by Robin Gregory (in one position) and by David Edwards (in a second position); Robin Gregory was, in turn, replaced by Donna Coleman; Sandye McCraw was hired into a new position as the International Credential and Transfer Credit Evaluator;
- Dr. John Kirby left the University and Dr. Doug Rhoads became the new director of Cell & Molecular Biology;
- Diane Cook created the first-ever graduate student newsletter, *Currents*, which will be published twice each year;
- Dr. William Warnock completed the first year of program reviews in the newly-created Office of Program Review.

Progress and Accomplishments

Applications, Admissions, and Recruitment

Please see the separate annual reports for the Office of Graduate Recruitment and the Office of Graduate and International Admissions and Sponsored Student Programs.

Enrollment and Graduation

Graduate School enrollment is given in Tables 1 and 2. With the exception of specialist and non-degree-seeking students, enrollment has increased steadily over the past five years. The 2010 Commission goal is for graduate enrollment to be at 24.4% of the UA total student population by that date. As can be seen, we have some work to accomplish to reach that goal.

TABLE 1: Graduate Enrollment

	Degree Seeking	Non-Degree Seeking	Total	% of UA Student Population
Fall 2005	2,939	145	3,084	17.3%
Fall 2004	2,847	122	2,969	17.2%
Fall 2003	2,661	197	2,858	17.4%
Fall 2002	2,514	176	2,690	16.8%
Fall 2001	2,385	167	2,552	16.2%

TABLE 2: Graduate Enrollment, By Degree Program

	Master's	Specialist	Doctoral	Non-Degree	Total
Fall 2005	2,007	10	922	145	3,084
Fall 2004	1,954	16	877	122	2,969
Fall 2003	1,803	6	852	197	2,858
Fall 2002	1,737	23	754	176	2,690
Fall 2001	1,669	10	706	167	2,552

Table 3 gives the number of graduate degrees awarded for the classes of 2001 through 2006. As can be seen, over-all degree production increased in 2005-06, but was the result of increases in master's degrees awarded.

TABLE 3: Graduate Degrees Awarded

	Master's	Specialist	Doctoral	Total
2005-06*	985	3	134	1,122
2004-05	909	3	145	1,057
2003-04	833	12	110	955
2002-03	803	4	117	924
2001-02	736	5	106	847
2000-01	737	9	90	836

*Estimated

One of the goals of the Graduate School is to increase both the enrollment and the graduation of students from under-represented groups so that these rates mirror the population of the state who are eligible to enter graduate programs (i.e. those who hold at least a baccalaureate degree). Table 4 gives the enrollment of graduate students by race and ethnicity, and Table 5 gives the number of African-American, Hispanic-American and Native-American students as a percentage of total domestic students (including Caucasian, Asian and unknown). Our target enrollment rates are: African-American, 8.0%; Hispanic-American, 1.0%; and Native- American/Alaskan Native, 0.5%. In the Fall 2005, we met or exceeded these goals in terms of enrollment (See Table 5).

TABLE 4: Enrollment of Graduate Students by Race and Ethnicity

Total	Native-American	African-American	Asian	Hispanic-American	White	International	Unknown	Total
Fall 2005	33	201	48	58	2,052	595	97	3,084
Fall 2004	42	177	46	46	2,023	590	45	2,969
Fall 2003	38	197	65	61	1,919	554	24	2,858
Fall 2002	50	190	52	49	1,809	527	13	2,690
Fall 2001	46	164	48	37	1,745	503	9	2,552

TABLE 5: Enrollment of African-American, Hispanic, and Native-American Students, as Percentage of Total Domestic Graduate Student Enrollment

	African-American	Hispanic-American	Native-American
Fall 2005	201	58	33
	(8.1%)	(2.3%)	(1.3%)
Fall 2004	177	46	42
	(7.4%)	(1.9%)	(1.8%)
Fall 2003	197	61	38
	(8.6%)	(2.6%)	(1.6%)
Fall 2002	190	49	50
	(8.8%)	(2.3%)	(2.3%)
Fall 2001	164	37	46
	(8.0%)	(1.8%)	(2.2%)

Table 6 gives the degrees earned from the 2001 graduation year to the 2005 graduation year, by race and ethnicity. Table 7 gives the degrees earned by African-American, Hispanic-American and Native-American students as a percentage of degrees earned by all domestic students (including Caucasian, Asian, and unknown). Again, we see that, in the 2005 graduation year, we met or exceeded our goals (African-American: 8.0%; Hispanic American: 1.0%; and Native-American/Alaskan Native: 0.5%).

TABLE 6: Degrees Earned by Race and Ethnicity

Total	Native American	African American	Asian	Hispanic	White	Int'l	Unknown	Total
2004-05	14	84	26	19	720	128	66	1,057
2003-04	12	73	22	18	647	178	5	955
2002-03	13	75	22	16	628	167	3	924
2001-02	10	73	20	10	596	135	3	847
2000-01	19	50	22	16	603	126	0	836

TABLE 7: Degrees Earned by African-American, Hispanic-American and Native-American Students, as Percentages of Degrees Earned by all Domestic Graduate Students

	African-American	Hispanic-American	Native-American
2004-05	84 (9.0%)	19 (2.0%)	14 (1.5%)
2003-04	73 (9.4%)	18 (2.3%)	12 (1.5%)
2002-03	76 (10.0%)	16 (2.1%)	13 (1.7%)
2001-02	73 (10.2%)	10 (1.4%)	10 (1.4%)
2000-01	50 (7.0%)	16 (2.3%)	19 (2.7%)

Graduate Assistantships, Fellowships and Travel Grants

Matching travel grants enabling graduate students to make presentations at professional meetings have been awarded this fiscal year to 389 students from degree programs well distributed among the disciplines. To date, we have spent \$262,740 with an additional \$64,000 encumbered for these grants. In addition, we have a doctoral visit fund to bring qualified candidates to campus for the Doctoral Academy Fellowship or the Distinguished Doctoral Fellowship. Please see Appendix A at the end of this section.

In Fall 2005, 1,277 students held graduate assistantships across the colleges and departments. In addition, in 2005-06, there were 112 Walton-funded Doctoral Academy fellowships; nine non-Walton funded Distinguished Academy fellowships; 41 Walton-funded and three non-Walton funded Distinguished Doctoral fellowships; four named Doctoral Academy fellowships with a Walton match; and 82 other fellowships. There were seven SREB fellowships and 79 Lever students from 39 programs. The annual report on the Lever Fellowships is given in Appendix B at the end of this section.

On-going, yearly, and traditional activities

The Graduate School continues to sponsor each year the workshop for graduate assistants presented by the Teaching and Faculty Support Center. In addition, in August of 2005, we offered the fifth annual orientation for new graduate students.

The Graduate Dean's Student Advisory Board continued to meet monthly throughout the year.

The Graduate School offered workshops on the policies and procedures of the Graduate School, and also on the international admission process.

The Office of Graduate Recruitment sponsored the traditional welcoming events for graduate students of color, and again sponsored the Black Graduate Students Association.

Ms. Karla Clark took the leadership role in this year's Carver Project. This summer was our largest cohort ever, with 32 students; and we now have 22 institutions who have signed Carver agreements with us – 11 more than last year. Students from the following institutions were on campus this summer: Bennett College (NC; new); Huston-Tillotson University (TX; new); Jackson State University (MS), Langston University (OK; new), North Carolina A & T State University (new); Prairie View A & M University (TX), Spelman College (GA; new); University of Arkansas at Pine Bluff, University of Texas-Pan American (new); Wiley College (TX; new), and Winston-Salem State University (NC; new).

As a member of the Executive Committee of the Conference of Southern Graduate Schools, Associate Dean Koski participated in the planning for the annual meeting of the Conference, which was held in February in Little Rock. We took two of our students from the Graduate Dean's Student Advisory Board, as well as several staff members, to the conference. Also, William Cooper, a master's student in Horticulture, won the CSGS Outstanding Thesis Award. His advisor, Fiona Goggin, attended the conference where he received the award. Dr. G. David Gearhart presented a session on "Communicating with University Foundation Officers"; the session was very well received.

Dean Geren and Associate Dean Koski attended the annual meetings of the Council of Graduate Schools, the national professional association, in Palm Springs, California.

There are now seven interdisciplinary degree programs and one graduate certificate program which report directly to the Graduate School: The M.S. and Ph.D. in Cell and Molecular Biology; the M.S. and Ph.D. in Microelectronics-Photonics; the Ph.D. in Public Policy; the M.S. and Ph.D. in Space and Planetary Sciences, and the graduate certificate in Gerontology. Each of the degree programs continues to grow (See Table 8) and collectively, awarded 20.0% of the Ph.D. degrees in the 2006 graduating class. In addition, Public Policy is the most diverse Ph.D. program on campus. Separate reports for each of the programs are included later in this report.

TABLE 8: Enrollment in Interdisciplinary Degree Programs

	Fall 2001	Fall 2002	Fall 2003	Fall 2004	Fall 2005
CEMBMS	6	13	17	20	11
CEMBPH	8	15	31	34	39
MEPHMS	18	14	21	26	30
MEPHPH	17	23	27	26	24
PUBPPH	36	44	56	63	61
SPACMS	N/A	N/A	N/A	N/A	1
SPACPH	N/A	N/A	N/A	N/A	6
Total	85	109	152	169	172

TABLE 9: Graduation in Interdisciplinary Degree Programs

	2000- 01	2001- 02	2002- 03	2003- 04	2004- 05	2005-06	Total
CEMBMS	0	1	3	4	10	7	25
CEMBPH	0	0	0	2	3	6	11
MEPHMS	4	7	4	8	7	6	36
MEPHPH	0	0	2	2	8	5	17
PUBPPH	0	0	1	1	6	10	18
SPACMS	N/A	N/A	N/A	N/A	N/A	1	1
SPACPH	N/A	N/A	N/A	N/A	N/A	1	1

Other accomplishments and on-going activities of Graduate School staff include, but are not limited to, the following:

- , Managing several offices, including the Office of Graduate Recruitment, and the Office of International and Graduate Students and Sponsored Students Programs; and the newly-created Office of Program Review;
- , Managing the periodic review of all degree programs;
- , Continuing the *Graduate Student Professional Learning Series*. Designed to provide information for the professional development of our graduate students, this series is open to all master's and doctoral students free of charge. Ninety-five students completed all three sessions in either the fall or the spring; 198 attended at least one session in the fall 2005 and 91 students attended at least one session in the spring 2006.
- , Managing the functional aspects of the ISIS upgrade to 8.5; trouble shooting for issues that remain unsolved with the upgrade;
- , Providing data to university staff and faculty as requested;
- , Serving on the Steering Committee and the Resource Committee of the ISIS

project,

- , Processing all out-of-career registrations for undergraduate and graduate students;
- , Co-coordinating the All-University Commencement ceremony; and organizing all of the aspects of commencement that specifically pertain to graduate students;
- , Serving on the Mental Health Task Force, the Housing Steering Committee, and the Disabilities Services Committee;
- , Assisting with the Clinton School;
- , Organizing, chairing and serving on the Graduate Council; creating the Council agenda and minutes; posting the agenda and minutes to the web; publicizing the activities of the Council;
- , Over-seeing the application for and approval of graduate faculty status;
- , Preparing all of the material for the University Course and Programs Committee; preparing and posting the agenda and the minutes for the Committee;
- , Editing the *Graduate School Catalog*;
- , Preparing several reports (e.g. Peterson's Guide; GRE; NSF);
- , Serving as an *ex officio* member of the Faculty Senate, and reporting Graduate Council business to the Senate;
- , Processing and monitoring the admissions, academic progress, committee assignments, change of majors, and degree completions of all graduate students;
- , Processing and monitoring the tuition payments for all students on graduate assistantships or fellowships;
- , Recruiting the Walton Doctoral Fellows as well as processing and monitoring the stipend and tuition payments for those students;
- , Managing the travel budget for graduate students;
- , Processing and monitoring all applications for graduate faculty status;
- , Serving on the professional board and the users board of the Survey Research Center;
- , Serving on the Campus Council;
- , Serving on the Staff Senate;
- , Creating the course schedules for the seven interdisciplinary degree programs and the one interdisciplinary graduate certificate program; monitoring and making changes to the schedules;
- , Organizing the work of graduate student grievance committees;
- , Organizing the meetings of the Graduate Dean's Student Advisory Board;
- , Participating in the orientation for international students;
- , Organizing monthly meetings of the interdisciplinary program directors;
- , Organizing a team for the Susan G. Komen race; and
- , serving on a wide variety of other committees.

[For the considerable efforts of the Office of Graduate Recruitment and the Office of International and Graduate Admissions, and Sponsored Student Programs, please see the separate annual reports. Also, only a few of the activities of Dean Geren are included in this report.]

One-time, beginning, or ending activities

During 2005-06, we

- Collaborated with the Division of Student Affairs on the University response to Hurricane Katrina;
- Participated in the ISIS upgrade to 8.9.
- Formed a Steering Committee of graduate faculty to create a Preparing Future Faculty program.

Actions by the Graduate Council

In 2005-06, the Graduate Council:

- Approved changes to 25 graduate programs;
- Approved changes to or the creation of eight policies;
- Approved two new graduate certificate programs;
- Welcomed to a newly-created *ex officio*, non-voting position Sylvia Scott, Director of the Office of Nontraditional and Commuter Students, in the Division of Student Affairs
- Approved requests for changes in or new graduate faculty status.

APPENDIX A: Doctoral Visit Fund

The Doctoral Visit Fund is a pool of state money that has been allocated to the Graduate School to assist departments in bringing qualified candidates to the University of Arkansas for a campus visit, with the intent that this visit requires little or no expense on the part of the student. Qualified candidates are those students who meet the minimum requirements for a Doctoral Academy Fellowship or Distinguished Doctoral Fellowship. If funding is available, the campus visits of other highly qualified students (e.g., GEM fellows) may be supported. During fiscal year 2006, this \$20,000 fund was administered by the Director of Graduate Fellowships, with support from staff in the Office of Graduate Recruitment.

Fifteen departments applied for funding assistance for campus visits; the Graduate School provided reimbursement to the departments, in whole or in part, for 37 student visits.

Program/Department	Number of Student Visits Funded	Type of Fellowship Offered to Student	Student Decision	Amount Reimbursed
Anthropology	1	DAF	Yes	\$787
Biological Sciences	1	DAF	Yes	\$308
Crop, Soil & Environmental Sciences	2	DAF to one student	Yes	\$1,289
Education Reform	1	DAF	Yes	\$696
Environmental Dynamics	1	DAF	No	\$540

English	1	None		\$40
Engineering	1	None (GEM fellow)	Attendance decision unknown	\$407
Entomology	2	DAF offered to one student	Yes	\$1,368
Food Science	1	DDF	Yes	\$1,058
Finance	3	One DDF offered; one DAF offered	DDF accepted DAF accepted	\$1,589
History	2	Two DDFs offered	Two DDFs accepted	\$1,522
Industrial Engineering	3	Three DAFs offered	Three DAFs accepted	\$2,396
Microelectronics-Photonics	2	One DAF offered	Yes	\$717
Management	1	One DAF offered	No	\$1,500
Psychology	15	Seven DAFs offered	Four DAFs accepted	\$4,421
Total				\$18,638

Eighteen students whose campus visits were partially or wholly funded accepted the fellowship that was offered to them, less than 50%. An issue that will be addressed during fiscal year 2007 is how this fund is applied across the colleges and departments and how it is marketed to them as a useful resource for recruiting and retaining highly qualified students to the University of Arkansas. Campus visits are useful for both the student and the department, allowing each to assess whether the goals of the student and the resources of the department are a good fit. The Director of Graduate Fellowships will work on maximizing this resource by consulting with the Office of Graduate Recruitment and the departments on the recruiting efforts for fellowship candidates in the coming year, reviewing how the money was spent during fiscal year 2006, and researching ways to use this money as economically and effectively as possible.

APPENDIX B: Benjamin Franklin Lever Fellowships

The Benjamin Franklin Lever Tuition Fellowship program is intended to increase diversity within graduate degree programs on the University of Arkansas-Fayetteville campus. Census data from the State of Arkansas is used as a benchmark to assist in determining diversity needs within specific degree programs. The fellowship supports those graduate students who are fully admitted into a degree program, but for whom tuition funding via a graduate assistantship or similar position is not available. This lack of departmental support may be due to limited departmental resources or because the structure of the degree program does not allow this option (e.g., the Master of Arts in Teaching program).

Funding allocated for the Benjamin Franklin Lever Tuition Fellowship program enabled the Graduate School to award tuition support to 79 graduate students across 39 degree programs during fiscal year 2006. The number of students supported by the fellowship included 42 new recipients and 37 students continuing on the fellowship from previous award years. The distribution across degree programs was:

Degree Program	Doctoral	Master's
Accounting	2	
Adult Education	2	
Agricultural & Extension Education		1
Agricultural Economics		12
Animal Science		1
Business Administration		2
Communication Disorders		1
Cell & Molecular Biology		1
Childhood Education		2
Curriculum & Instruction	1	
Counseling/Counselor Education	3	2
Comparative Literature	1	
Crop, Soil & Environmental Sciences		1
Drama (MFA)		1
Educational Administration	2	1
English		1
Educational Technology		1
History		1
Health Science		2
Journalism		2
Kinesiology		5
Nursing		1
Public Administration		2
Physical Education		2
Physics		1
Political Science		1
Public Policy	8	
Recreation	1	
Rehabilitation		2
Social Work		5
Sociology		3
Spanish		1
Special Education		2
Vocational Education	1	
Workforce Development (formerly Adult		1

Education)		
Totals	21	58

Of the 79 awardees, 52 (65.82%) were female and 27 (34.18%) were male. The distribution of awardees based on ethnicity and gender is shown in the table below:

ETHNICITY	FEMALE	MALE	TOTAL
Asian	1	1	2 - (2.53%)
African American	37	15	52 - (65.83%)
Hispanic/Latino	1	3	4 - (5.06%)
American Indian/ Alaska Native	3	3	6 - (7.59%)
Caucasian	10	5	15 - (18.99%)
Total	52	27	79 - (100%)

Twenty Lever fellows graduated during the academic year; three with doctoral degrees and the remainder with master's degrees in the following programs:

	<u>Doctorate</u>	<u>Master's</u>
Accounting	1	
Agricultural Economics		2
Childhood Education		1
Counseling		2
Crop, Soil & Env. Sciences		1
Educational Administration		1
Educational Technology		1
Kinesiology		4
Physical Education		1
Public Policy	2	
Rehabilitation		1
Social Work		2

The majority of Lever fellows far exceed the minimum required cumulative grade point average required to maintain good academic standing. More than 92% of Lever fellows maintained good academic standing. For those Lever fellows supported over the past fiscal year, and who have at least one semester of graded graduate level work, the cumulative grade point average ranges are:

3.5 - 4.0: 45 students (56.96%)
 3.0 – 3.49: 25 students (31.65%)
 2.85 – 2.99: 3 students (3.79%)
 Below 2.85: 5 students (6.33%)
 Not available: 1 student (1.27%)

Two Lever fellows obtained graduate assistant positions in their respective departments. Five doctoral students in the Public Policy program were awarded SREB fellowships. One Lever fellow resigned from the university, and one Lever fellow was academically dismissed.

For students who do not have other financial resources, the Benjamin Franklin Lever Tuition Fellowship remains a valuable resource for beginning or continuing in their graduate studies.

APPENDIX C: Travel Grants

During fiscal year 2006, the Graduate School requested additional funding for the travel grant program to better meet the needs of graduate student travel. This request was granted and an additional \$2 million was allocated to the endowment in January, bringing the total allocation to \$10 million. With earnings averaging at or below 4%, the program was restructured to use the available funds more effectively. The number of master’s student travel grants was restricted, and the maximum reimbursable amount reduced to \$500. The maximum reimbursable amount for doctoral participant and doctoral presenter grants remained at \$1,000.

The total amount encumbered for travel grants was \$324,610; however, 26 travel grants were not submitted for an expenditure transfer by the department during fiscal year 2006. It is expected that some of these will rollover into fiscal year 2007, as several conferences were held in late June. A comparison of the three years of the travel grant program is shown in the table below:

Fiscal Year	Amount Expensed	Total Grants Awarded	Total Grants Expensed	Average Trip Expense
2006	\$293,610	391	365	\$804
2005	\$360,000	441	441	\$816
2004 (Aug-June)	\$237,032	321	321	\$738

Three categories of travel are offered to graduate students: master/Ed.S., doctoral participant, and doctoral presenter. Only one travel grant per student per year (July 1-June 30) is awarded.

Master/Ed.S. students who are awarded a travel grant are required to present a formal paper or poster. Alternate types of presentations, e.g., oral presentations of original work that may be appropriate to the student's degree program, are reviewed on a case-by-case basis.

Doctoral students may request a participant travel grant once during their academic program. This travel grant does not require the student to present research, but it does offer the student the opportunity to network and learn more about the chosen field of study. It is expected that participant travel will occur only during the first year of doctoral study.

Doctoral students may also request a presenter travel grant, with the intent to present research at a professional meeting/conference. The research must carry the name of the University of Arkansas.

The distribution of the types of travel grants that were expensed during fiscal years 2006, 2005, and 2004 is shown below.

Trip Type	FY2006	FY2005	FY2004
Master/Ed.S	91	176	135
Doctoral Participant	70	89	46
Doctoral Presenter	204	176	140
	365	441	321

Graduate students in six colleges and 50 degree programs, including the interdisciplinary programs administered by the Graduate School, took advantage of the travel grant awards during the fiscal year:

COLLEGE	MASTER/ED.S. AWARDS	DOCTORAL PARTICIPANT AWARDS	DOCTORAL PRESENTER AWARDS	TOTALS
AFLS	23	6	40	69
ARSC	42	38	82	162
EDUC	6	10	19	35
ENGR	12	4	37	53
INTER	1	5	10	16
WCOB	7	7	16	30
TOTAL	91	70	204	365

All graduate students who are awarded travel grants are expected to be full-time students during the semester the travel occurs. The number of fellowship recipients, graduate

assistants, and regular full-time graduate students whose travel was expensed in 2006 is listed below.

Student Type	Master/Ed.S. Travel Grant	Doctoral Participant Travel Grant	Doctoral Presenter Travel Grant	Total
Distinguished Doctoral Fellow	0	10	17	27
Doctoral Academy Fellow	1	12	10	23
Other Fellowship	0	5	8	13
Graduate Assistant	70	19	182	271
Full-time Graduate Student	15	4	12	31
Total	86	50	229	365

Due to the demand for this popular program, the Graduate School receives travel grant requests almost daily. Requests are approved after the travel grant application has been reviewed for completeness, including student eligibility and the department's commitment of at least 10% funding for the trip. The conference/professional organization meeting dates and location are also verified. The Graduate School received and approved travel grants for fiscal year 2006 as follows:

<u>Month/Year</u>	<u>Travel Grants Awarded</u>
April 2005	3
May 2005	40
June 2005	34
July 2005	11
August 2005	19
September 2005	50
October 2005	36
November 2005	21
December 2005	31
January 2006	36
February 2006	28
March 2006	17

April 2006	43
May 2006	15
June 2006	7
TOTAL AWARDED	391 (365 were expensed)

Office of Graduate Recruitment

On-Campus Activities and Events

Dr. Johnny D. Jones led the effort to expand the **George Washington Carver Program**. During this year, 11 new schools became Carver Partner Schools. In summer 2006, 32 students participated in Carver, up from 18 students the previous year. Ms. Karla Clark is the Director of the Carver Program.

Dr. Jones led the UA effort in partnering with the **Arkansas Alliance for Graduate Education**. This consortium of state universities who offer graduate programs is working closely with the McNair programs in the state, to encourage all McNair students to attend graduate school in the state.

In summer 2005, the office finalized the Office of Graduate Recruitment Strategic Plan. Over the 2005-2006 academic year, we used this plan as our direction for the activities we planned and implemented during the year. We will update the plan during 2006-2007.

Also in summer 2005, staff sent graduate catalogs and recruitment materials to all of the career placement centers at colleges in Arkansas and to HBCU's in Louisiana, Mississippi, Missouri, Oklahoma and Tennessee.

Diane Cook supervised the **2005 New Graduate Student Orientation** in August. Over 70 faculty, staff and graduate students volunteered their time to assist with the Orientation. Approximately 250 new graduate students attended the Orientation.

The office again purchased an in-depth description from Peterson's, giving the UA Graduate School an on-line placement at Petersons.com. The Graduate School will again be included in the 2007 edition of *Peterson's Guide to Graduate and Professional Programs*.

During the year, staff hosted 62 funded campus visits, and met with over 150 additional students who visited the offices unannounced to get information about graduate school.

In October 2005 staff assisted students affected by Hurricane Katrina. We contacted all former Carver students who were located in affected areas, and offered them assistance to come to the University of Arkansas. Several students did enroll in the U of A during that

time. We assisted in enrolling displaced graduate students as well, helping all students as needed.

In fall 2005, staff hosted a showcase event at Philander Smith College in Little Rock, AR. During the day Dr. Jones visited with over 100 Philander Smith students about attending the U of A for graduate school. In the evening, a presentation and reception was held for students from Philander Smith College, University of Arkansas at Pine Bluff and Henderson State University.

In March 2006 staff assisted the **Black Graduate Students Association (BGSA)** in hosting a state leadership conference. Approximately 100 students visited the University for the conference from UALR, Philander Smith University and Langston University.

In April 2006 staff hosted a group of four faculty members from the University of Texas Pan American. The UTPA faculty were here for 2 days, meeting with their counterparts in our departments.

Staff evaluated, expanded and implemented the automated Communications Plan to further target each communication to a specific group of students. Each member of the staff has input on the communications, their timing, and their effectiveness. Over 7300 communications were sent to prospective students by mail and email over the course of the year. A cumulative report of the number of communications sent each week is available.

In April 2006 staff assisted the **Society of Hispanic Professional Engineers (SHPE)** as they hosted the Regional Conference in Arkansas for the first time ever.

Recruiters made numerous presentations on Graduate School, as requested by student groups and Career Development.

Staff assisted in presenting the **Professional Learning Series for Graduate Students**. Three seminars were presented in the fall semester, and three in spring. These interactive seminars provide professional development topics in the areas of academics, personal development, and career development. The sessions were offered free to graduate students and were well attended.

In spring 2006 staff were invited to meet with department chairs, graduate coordinators and recruitment staff of the College of Engineering. This meeting allowed all who attended to share best practices and begin to design some strategies for working together in the coming year.

Diane Cook designed and produced a new graduate student newsletter, *Currents*, which will be published twice each year: once in the fall semester and once in the spring semester. The four-page newsletter profiles two current graduate students in each issue, and contains news and information of interest to graduate students.

Off-Campus Activities and Events

During the 2005-2006 academic year, staff made over 60 trips to recruit students (list is included). These trips included visiting new schools to develop relationships—like Wiley College, North Carolina A&T University, and Howard University; trips to McNair and HBCU Conferences to recruit students; and also trips to schools with which we have strong relationships that produce graduate students each year. During these trips staff visited in person with over 1,000 students and with hundreds of faculty members at these institutions.

Dr. Jones' travel centered on the Arkansas schools which are feeder schools for our graduate programs, to further develop our relationships with them. He also focused on visiting schools that were potential Carver Partner Schools and developed new relationships for us at many additional schools.

Diane Cook's travel centered on recruiting doctoral students, and also focused on Hispanic Serving Institutions and Native American institutions.

Karla Clark's travel centered on recruiting master's students, and also focused on Historically Black Colleges and Universities (HBCU's). Ms. Clark also partnered this year with the College of Engineering to recruit with them at targeted HBCU's.

Recommendations for 2006-2007

- Evaluate and update the Strategic Plan.
- Continue using the targeted recruitment strategies at specific schools that we implemented in 2005.
- Continue to increase the number of Carver Partner Schools, funded internships, and number and quality of Carver student interns.
- Develop additional ways to engage and serve colleges, departments and programs in recruitment of graduate students.
- Continue to work diligently to recruit top students to the University of Arkansas Graduate School.
- Continue to work diligently to recruit students from under-represented groups to University of Arkansas graduate programs.
- Work effectively with the staff we have to maximize the numbers of students upon whom we can have an impact during the year.

Office of Graduate Recruitment Travel Completed in 2005 - 2006

U of A Fort Smith	Fort Smith	7/12 to 7/13
University of TX Pan American	Edingburg, TX	7/14 to 7/15
New Mexico Highlands	Las Vegas, NM	7/16 to 7/19
Arkansas Baptist College	Little Rock, AR	7/20
Wiley College	Marshall, TX	7/25
Huston Tillotson University	Austin, TX	7/26
Texas Southern University	Houston, TX	7/27
Langston University	Langston, OK	8/8 to 8/9
Alabama A&M	Huntsville, AL	8/12 to 8/13
	Pine Bluff & Little	
UAPB & AR Baptist College	Rock, AR	8/31 to 9/1
Howard University	Washington, DC	9/6
Delaware State University	Dover, DE	9/7
Lincoln University	Lincoln, PA	9/8
Northeastern State University	Tahlequah, OK	9/7 to 9/8
Cheney	Cheney, PA	9/9
Oklahoma State University	Stillwater, OK	9/12 to 9/15
Alabama A&M	Huntsville, AL	9/15 to 9/18
Mississippi Valley State	Itta Bena, MS	9/21 to 9/22
Prairie View A&M University	Houston, TX	09/20-9/22
University of Central Oklahoma	Edmond, OK	9/21 to 9/23
Arkansas Baptist College	Little Rock, AR	9/25
Heartland McNair Conference	Kansas City, MO	9/23 to 9/25
Philander Smith College	Little Rock, AR	9/22 to 9/25
New Mexico State University	Las Cruces, NM	9/26 to 9/27
Bennett College	Greensboro, NC	9/26 to 9/28
Tennessee State University	Nashville, TN	09/26-09/28
Hendrix College	Conway, AR	9/29
University of Texas El Paso	El Paso, TX	9/28 to 9/29
SACNAS Conference	Denver, CO	9/29 to 10/2
University of Arkansas, Pine Bluff	Pine Bluff, AR	10/3
	Point Lookout, MO	
College of the Ozarks & John	& Siloam Springs,	
Brown University	AR	10/6 to 10/8
Langston University	Langston, OK	10/14
Morgan State University	Baltimore, MD	10/11-10/14
University of Missouri--Columbia	Columbia, MO	10/17 to 10/19
Missouri State University	Springfield, MO	10/20 to 10/21
HBCU Conference	Jackson, MS	10/19 to 10/23
Philander Smith	Little Rock, AR	10/27

University of Texas-Pan American	Edinburg, TX	10/24 to 10/27
University of Oklahoma	Norman, OK	10/30 to 11/1
Cheney University	Cheney, PA	11/01-11/04
Lincoln University	Lincoln, PA	11/2-11/4
Grambling University	Grambling, LA	11/9
Dillard University	New Orleans, LA	11/10
Howard University	Washington, D.C.	11/8 to 11/10
North Carolina A&T	Greensboro, NC	11/8-11/10
Xavier	New Orleans, LA	11/10
University of Missouri--Kansas City	Kansas City, MO	11/16 to 11/18
Texas Southern University	Houston, TX	1/24 to 1/26
Mississippi Valley State University	Itta Bena, MS	1/26 to 1/29
Wiley College	Marshall, TX	1/31 to 2/2
Langston University	Langston, OK	2/2 to 2/3
University of Arkansas at Little Rock	Little Rock, AR	3/1
University of Central Arkansas	Conway, AR	3/3
Texas Southern University	Houston, TX	4/4 to 4/7
Huston-Tillotson University	Austin, TX	1/23 to 1/24
Texas Southern University	Houston, TX	1/24 to 1/26
HBCU-UP Conference	Baltimore, MD	2/9 to 2/11
NSBE Conference	Pittsburgh, PA	3/29 to 4/1
University of Texas—Pan American	Edinburg, TX	2/1 to 2/4
University of Texas El Paso	El Paso, TX	2/7 to 2/8
New Mexico State University	Las Cruces, NM	2/9 to 2/10
Texas McNair Conference	Denton, TX	2/17 to 2/18
Missouri State University	Springfield, MO	3/14 to 3/15
NAGAP Conference	Las Vegas, NV	2/23 to 2/26

George Washington Carver Project

Overview

Implemented in 1997, the George Washington Carver Project is designed to establish mutually beneficial institutional relationships with Historically Black Colleges and Universities (HBCU's) and Hispanic Serving Institutions (HSI's) as part of the continuing effort to increase the diversity of the University's graduate and professional student body. The goal of the Carver Project is to enhance diversity by encouraging students at participating HBCU's and HSI's to pursue graduate and professional degrees at the University of Arkansas.

During the past year, as evidenced in this report, the Carver Project has taken giant steps in increasing the value of this program to the Graduate School and the University. The Director of Graduate Recruitment led the effort to increase the number of Carver partner schools participating in the program. Excellent results were achieved, and the number of partner schools increased from 11 to 22. This afforded a wider geographical base of student applicants to the program.

The number of funded internships also increased greatly this year. In 2005, 18 students attended; this year 32 students attended.

To accommodate the increased numbers of students, staffing was added. In addition to the Carver Director, a graduate assistant was assigned for 20 hours each week during the program. Also, five current graduate students volunteered over 200 hours of time during the eight weeks. These students assisted with logistics and planning, but also spent a good deal of time with the Carver students, sharing their experiences. This was a valuable addition to the program.

For 2006, successful applicants to the Carver Project came from Alcorn State University (2 students), Bennett College for Women (1 student), Huston-Tillotson University (1 student), Jackson State University (1 student), Langston University (6 students), Lincoln University (Missouri) (1 student), North Carolina A&T University (2 students), Penn State University (1 student), Philander Smith College (1 student), Prairie View A & M University (4 students), Southern University (1 student), Spelman College (1 student), University of Arkansas at Pine Bluff (4 students), University of Texas—Pan American (1 student), Wiley College (4 students), and Winston-Salem State University (1 student).

Application and Selection Process

In the fall of 2005, an initial call for applications was sent to faculty and administrators at each of the Carver partner schools. During the fall semester, Office of Graduate Recruitment staff met personally with students and faculty at their respective schools. In February of 2006, another call for applications was sent to each of the partner schools with a brief description of each research project. Additionally, students with a 3.0 or greater were sent a personal invitation to apply for the program. Extensive follow-up with the faculty at the Carver institutions was done to fill the internships until the end of May. The George Washington Carver Project was also listed as a summer research opportunity on the University of Arkansas Graduate School website. These activities resulted in over 50 applications for 32 funded internships.

Programs that offered Carver internships this year included:

Agriculture – 2 positions

Biological Engineering – 1 position

Biology – 4 positions

Business – 2 positions
Chemical Engineering – 1 position
Chemistry—2 positions
Computer Science – 1 position
Drama – 1 position
Education – 3 positions
Electrical Engineering – 2 positions
English – 2 positions
Food Science – 5 positions
Mechanical Engineering – 1 position
Microelectronics – Photonics – 1 position
Music – 1 position
Physics – 1 position
Social Work – 1 position
Space & Planetary Sciences – 3 positions

The Director of Graduate Recruitment and the Director of the Carver Project evaluated the applications and transcripts before sending them to the appropriate department. Students with less than a 2.75 cumulative gpa were automatically declined, as were students whose transcripts indicated a history of dropping classes. Applications that progressed beyond the initial cut were sent to the appropriate academic departments for further consideration. Ultimately, the final group of 32 students was selected to participate in the 2006 George Washington Carver Project.

Implementation

Carver students arrived on May 21, 2006. As a result of a recommendation to combine the opening week activities with the Carver Project and other University-sponsored REU programs, including Food Science, Microelectronics-Photonics, Physics, Chemistry, and Space & Planetary Sciences, each program agreed to co-host the opening week activities May 22-24. The welcome dinner for the Carver/REU students was held at the Northwest Quad. Additional combined activities included orientation, a welcome banquet, and a team-building day.

While on campus, each intern worked directly with a faculty mentor on a structured research project. As recommended from the previous year, the Carver Project was expanded to an eight-week program from six weeks. This allowed students to have an additional two weeks to develop their research projects.

In addition to the formal research training, the interns participated in several co-curricular activities including a trip to the George Washington Carver Project National Monument, a bowling trip, and a trip to Little Rock, Arkansas to tour the Clinton Library.

The interns also participated in a weekly lecture series, “Dinner and Dialogue,” sponsored by the Graduate School, Food Science REU, Microelectronics-Photonics REU, Physics

REU, Chemistry REU, and the Space & Planetary Science REU programs. The series featured the following presentations:

- *Important Elements of a Graduate Research Presentation*, presented by Dr. Collis Geren, Vice Provost for Research and Dean of the Graduate School
- *Applying to Graduate School*, presented by Karla Clark, Director of the Carver Project
- *Effective Communications*, presented by Dr. Robert Brady, Chair of the Department of Communication
- *Research Ethics*, presented by Dr. Dennis Brewer, Associate Vice Provost for Research

New this year, the students were provided a practice test opportunity for the GRE, GMAT, MCAT, or LSAT. Tests were provided and scored by Kaplan Test Services.

Interns presented their research findings at the closing program on Wednesday, July 12, 2006, before an audience of University officials, faculty mentors and other students. The students departed the University of Arkansas for their home schools on Friday, July 14, 2006.

Graduate and International Admissions Sponsored Student Programs

Admissions Activities

There are no Graduate School of Business applications calculated into these numbers. All data are as of July 5 for each year except enrollment data as of August 25 of each fall term.

DOMESTIC ACTIVITY

	<u>Apply</u>	<u>Admit</u>	<u>Deny</u>	<u>Enroll</u>	
<u>Matriculation</u>					
Spring 2004	498	397	19	261	65.7%
Spring 2005	647	466	17	331	71%
Change:	+149 (+29.9%)	+69 (+17.4%)	-2 (-11.8%)	+70 (+26.8%)	
Spring 2005	647	466	17	331	71%
Spring 2006	706	495	26	338	68.3%
Change:	+59 (9.1%)	+29 (6.2%)	+9 (52%)	+7 (2.1%)	

Summer 2004	579	461	15	246	53.4%
Summer 2005	670	471	23	302	64.1%
Change:	+91 (15.7%)	+10 (2.1%)	+8 (3.3%)	+56 (22.8%)	
Summer 2005	670	471	23	302	64.1%
Summer 2006	730	501	21	357	71.2%
Change:	+60 (8.9%)	+30 (6.4%)	-2 (-9.5%)	+55 (18.2%)	
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Fall 2004	1140	582	20	500	85.9%
Fall 2005	1265	396	26	462	
Change:	+125 (11%)	-186 (-47%)	+6 (30%)	-38 (-8.2%)	
Fall 2005	1265	396	26	462	
Fall 2006	1223	474	45	n/a	
Change:	-42 (-3.43%)	+78 (9.69%)	+19 (73%)		

There was an 8.2% decrease in enrolled students Fall 2005 compared to Fall 2004. Effective Fall 2005, admitted students were not eligible to enroll in classes until baccalaureate degree conferral was submitted to the Graduate and International Admission Office.

GRADUATE INTERNATIONAL ACTIVITY

	<u>Apply</u>	<u>Admit</u>	<u>Deny</u>	<u>Enroll</u>	
<u>Matriculation</u>					
Spring 2004	376	167	85	63	37.7%
Spring 2005	351	155	86	62	40%
Change:	-25 (-7.1%)	-12 (-7.7%)	+1 (1.1%)	-1 (-1.6%)	
Spring 2005	351	155	86	62	40%
Spring 2006	413	132	146	51	38.6%
Change:	+62 (17.6%)	-23 (-17.4%)	+60 (69.7%)	-11 (21.5%)	
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Summer 2004	38	19	4	5	26.3%
Summer 2005	53	20	9	9	45%
Change:	+15 (39.5%)	+1 (5.2%)	+5 (125%)	+4 (80%)	

Summer 2005	53	20	9	9	45%
Summer 2006	62	26	5	14	53.8%
Change:	+9 (17%)	+6 (30%)	-4 (-55%)	+5 (55.5%)	

Fall 2004	834	308	197	99	32.1%
Fall 2005	902	346	238	115	33.2%
Change:	+68 (8.1%)	+38 (12.3%)	+41 (20.8%)	+16 (16.1%)	

Fall 2005	902	346	238	115	33.2%
Fall 2006	900	303	315	n/a	
Change:	-2 (-.2%)	-43 (-14.1%)	+77 (32.35%)		

We experienced a very low matriculation rate for graduate international admissions. Competition from other U.S. institutions, other countries, and awarding of assistantships are factors. The UA department denial rate continues to increase, with one in three students being admitted. Fall 2005 saw a 12.3% increase in admitted students over Fall 2004 and a 16.1% enrollment increase.

UNDERGRADUATE INTERNATIONAL ACTIVITY

<u>Matriculation</u>	<u>Apply</u>	<u>Admit</u>	<u>Deny</u>	<u>Enroll</u>	
Spring 2004	98	41	4	25	61%
Spring 2005	125	63	6	40	63.5%
Change:	+27 (27.5%)	+22 (53.65%)	+2 (66.6%)	+15 (62.5%)	

Spring 2005	125	63	6	40	63.5%
Spring 2006	233	73	18	48	65.75%
Change:	+108 (52.64%)	+10 (15%)	+12 (300%)	+8 (20%)	

Summer 2004	33	15	0	6	40%
Summer 2005	45	24	3	15	62.5%
Change:	+12 (36.3%)	+9 (60%)	+3 (300%)	+9 (50%)	
Summer 2005	45	24	3	15	62.5%
Summer 2006	91	29	4	18	62%
Change:	+46 (102%)	+5 (20.8%)	+1 (33.1%)	+3 (20%)	

Fall 2004	213	107	4	87	81.3%
Fall 2005	224	117	6	76	65%
Change:	+11 (5.1%)	+10 (9.3%)	+2 (50%)	-11 (-14.4%)	
Fall 2005	224	117	6	76	65%
Fall 2006	315	165	17	n/a	
Change	+91 (40.6%)	+48 (41%)	+11 (183%)		

These figures show an overall strong matriculation rate. Admissions were up by 9.3% in fall 2005 over fall 2004 but enrollment of newly admitted students decreased.

Total applications processed per admission cycle – includes spring, summer, fall:

	2004	2005	Change
Domestic GR:	2271	2582	+311 (+13.7%)
International GR:	1248	1305	+57 (+4.6%)
International UG:	<u>344</u>	<u>394</u>	<u>+50 (+14.5%)</u>
TOTAL:	3863	4281	+418 (+10.8%)

- The office processed 418 more applications for 2005 than 2004, a 10.8% increase.
- The domestic graduate unit processed 311 more applications for 2005 than 2004, a 13.7% increase.
- The international unit processed 107 more applications for 2005 than 2004, a 6.7% increase.

	2005	2006	Change
Domestic GR	2582	2559	-23 (-.9%)
International GR	1305	1375	+70 (+5.3%)
International UG	<u>394</u>	<u>639</u>	<u>+245 (+62.1%)</u>
TOTAL:	4281	4573	+292 (+6.8%)

- The office processed 292 more applications for 2006 than 2005, a 6.8% increase.
- The domestic graduate unit processed 23 fewer applications for 2006 than 2005, a 0.9% decrease
- The international unit processed 315 more applications for 2006 than 2005, an 18.5% increase.

Overall graduate enrollment increased 3.82% from 2981 in Fall 2004 to 3095 in Fall 2005 (+114).

Fall 2005 saw a total of 888 international students enrolled, down from 895 Fall 2004 (-0.08%).

There were 101 countries represented on campus, down two from the previous year. The top five countries represented are: India (237), China (87), Bolivia (62), Vietnam (45), and Korea (35).

Fall 2005 saw a total of 63 sponsored students, down from 79 in Fall 2004. Fifteen sponsoring agencies placed students at the University.

Unit Efforts

Staff worked with the Graduate School webmaster to create and maintain an on-line rolodex of department information.

Operations Management students are granted immediate temporary admission status. Registration privileges are not granted until the day before registration for the term begins.

A domestic application template went live in late April 2004, however has not been functioning since the ISIS 8.9 upgrade. The international graduate application template was scheduled to go live in late July 2005. However, as of June 30, 2006, the international application template has not gone live and we are not able to use it. The application template decreases the initial data entry time for applications by one-third.

An advising form for international graduate student EASL requirements was created and implemented. Graduate coordinators are sent an advising form for each admitted international student at the beginning of each semester.

Applicants with an earned master's degree now only need to submit the official transcript from the institutions that awarded the bachelor's and master's degree. In the past, we required transcripts from every institution attended in pursuit of the bachelor's degree.

Domestic workflow changed so that applications are being processed according to the alpha system.

Staff have had to manually enter web applications and all test scores since the ISIS 8.9 upgrade. The automatic upload function is not working adequately.

The Graduate School ISIS unit continues to work with our office to create number data clean-up queries. Queries are generated biweekly and given to Admissions to clean-up. These queries ensure the accuracy of ISIS admissions data and provide a good data entry training tool.

An Administrative Assistant II was trained to issue I-20 forms. The Assistant Director continues to work closely with ISSO to resolve SEVIS-related issues, sometimes working with the SEVIS Help Desk to resolve student immigration issues.

Work continues on the ISIS-SEVIS interface with minimal progress being made.

Secretary II duties continue to evolve to include typing blue sheets for the Director, issuing cost letters to international students so that sponsor funding can be released, and issuing invitation letters to family members of students who wish to visit campus.

Sponsored Student Programs arranged and held a graduation dinner for sponsored students in May, 2006. Thirteen students and faculty advisors attended.

Administrative Assistant I for Sponsored Student Programs negotiated with FedEx to secure a significant discount for Grad/IAO/SSP deliveries.

The Director and Assistant Director of International Admissions continue to assist with new international student orientation check-in and various activities.

The Director and Assistant Director of International Admissions continue to serve on the Board of Directors for the Foundation for the International Exchange of Students.

The following forms were revised:

- Director Review Form
- Degree Award Notice form
- Domestic Weekly Activity Report form
- Flow-charts for the inside of applicant files
- OMGT application for admission

- Overview of Credentials Required for Admission for various countries
- Bolivian, Caribbean, and Dimitris Perrotis College of Agricultural Sciences Tuition Advantage flyers
- Graduate International Student Information Brochure
- Various domestic and international GR and UG admissions letters

The following forms were created:

- ISIS Corrections form – used internally
- Daily Status form – used by domestic admissions
- Request for Foreign Credential Evaluation form –submitted by the Office of Admissions when requesting an evaluation on foreign documents.
- International Student Arrival Checklist form
- Tuition Letter Request form

Physical office reorganization:

- The sponsored student programs unit was relocated to the upstairs of DICX units 5 and 6
- All admissions analyst II's were located to the downstairs of DICX units 7 and 8
- Work-study stations were moved downstairs
- The assistant director of international admissions and the international credential and transfer credit evaluator were moved and share an office upstairs. The international library was moved to this office.
- The assistant director of domestic admissions was moved to a separate office upstairs.

Admission Policy Changes

Effective Fall 2005, the internet based TOEFL (iBT) score of 80 was accepted for admissions purposes. The speaking portion test score of 26 may be used in lieu of the TSE or SLPT.

Effective Fall 2006,

- the grade point average for admission to the Graduate School will change from a 2.70 cumulative to a 3.0 calculated on the last 60.0 hours of the baccalaureate degree.
- Students seeking readmission at least 5 years after last enrollment will have the option of forfeiting all previously earned graduate credit.

Staff Highlights

The Staff Senate Scholarship and Awards Committee honored the Office of Graduate and International Admissions and Sponsored Student Programs with the *Outstanding Staff Team Award* for 2004. Staff was honored at the Employee Banquet in October, 2005.

Position upgrades:

- LeAnn Suggs was promoted to program/project specialist in March, 2006 to serve as Assistant Director for Domestic Admissions.
- Catherine Cunningham was promoted to Administrative Assistant I in May 2006.

Changes:

- Two part-time positions of 30 hours/week were approved by the ISIS department in June 2006. These positions will help with the 8.9 upgrade.
- Jessica Presley was hired in July 2005 to replace Joni Teddleton, who moved to a new position in OZAR 119.
- Robin Gregory was hired in August, 2005 as an AAI for the International Admissions unit. She replaced Mollie Whitmire, who moved to domestic admissions.
- Jeremy Turner was hired in September, 2005 as the Secretary II to replace Vickie Armstrong.
- David Edwards was hired in October 2005 as an AAI to replace Mollie Whitmire.
- Donna Coleman was hired in February 2006 as an AAI for International Admission to replace Robin Gregory.
- Sandye McCraw was hired as the International Credential and Transfer Credit Evaluator in March 2006. This is a new program/project specialist position within the unit.
- Susan Anders, program manager for the Sponsored Student Programs unit, left the University in October, 2005. We are currently conducting a search for a replacement. This position title has been changed to Assistant Director of Sponsored Student Programs.
- Susan Byram's title changed to Assistant Director of International Admissions.

Information and Training Initiatives

All admissions and sponsored student programs staff attended a staff retreat/workshop in September 2005 facilitated by Audra Johnston. Staff received training on team work and conflict resolution. Staff was divided into small groups for brainstorming sessions to streamline workflow and review and improve office functionality.

Assistant Director of Graduate Admissions provided an intensive ISIS and graduate admissions procedures training to OMGT site coordinators from three sites in November, 2005.

Five staff members attended the NAFSA: Association of International Educators State Conference in Conway, AR, in April, 2006. Lynn Mosesso presented one session.

Three staff members attended the Northwest Arkansas International Educators reception/workshop in May, 2006 focused on advocacy issues for international students and programs.

All staff attended Our Campus: Building a More Inclusive Community workshop for diversity training.

The International and Transfer Credit Evaluator received ISIS data entry of transfer credit training from the Registrar's Office in April, 2006.

The Director attended a conflict resolution workshop in October 2005 hosted by UA Human Resources Office, and an administrator training session with affirmative action in July.

The office provided on-going international and domestic admissions training to the Graduate School of Business.

The office participated in the biannual Graduate Admissions Workshop in November 2005.

Organized and presented the biannual International Admissions Workshop in February, 2006.

The office provided international admissions training to staff from Arkansas State University, Jonesboro, in August, 2005.

Administrative Assistant I presented a repatriation workshop for graduating students who have received federal PLUS loans.

The Assistant Director of International Admissions and the Director met with the Office of Admissions to discuss admission procedures and international credential evaluation for domestic undergraduate students.

The Assistant Director of International Admissions and the Director met with the Scholarship Office to discuss the scholarship application procedures for international students and interoffice communications.

The Director met with various departments to discuss graduate and international application processing and procedures: Public Policy, Special Education, Continuing Education – Off-campus Programs, Higher Education, and Social Work.

The Director attended the Washington DC International Educators conference in January 2006.

Due to the ISIS 8.9 upgrade in late May, 2006, the existing training manual has been discarded and work has begun on a new manual.

Revenue

The Director evaluated 48 international applications (down from 72 in FY 2004) for the Graduate School of Business, generating \$1,200 for the unit.

Credential evaluation fees of \$500 were collected for evaluation services the Director provided to campus employees seeking foreign degree equivalencies.

The UA Board of Trustees approved an increase to the Sponsored Student Management fee, effective Fall 2005, from \$250 to \$275 (10%). This is the first fee increase since the office was created in the mid 1980's.

Revenue generated from application fees:

domestic graduate: \$33,011 (including credit card payment)

international graduate and undergraduate: \$27,820 (not including credit card payments).

Recruitment Activities

The following *Memorandums of Understanding* were signed:

- Sogang University, Seoul, Korea. Effective Fall 2006, for visiting undergraduate students to attend the UA for one year. A non-resident tuition waiver will be provided. We hope this will increase the number of graduate applicants from Sogang.
- Eduventures Jamaica – to assist the UA with the recruitment of students from Jamaica, and eventually, the Caribbean.
- Indian Women Fellowship Program - established by the UA Graduate School, effective Fall 2006, to assist academic departments with increasing the presence of graduate level women scholars from India. The IWFP will provide resident tuition for selected applicants. Six students have been selected for Fall 2006

The Associate Dean submitted a proposal for the Graduate School to be responsible for the recruitment of international students. Since Fall 2002 when the International Admissions Office moved to the Graduate School, this effort has been the responsibility of the Office of Admissions. The Office of Admissions receives funds generated from undergraduate and graduate international application fees. The proposal was approved with a line item of \$43,117. An historic day!

The Director was presented with a plaque on behalf of the Partners of the Americas celebrating 10 years of the Bolivian Tuition Advantage. More than 100 Bolivians have graduated from the UA since its inception.

The Fulbright Tsunami Relief Initiative was created by former U.S. Presidents George Bush and Bill Clinton to assist in the rebuilding efforts of the Aceh Banda province of Indonesia. Beginning Fall 2006, 25 students will be placed at the University of Arkansas and Texas A&M University each year through Fall 2008. Students will study at the master's level. Fall 2006, the UA will host eight scholars, with the Clinton School hosting one and UALR hosting two.

Participated in the Institute of International Education College Fairs in Ho Chi Minh City, Vietnam and in Cyprus. Dr. Tran Thi Hong, Vice-Director, Graduate Studies Department, Vietnam National University – Ho Chi Minh City University of Technology, once again represented the UA in Vietnam. Dr. Vicki Lanier represented the UA in Cyprus.

Contracted with Hobson International Guides to advertise in the European, Latin, Asian, and World editions for 2005 and the TOEFL/ETS/Hobson guide. Cost-shared with Spring International Language Center.

The Director' Washington, DC trip included recruitment visits to the Vietnam Educational Foundation, Saudi Arabian Educational Mission, and the American Council for Education. The Saudi Government has increased funding for undergraduates to study in the U.S., expecting to provide scholarships for 5,000 per year for the next five years. The UA has received 100+ applications.

Provided \$500 for Dr. Boris Schien, UA Professor of Mathematics, to recruit potential graduate students from Chiang Mai University in Thailand.

Funded Dr. Johnny Jones to visit South Africa and Ghana in May 2006 to recruit students and establish institutional linkages. The University of Ghana is interested in pursuing an exchange agreement which fits nicely with the UA program in African Studies.

Information has been given to DeDe Long, Director of Study Abroad and International Exchange, and Dr. Charles Adams, Associate Dean of Fulbright College, to pursue.

Met in October, 2005 with Srini Krishnan (Chennai, India), "Artist in Residence" at Miami University, and representatives from UA College of Engineering to discuss the recruitment and placement of Indian students to graduate engineering programs. Six top students have been placed in biological engineering, biomedical engineering, cell and molecular biology, poultry science, and communications. Srini Krishnan returned in April, 2006 and discussed the creation of the Indian Women Fellowship.

The Graduate School, along with the biological engineering and chemical engineering departments, and parents of currently enrolled Indian students jointly funded two

engineering faculty (Rick Ulrich, CHEG and Julie Carrier, BENG) to visit Chennai, India. Faculty met with prospective students and parents and visited two Indian universities: Indian Institute of Technology and the University of Madras. Dr. Julie Carrier hand delivered five application packets upon her return to the Graduate and International Admissions Office.

Responded to requests for application and admissions information through the Virtual Advisor program and the iao@uark.edu account.

Two undergraduate students enrolled Fall 2005 and five undergraduate students enrolled Spring 2006 as a result of our agreement with the President's Network.

The MOU with National Collegiate Network, signed effective Fall 2005, saw 16 degree seeking undergraduate students from Japan enroll Spring 2006.

The MOU with Dimitris Perroitis College of Agricultural Studies, signed effective Fall 2005, saw four degree seeking undergraduates enroll Fall 2005.

The Caribbean Tuition Advantage, signed effective Fall 2005, saw three degree seeking undergraduates enroll Fall 2005.

Three Chancellor's Scholarships and one \$5000 Silas Hunt Award were given to newly admitted international new freshmen students for 2004-2005. Four "Good Neighbor Tuition Advantages" were awarded to international students transfer students.

The Director met with representatives from the following:

- Tabitha Kral, Intensive English Training Center, Ivory Coast.
- Jean Wang, Markham International Education Center Corp.
- James Stouffer, Hobson's International
- Dr. Tran Thi Hong, Vice Director, Graduate Students, Vietnam National University. Dr. Tran's recruitment of students has resulted in 21 GR and 24 UG students currently enrolled at the UofA.
- American University of Science and Technology, Lebanon. The UA recently signed a MOU for international exchange.
- Pam Woodard, Program Officer, Winrock International, Washington DC, visited campus to met with Winrock sponsored students, advising faculty, and UA administrators in October.
- Aldain Reid, Eduventures, Jamaica, visited campus for two days in April, 2006 to visit with academic advisors, international programs, and staff to experience the UA first hand as he will be actively recruiting Jamaican students for the UA.

Unit Goals

- Continue to work with the ISIS Graduate Specialist to make sure data needs are met.
- Create and maintain an ISIS admissions procedure manual that is kept up-to-date and can be used for training purposes.
- Continue to work with ISSO, the Registrar's Office to ensure a sound integration of ISIS and SEVIS. This was not completed by the end of the spring 2006 semester, the initial goal.
- Implement the international application data entry template
- Restructure international application processing procedures and staff duties
- Work toward the automation of letters to applicants and students
- Implement FYI scanning of enrolled student documents
- Increase the number of sponsored students enrolled at the UA
- Consolidate domestic and international applicant files into one filing system.
- Facilitate in-depth cross-training of assistant directors, all admissions analysts and support staff, i.e. hourly employees and work studies.
- Revise the International Undergraduate Application for Admissions and other documents as needed for the implementation of scanning.
- Work with Graduate Recruitment to develop an international graduate brochure that is in line with domestic graduate recruitment materials.
- Increase international and sponsored student recruitment activities

Office of Program Assessment

The 2005-06 academic year was the first year of operation for the Office of Program Assessment. The following departmental review procedure was developed and followed during the initial year of operation.

During the fall of 2005 each department that was being reviewed prepared a self study report following the guidelines described in VCAA Academic Policy number 1620.10. The reports were reviewed and approved by the college dean's office responsible for each department's program. Once approved, they were forwarded to the Office of Program Assessment which approved their distribution to the program reviewers. Each program also forwarded names of five external reviewers to the Director of Program Assessment and one external reviewer was selected for each department. One member from the U of A Program Review Committee was assigned by the Director of Program Assessment to serve as the internal reviewer. The selection of the internal reviewer was based on the reviewer being employed outside the department's college.

Each review team composed of the external reviewer, internal reviewer and the Director of Program Assessment participated in one or two day site visits and prepared reports which were submitted to the Director of Program Assessment. During the spring 2006 semester twelve departments were reviewed and their final reports are currently being prepared by the Director of Program Assessment for distribution to the department head and dean

responsible for the each program. A list of the departments reviewed during the 2005-06 year is provided in Table 1.

Activities for the 2006-07 year include the following:

- Completion of the 2005-06 reviews with MOU documents being approved by the Department Head, Dean and Provost for each program before October 15, 2006.
- Review thirteen additional departments as part of the 2006-07 program review process.
- Continuously adjust the report formats and procedures to help streamline the process.
- Assist individuals prepare information for the North Central Accreditation visit and participate in the April 2007 site visit.

Other activities that will be performed by the Director of Program Assessment are:

- Continue to serve as the secretary for the University Course and Programs Committee
- Serve as a committee member for the study of utilizing the Advanced English test as part of the Rising Junior Exam.
- Jointly chair a U of A task force which is being set up to study the “U of A Experience”.

*Table 1
Departments reviewed during the 2005-06 academic year*

Department	College	Program
Agricultural and Extension Ed.	Agriculture	MS, PHD
Biological Sciences	Arts and Sciences	BA, BS, MA, MS, PHD
Chemical Engineering	Engineering	MS, PHD
English	Arts and Sciences	BA, MA MFA, PHD
Entomology	Agriculture	MS, PHD
Foreign Language	Arts and Sciences	BA, MA
Geosciences	Arts and Sciences	BA, BS, MA, MS
Industrial Engineering	Engineering	MSIE, MSOR, MSOMGT, PHD

Philosophy	Arts and Sciences	BA, MA, PHD
Political Science	Arts and Sciences	BA, MA
Psychology	Arts and Sciences	BA, MA,
Sociology and Criminal Justice	Arts and Sciences	BA, MA

Public Policy Ph.D. Program

Executive summary

I would characterize the 2005/2006 academic year as a normal program year, but a time that also anticipates changes. While conducting the usual brown bag seminars, classes, dissertation defenses and so on, we have also begun planning for new directions and revisions. It is clear that the program is successful and that our students are being placed in good positions. We continue to have a good number of applications as well. It is also clear that it will be necessary to think about what we might do to sustain and develop such a large program in the future. Last year the Graduate School provided us with a half-time secretary and office space. This year the Graduate School increased graduate assistantship salary levels and increased most positions from nine to twelve months. These are both very helpful developments. Next year we need to address the need to secure a director who is relatively free from teaching and other responsibilities so s/he can give sustained and higher level attention to the program. Finally, taking what we have learned over the last six years of teaching and using what we know from the students' qualifying exams and the capstone courses, we are beginning the process of revising the coursework to better meet the knowledge, skills and abilities we expect of our students.

Achievements

Student Enrollment and Achievements

We continue to enroll between sixty and seventy students in the program. The enrollment continues to be diverse. We are receiving a good number of applications and find we have to turn down more than half of the applications due to qualifications of the students, administrative capacity and lack of fit. We will enroll another Fulbright student in the fall. Joshua Barnett was awarded a national Rotary Ambassadorial Scholarship. Rotary International (RI) selected him to attend Massey University in Palmerston North, New Zealand. In addition, Joshua :

- Served as a consultant for the Arkansas Adequacy Re-calibration Study (conducted by Dr. Larry Picus and Dr. Allan Odden)
- Provided research and statistical support for legal counsel representing the City of Philadelphia in a school funding lawsuit against the Commonwealth of Pennsylvania.
- Co-author of Campbell Collaboration Meta-Analysis, The effectiveness of volunteer tutoring programs

Ingrid Arinez made the news. She spoke at a gathering of Partners of the Americas held in Little Rock. Her presentation was very well received and was described by the *Arkansas Democrat Gazette*.

Dorothy Effa won an award for an outstanding paper presentation. A total of 136 papers were submitted for review and 60 were accepted for presentation at the international conference of the Association for International Agricultural and Extension Education (AIAEE). The conference was held at San Antonio, TX from May 25-31. Sixty papers were presented. Dorothy received the outstanding paper presentation award. Her topic was Micro Finance Support to Rural Women Farmers in Ghana: A Case Study of the Georgia District of the Greater Accra Region, Ghana.

Charisse Childers (ABD) has accepted a position as executive director of Accelerate Arkansas, a statewide group of volunteers that work under the Arkansas Capital Corporation to foster economic growth.

Dave Williams (ABD) recently relocated to Dayton, Ohio where he will be working at the Air Force base as a civilian employee. His position includes logistics and policy.

Adam Arroyos (ABD) moved from Public Affairs and Operations at the Boys and Girls club to SVI Consulting. SVI's clients include Wal-Mart and Tyson Foods. His role at SVI is as the Director of Diversity and Inclusion Initiatives.

Amilcar Medina was offered a job with Mi Casa Real Estate Company, a company that is growing at a fast pace in Northwest Arkansas. They need a Bilingual Policy Analyst to help them with their development and expansion objectives.

Chris Shields has been very involved in two National Institute of Justice proposals regarding terrorism and the criminal justice system. These projects look very promising.

Placement and Other Achievements of Our Graduates

Patti Martin (recent health policy specialization graduate) was asked by Blanche Lincoln to work with her in pushing something on the national level with regard to Newborn Screening (not just hearing, but setting a national standard because there is much variability in what states do screen infants for at birth).

Michele Wise-Wright has been asked to serve on the Silas H. Hunt Community Development Corporation board. Precious Williams, the director, wrote, "We really need progressive people working on the board, I could not think of anyone more progressive than "YOU". Michele had worked with the Hunt CDC as part of our Capstone Course in the Fall of 2004.

Charlotte O. Butler, Ph.D., MPA, BSN, RN, HSM has completed her executive training program with the Veterans Administration hospital system and will be returning to a position with the VA in Fayetteville.

Dana Gonzales (health policy specialization) has been hired by UAMS and is responsible for a variety of areas including ensuring the residency program meets competency requirements of the accreditation bodies, designing curriculum and evaluation instruments, data analysis, and grant writing.

Souley Boubacar is now working for Plan International-Niger. It's a non-profit international humanitarian, child-centered development organization. Currently, Plan International works with 62 countries worldwide, mostly in developing countries where they support community development, education, healthcare for children, etc. Souley will be in charge of communication activities. His title is Communication and Public Relations Manager.

Holly Felix, who graduated in May of 2006, has been very busy with publications. These include:

Stewart MK, Dockter N, Felix HC. Submitted, under review (Journal: *Health Affairs*). The physician's role in decisions about long-term care utilization: What do we know?

*Felix HC, Stewart MK, Cottoms N, Olson M, Sanderson H. Submitted, under review (Journal: *Progress in Community Health Partnerships: Research, Education and Action*). Using Community Connectors to Link Residents to Long-Term Care Services: Progress through Partnership Synergy.

*Felix HC. In Press, 2006. The Rise of the Community-Based Participatory Research Initiative at the National Institute of Environmental Health Sciences: An Historical Analysis Using the Policy Streams Model. *Progress in Community Health Partnerships: Research, Education, and Action*.

*Stewart MK, Felix HC, Dockter N, Perry DM, Morgan JR. In Press, 2006. Program and Policy Issues Affecting Home and Community-Based Long-Term Care Use: Findings from a Qualitative Study. *Home Health Care Services Quarterly*.

*Felix HC, Miller W. In Press, 2006. Sources of Information and the Development of Health Policy in Arkansas. *Midsouth Political Science Review*.

*Stewart MK, Felix HC, Dockter N, Holladay S, Sanderson H, Morgan, JR. In Press, 2006. Physicians play an important role in families' long-term care decisions – choice of home care vs. nursing home. *Journal of the Arkansas Medical Society*.

Sustainability

Policy faculty in Agriculture and Political Science have been working on a county level measure of sustainability. Using two graduate assistantships (one supported by an Agricultural Extension Service grant to the policy program), we are conducting a survey, gathering large data sets and developing reports. Recently we have also become involved in the Wal-Mart sustainability proposal.

Community

Lake Wedington – We continue to manage the recreation area at Lake Wedington, though changes may be coming (see below).

Affordable housing – Through the capstone course and in follow up we have brought proposals and analysis to city officials and community leaders regarding the need for affordable housing policies.

Jefferson School – Through the capstone class and in follow up we have provided policy analysis support to the school board and developed proposals for the use of the Jefferson school building.

Changes

Program Director

The program has grown to the point that a normal faculty position does not provide enough administrative and planning time for the program director. With sixty to seventy students and a variety of research and community projects, a faculty position with a normal teaching research and service load does not provide enough time to adequately meet the needs of the program. For the policy program to take the next steps to more prominence, there needs to be a planned transition.

The present plan is for a new endowed position to be created which will be dedicated to directing the program and to research on sustainability. A national search for a recognized public policy scholar is the most appropriate way to fill the position. This makes sense in terms of staffing needs and the sustainability focus is also consistent with the community focus of the policy program. It is hoped that the new director will be in place no later than fall of 07.

Curriculum Revision

We have slowly begun a process to review the curriculum for the policy program. This includes explicitly stating the knowledge, skills and abilities we would like our students to have upon completion of the program. We participated in a national conference on curriculum for public policy programs and will use this to help our review. We hope to have this completed by the end of the academic year.

Other Changes

Lake Wedington - We have managed Lake Wedington Recreation area for the past five years. We believe we have significantly improved the services offered there. We have

also provided a learning lab mainly for recreation policy and other recreation students. At present we believe that there may be more appropriate locations in the university to continue the project. We are evaluating how to help the lake project transition to a more appropriate location.

Clinton School – The policy program has had a very important role in the development of the Clinton School of Public Service. As the first class at the Clinton School approaches graduation, we have found that our role is greatly reduced. We are open to further cooperative efforts, but have not found a way to make that happen.

The Strategic Environment – Contacts we have at UALR have informed us that they are planning a new “policy research” Ph.D. program. Representatives from their campus are to meet with policy program and Graduate School representatives to discuss cooperation and other issues.

Graduate Assistantships – The Graduate School had provided raises and changed several of our nine month graduate assistantships to twelve month positions. This is very helpful for recruiting and student support. It would be good to develop more assistantship positions. We would like to have a higher ratio of full-time students on assistantship to part time working students. Full time students tend to keep the work expectations and level of involvement for the program at a higher level.

Specializations – The program is considering a new specialization in gerontology policy. We will also be reviewing the existing specializations to determine if they are still adequately staffed and in demand. The ability to create new specializations and allow others to go dormant is a strength of the policy program’s design. This allows us to respond to changing needs. Health policy is still an area of great demand, but we continue to lack the faculty resources to meet the demand.

The American Review of Politics - The public policy program increased its support of ARP. In concert with Fulbright College, the Political Science department and others, we have become a major supporter of the *The American Review of Politics*. Brinck Kerr (Political Science) is the editor of this journal. For our faculty members and students this means that we will have another possible outlet for our manuscripts. Our specialization faculty members will be asked to review manuscript submissions in their policy areas.

Student Publications

2006

Shields, Christopher, Brent L. Smith & Kelly Damphousse, Their Day in Court: Assessing Guilty Plea Rates among Terrorists, *Journal of Contemporary Criminal Justice*. (Publication in August or November)

Durand-Morat, A., E.J.Wailes. Sensitive Product Designation in the Doha Round: The Case of Rice. 31st Rice Technical Working Group. The Woodlands, TX, February 26-March 1 2006.

Alam, Sarwar (in press). Islam, culture, and the power of women in a Bangladesh village. In V. J. Cornell (Ed.), *Voices of Islam*, Vol. 3. CT: Greenwood.

2005

Rodriguez, G., McKenzie A., Parsch L. "Risk-returns of cotton and soybeans enterprises for Mississippi County, Arkansas: A comparison of alternative marketing strategies within a whole farm framework" Summaries of Arkansas Cotton Research. Arkansas Agricultural Experiment Station. Division of Agriculture. University of Arkansas Research Series 521:270-275. October 2004.

Microelectronics-Photonics Graduate Programs

- *Progress and accomplishments related to strategic plans and university priorities and goals:*
 - a. An examination of all entering students into the microEP graduate program through the fall 2006 entering Cohort 9 class shows that sixty-five students are active for fall 2006, two are passive (not enrolled and lacking only thesis), and sixty have graduated and left the University of Arkansas. Of these one hundred twenty-seven total students, thirty are female, seventeen are African-American, and four are Hispanic.
 - b. Of these one hundred twenty-seven total students, twenty-one are minority students. This is 17% of the microEP graduate student population, and is significantly higher than the national average in Caucasian majority research institution technical graduate programs.
 - c. Of the twenty-one minority students, ten have expressed interest in continuing to a PhD degree and three have completed their PhD microEP degrees (one is in med school and the other two have started tenure-track faculty jobs). Three of the PhD path minority students are female.
 - d. Of these one hundred twenty-seven total students, thirty are female students. This is 24% of the microEP graduate student population, and is significantly higher than the national average in research institution EE/Physics type graduate programs.
 - e. Of the thirty female students ten have completed MS degrees and entered the workplace, thirteen are still enrolled on the PhD path, and seven plan to enter the workplace after MS graduation.
 - f. Fifty students have completed their MS microEP degrees through August 2006 graduation. Twenty PhD students have graduated through August 2006, including three male Africa-American graduates, one female Caucasian graduate, and one female Asian graduate.
 - g. The microEP program implemented the first summer of a three-year NSF REU site beginning in Summer 2001 and won a second NSF REU site for five years beginning in Summer 2004.

1. The summer 2001 program had twelve students. Of the eleven participants, five have enrolled as UA graduate students and two have already graduated with MS degrees. The five students include two Caucasian males, one Caucasian female, and two African-American females.
 2. The summer 2002 program had fourteen students. This included two African-American female students, two African-American male students, one Puerto Rican female student, two Caucasian female students, and seven Caucasian male students. None of the summer 2002 participants that are entering graduate school this fall have chosen to attend the UA, although many have continued into graduate school.
 3. The summer 2003 program had twenty students. This included four African-American female students, three Hispanic male students, one Native American male student, one Caucasian female student, one male Asian student, and nine Caucasian male students. Four of these students have enrolled as UA graduate students as of the fall 2006 semester (two Caucasian males, one Hispanic male, and one African-American female).
 4. The summer 2004 program had sixteen students. This included eight women (one Hispanic, three African-American) and eight men (one Asian and seven Caucasian). Two of the women were alumni of the 2003 REU site. One of these double alumni is an African-American student entering the microEP grad program in Fall 06, and the other student is still planning to attend graduate school here but one has delayed entering grad school for until the Fall 07 semester for personal reasons.
 5. The summer 2005 program had fifteen students. This included one African-American female student, two African-American male students, two Caucasian female students, and ten Caucasian male students. One African-American male student and two Caucasian male students are entering the microEP grad program in Fall 06, with an additional African-American male student also enrolling who is a friend of the alumni student.
 6. The summer 2006 program has fourteen students. This includes four African-American male students, three Caucasian female students, one Hispanic female student, and six Caucasian male students.
- h. The microEP program partnered with the Graduate School Recruitment Office to co-sponsor the Louis Stokes – Louisiana Alliance for Minority Participation (LS-LAMP) annual student research conference held in New Orleans in November 2003 and October 2004, and will continue to co-sponsor the event in fall 2006 (the fall 2005 conference was cancelled because of Hurricane Katrina). This partnership has resulted in three new microEP graduate students to date (Eric DeCuir, African-American male; Lydie Louis, African-American female; and Simpson Chua, Asian male).

➤ *New Initiatives to support teaching and research*

- a. The microEP program continued its support of Dr. Vijay Varadan's initiative to form departmental partnerships with HiDEC through use of MEPH TELE fees. The HiDEC clean room facility now hosts three courses. The first is in microfabrication processing in HiDEC, resulting in course graduates who are fully qualified to work independently in HiDEC. The second is the bi-annual course in full flow integrated circuit fabrication, with students processing and characterizing solid state active and passive integrated circuit component devices. The third course is in solar cell fabrication. This departmental partnership also allows the participants in the summer microEP NSF REU site to work in HiDEC without further additional charges to their mentoring professors or the REU site budget.
- b. The microEP core curriculum was re-examined during the fall 2005 semester, along with the microEP utilized curriculum from all departments, in light of the increased emphasis in biological, chemical, and optical sensing from recent College of Engineering faculty hires. The modified curriculum will be submitted for formal adoption through the Colleges of Engineering and Fulbright Arts and Sciences in the fall 2006 semester.
- c. The microEP Industrial Advisory Committee met for the fourth time in February 2006 with no significant issues identified. The meeting was expanded to 1.5 days this year from the prior years' one day format, with the first morning reserved for student presentations on their research areas per the request of the IAC during the 2005 annual meeting.
- d. The Graduate School has continued to supply the microEP Graduate Program with two TA positions in the AY 06-07 to use in its recruiting. These TA positions will be assigned to support departments that have supported the microEP program through the use of microEP students in their own departmental budget TA positions.
- e. A second maintenance budget was given to microEP based on fall 2004 enrollment figures (\$250/enrolled student, or \$13,000). Assuming the same budget per enrolled student, microEP will receive \$13,750 in FY 2006-2007.
- f. A Memorandum of Understanding has been created by the microEP Graduate Program and presented to partner departments and colleges, and agreement has been reached through the Deans of the Fulbright College of Arts and Sciences, the College of Engineering, and the Graduate School. This MOU addresses the partnership responsibilities and benefits of both the microEP program and the partner organizations. The MOU will be reviewed by Provost Smith in August 2006 as its final approval step.
- g. Specific agreement was reached and documented in the MOU to share the cost of the microEP Director's academic year salary between Fulbright and Engineering. One month of the Director's summer salary will be supplied by the Graduate School, with the remaining two months of salary supplied through internal and external grants to meet specific program objectives.

- h. Specific agreement was reached and documented in the MOU to fund the microEP Program Specialist position (currently staffed by Ms. Renee Hearon) equally between the College of Engineering, the Fulbright College of Arts and Sciences, and the Graduate School.

➤ *Benchmarking evidence*

- a. The process has started to define both an alumni survey and an on-campus faculty/staff survey in the fall semester to gather information on program effectiveness on campus and in its training methods as viewed by its graduates in their early careers.
- b. The microEP program was an invited participating program in a “pan-NSF” REU conference in September 2005. Only ten percent of all NSF REU programs were invited to participate.
- c. The first microEP alumni has now reported being promoted to Engineering Manager in a major industrial company (Dr. Clayton Workman, Cohort 1, PhD granted December 2002).

➤ *Achievements in teaching, research, and public service that would not have occurred without the existence of the interdisciplinary program:*

- a. The following grants and awards all are based in the interdisciplinary microEP graduate program as the educational program that supports the research, training, management, or educational mission of the grants. The role of microEP in each grant is indicated below:

1999

NSF IGERT:	Schaper, Salamo	\$2,200k	Central concept
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2000

NSF MRSEC:	Salamo	\$2,245k	Education component
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Dept of Ed FIPSE:	Salamo, Vickers, Turner	\$ 280k	Central concept
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NSF PFI:	Loewer, Salamo, Vickers	\$ 360k	Management component
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2001

NSF REU (3 year):	Brown, Salamo	\$ 353k	Central concept
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NSF IGERT RET:	Schaper, Salamo	\$ 10k	Central concept
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NSF MRSEC RET:	Salamo	\$ 20k	Education component
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DoEd FIPSE Supplement:	Salamo, Vickers, Turner	\$ 25k	Central concept
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2002

NSF GK-12:	Salamo, Vickers, Hobson	\$2,700k	Central concept
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NSF REU RET:	Brown, Salamo, Vickers	\$ 20k	Central concept
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2003

NSF REU (5 year):	Brown, Salamo, Vickers	\$ 625k	Central concept
NSF Eng U/G Reform: <u>2004</u>	Vickers, Foster, Carter	\$ 100k	Central concept
NSF PFI:	Saxena, Salamo, Foster	\$ 600k	Entrepreneur education

- b. The microEP specific staffing continues to heavily participate in public service in support of technology company based economic development in Northwest Arkansas. Several microEP faculty and staff have participated in both the Accelerate Arkansas and the Arkansas Venture Forum activities.
- c. A new course was test taught by Prof. Ron Foster in the summer 2006 session, MGMT 5393 Advanced Intra/Entrepreneurship of Technology (it was test taught as a MEPH 587V Special Topics course). This course is designed to give PhD microEP students a second course in research commercialization, with the focus on case study analysis and startup company business plan simulations to give students practice in the theory presented in MGMT 5383.
- d. Dr. Steve Johnson in Industrial Engineering test taught a one hour course in the summer 2006 session as Introduction to Design of Experiments. The course was experimental in that the course was taught in industrial style sessions of four to six hours, with only four sessions providing the required instructional time for a one hour graduate course.
- e. PhD microEP candidate Renaldo Hemphill (Cohort 3, degree expected December 2006) was hired into a tenure track faculty position at University of Arkansas Pine Bluff and taught for the 2005-2006 academic year.
- f. PhD microEP candidate Matt Leftwich (Cohort 6, degree expected December 2006) is working with Genesis client Space Photonics and has now been named as PI in three Phase I SBIR grants.
- g. PhD microEP graduate Dr. Silke Spieshoeffler (Cohort 4, August 2005 graduate) stayed in Fayetteville as Director of a new research office for Engineering Systems Solutions of Maryland (www.essworld.com).
- h. MS microEP graduate Daryl Spencer (Cohort 4, May 2004 graduate) returned to Fayetteville as the microfabrication specialist for Dr. Ingrid Fritsch's startup company Vegrandis.
- i. The Center for Semiconductor Physics in Nanostructures (NSF MRSEC, PI Greg Salamo) was the major financial support of the Northwest Arkansas Boosting Engineering Science and Technology (<http://BEST.uark.edu>) 7-12 robotics contest in fall 2005, and has committed to the same level of funding support in fall 2006. This contest is heavily staffed by volunteers from microEP and C-SPIN.

➤ *Problems to be addressed:*

- a. No academic year teaching budget has been approved to support microEP-generated courses. Departmental decisions on scheduling of core microEP courses

are being made with no consultation with microEP management to discuss implications of those decisions.

- b. The Fellowship payment system continues to require intensive manual monitoring of the payments on a monthly basis by microEP staff members in order to assure the stipend checks reach our Fellowship students on time.
- c. The funding for the clerical position in microEP (currently held by Ms. Linda Lancaster) is supported only through the end of the 06-07 fiscal year.

➤ *Faculty self-associated with microEP Graduate Program*

Biol & Ag Eng	Jin-Woo Kim Yanbin Li	
BioMed Eng	<u>Mahendra Kavdia</u> Kaiming Ye	<u>Ad-hoc Graduate Studies Committee</u>
Chemical Eng	Robert Beitle <u>Rick Ulrich</u>	<u>Graduate Studies Committee</u>
Chemistry	Bob Gawley Ingrid Fritsch Xiaogang Peng Ryan Tian	
Civil Eng	Paneer Selvam	
Comp Sci/Eng	Jia Di John Lusth	
Electrical Eng	Simon Ang Juan Balda Bill Brown Susan Burkett Magda El-Shenawee Omar Manasreh Alan Mantooth Hameed Naseem Errol Porter <u>Len Schaper</u> Vasundara Varadan Vijay Varadan	(on NSF assignment until June 07) <u>Graduate Studies Committee</u>
Industrial Eng	Scott Mason	
Mechanical Eng	Deepak Bhat Matt Gordon Ajay Malshe Bill Schmidt Doug Spearot <u>Steve Tung</u> Sulin Zhang Min Zou	(on NSF assignment until June 08) <u>Graduate Studies Committee</u>

MicroEP	Ron Foster (Adjunct)
Physics	Laurent Bellaiche
	Henry Fu
	Jiali Li
	Lin Oliver
	<u>Greg Salamo</u> <u>Graduate Studies Committee</u>
	John Shultz
	Surendra Singh
	Jak Tchakhalian
	<u>Ken Vickers</u> <u>Director, microEP</u>
	Min Xiao

➤ *Faculty on microEP Graduate Program team*

Education Assessment	Sean Mulvenon
	Ronna Turner
Sociology	Douglas Adams

➤ *Adjunct Faculty of the microEP Graduate Program*

Dr. Jerry Jenkins	Sr. Engineer, CFDRC
Dr. Eric Stach	Associate Prof, Purdue University
Dr. David Storm	USNRL
Dr. Kalmakar Rajurkar	University of Nebraska-Lincoln

➤ *Bibliographic Appendix*

All publications of faculty self associated with the microEP graduate program that have regular appointments to traditional departments will have their bibliographic information reported through those traditional departments. At this time Research Associate Professor Ron Foster is the only faculty member that is assigned to the microEP budgetary unit MEPH, so I have submitted his bibliographic information through the Physics Department's annual report.

Arkansas Center for Space and Planetary Sciences

1. *Significant achievements and changes*

1.1 *Progress relating to strategic plans and university priorities*

The space center continues to receive substantial support from the university through its congressional funding initiatives. Funding (\$1.0M) from NASA for FY05 began on March 1, 2006; the center is currently working on the proposal to NASA for FY06 funding (\$1M).

The FY07 funding request (\$2M) is with Congress. This funding is enabling the center to carry out many of the initiatives outlined in its five-year plans (2003 and 2005, Table 1): promoting research (including development of the HERA mission for asteroid sample return – a Discovery Mission proposed to NASA by space center researchers partnered by the Jet Propulsion Laboratory) and education programs in space and planetary sciences at the University of Arkansas. The center is positioning itself and the university to be a major contributor to the nation’s space program through its unique research facilities, its emphasis on sample return and analysis, and through its emphasis on interdisciplinary programs. This is expressed in a new mission statement adopted by the space center faculty. Progress in these initiatives is described below.

Table 1. Goals in the Center’s Five-Year Plan

1 Successfully propose the Hera mission to NASA	9 Sustain a long term funding base
2 Be a champion for sample return missions	10 Increase grant support for faculty
3 Create a national sample analysis facility	11 Strengthen interaction with campus centers
4 Develop Keck laboratory for space simulation	12 Increase interactions with industrial partners
5 Create a flight hardware facility	13 Increase diversity
6 Build graduate program to 50 students	14 Establish permanent physical plant
7 Increase undergraduate participation	15 Maintain and expand infrastructure
8 Strengthen and grow EPO programs	

1.2 Research

1.2.1 Competed Research Awards

A second round of the space center competed research program was announced on February 1st with a proposal deadline of April 1st and awards made on May 1st (Table 2). A six-page proposal (modeled on the forms used by JPL for its DRDF program) was required and was evaluated by the external advisory board. Nine research awards were made for a total of almost \$373,335. Two awards were for faculty in engineering departments, seven went to faculty in science departments. An emphasis was given to faculty wishing to nurture collaborations with faculty in other departments, universities, or NASA bases and to faculty enhancing student involvement in their research. The

proposals will support 13 undergraduate summer interns and nine graduate students in the SPAC program.

Participants in this program are required to give a six-month oral progress report to the annual meeting of the External Advisory Board and a final written report that will be a factor in future funding decisions. It should be noted, that in several instances the board recommended support for one year only in the belief that the work is competitive for funding through the solicited federal programs.

Table 2. Results of competed research proposals for 2006*

PI	Title	Award Amount
Rick Ulrich	Construction of an entry level LIDAR system	39,870
Larry Roe	Continued development of a sampler for the robotic return of asteroid surface samples	44,375
Claud Lacy	Mineralogy and classification of near-earth objects (NEO's)	41,263
Tim Kral	Growth of methanogens under conditions approaching those on Mars (continued)	44,654
Robert Gawley	The Hera sample collector: laboratory determination of its suitability for collecting samples containing organic compounds	48,859
John Dixon	Development of a geospatial digital library collection of historic remotely-sensed imagery	42,064
Vincent Chevrier	The surface of Mars: properties and evolution	46,032
Julia Kennefick	Using the NVO for quasar discovery and study	27,574
Daniel Kennefick	Evaluating the confusion noise threshold for extreme mass ratio binary inspirals in the proposed space-based gravitational wave detector LISA	38,642

1.2.2 Visiting Researchers

Vincent Chevrier joined the space center in Fall 2005 as a post-doctoral fellow. His research efforts are focused around water on Mars and planetary simulations. Additionally, Vincent mentors both graduate and undergraduate students.

Larry Lebofsky, planetary scientist from the University of Arizona, spent six months in the center performing research on asteroid surface properties and various education and public outreach efforts of the center.

Other visiting researchers made short term visits of a few days, met with students and gave research seminars and public lectures. These were Guy J. Consolmagno, University of Arizona; Robert M. Nelson, Jet Propulsion Laboratory, Pasadena, California; Barbara Cohen, University of New Mexico; and Alex Ruzicka, Portland State University.

1.2.3. Proposal review procedures

The space center has put in place a procedure for assisting faculty members in seeking external funding. This is modeled on a similar system in use at the jet propulsion Laboratory. A team of three internal faculty (of which 2 are space center members) reviews proposals and communicates their reviews in an oral session. The proposers are not allowed to comment on the reviews. A proposal manager (the space center manager) guides the proposers through the proposal writing process, drawing up a timeline, checking for compliance with guidelines, and having responsibility for proposal budgets.

1.2.4. Equipment and facilities

The space center has identified major equipment for the analysis of extraterrestrial samples, some of which will be received in the next few months. We have been asked to furnish a laboratory for the analysis of Stardust samples by thermoluminescence and development of this is already underway.

1.3 Education

1.3.1 Undergraduate programs

The Research Experience for Undergraduates (REU) program. This is an interdisciplinary summer program that is directly funded by NASA. This ten week program brought 13 students from a variety of science and engineering backgrounds to the UArk campus to research topics in space and planetary sciences. The students are assigned mentors in their respective research areas, and the students get a chance to experience life as a graduate student. REU student research interests vary from geomorphology to instruments for spacecraft. The students also prepare midterm posters, participate in end of term orals, and attend a follow-up national conference. In recent years, about 75% of the participants in this program present their work at the annual Lunar and Planetary Science conference. Table 3 is information on this years' program and its participants.

The students go on several field trips throughout the summer that reflect the major disciplines in the space center (planetary astronomy, planetary atmospheres, planetary geology, orbital mechanics and astronautics, or origin and evolution of life). At the

Oklahoma Aquarium, students get a behind the scenes look at what life in extreme environments might be like. On their trip to western Oklahoma, the students observe land formations that are comparable to those on Mars. At the Johnson Space Center (JSC) in Houston, students get a chance to visit the lunar and meteorite processing laboratories and will take a public tour of the JSC and other facilities.

Table 3. Participants in the 2006 summer research program in space and planetary sciences for undergraduate students*

Name	School	State	Major	Mentor	Title
Salma Alam	Univ. of Illinois - Urbana/Champaign	IL	Engineering Physics	Ulrich	“IR Imaging Spectrometer for Hera Mission”
Derrick Ankomah-Nyarko	Berea College	KY	Mathematics/Economics	Ulrich	“Multivariate Analysis of Multi-Spectral Images”
Jackie Denson	Tennessee Tech/U. Maryland	MD	Biology	Chevrier	“Sulfate Brine Stability Under a Simulated Martian Atmosphere”
Nathan Francis	Oral Roberts University	OK	Engineering	Roe	“Hera Mission: Testing Chamber for Sample Collecting in Simultaneous Vacuum and Microgravity Conditions”
Patricia Gavin	Florida Inst. Technology	FL	Astronomy	Chevrier	“Evolution of Clay Minerals on the Surface of Mars”
Laura Handzel	Agnes Scott College	GA	Astronomy/English	Lacy	“Properties of GX Gem”
Olga Petrova	Worcester Polytechnic Institute	MA	Physics	D Kennefick	“Detection of Christodoulou Memory from EMRIs by LISA: Signal Processing”

Fatemeh Sedaghatpour	Shiraz University	Iran	Chemistry	Gawley	“Investigation of the Chemical Interaction of Polydimethylsiloxane with Simulated Asteroid Regolith in Support of the HERA Mission”
Beziel Shambamuto	Wiley College	TX	Mathematics	Dixon	“Digitization and Georeferencing of Historical Images”
Edgar Siyakurima	Wiley College	TX	Biology	Kral	“Methanogens on Clay and Basalt: Implications on Life on Mars”
Ryan Smith	University of Oklahoma	OK	Engioneering Physics	Roe	“Building and Testing of Stewart Platform and Sample Collector Springs for Hera Mission”
Gary Stange	University of Florida	FL	Physics	D Kennefick	“Modeling the Christodoulou Memory of a Coalescing Extreme Mass Ratio Binary”
Tunji Thomas	Leeds University	PA	Physics	J Kennefick	“Quasar-Magnitude Variability”

*Name, undergraduate institution, undergraduate major, ethnicity, mentor and research topic are given.

The Research Experience for Arkansas Honors Undergraduate program: prompted by the dean of Fulbright College, and discussions with the dean of the Honors College, space center faculty have created a program of research for honors undergraduate students at the University of Arkansas. The program will resemble our REU program – with a similar application and selection procedure, weekly seminars, mid-term poster presentations and end of year oral presentations and two-page LPSC abstracts, field trips to JSC, western Oklahoma, the Oklahoma aquarium, local aerospace industries, and observatory nights – but will differ in that students must write a SILO-like proposal to be admitted, they will be required to write a SILO application, and they must already be enrolled in the Honors Program. Two undergraduate courses have been created to support the program, SPAC research and SPAC honors colloquium.

1.3.2 Graduate programs

The program graduated its first two students this year. Melissa Franzen graduated with a Ph.D. and Laurie Nash graduated with a M.S. Laurie has now returned to work at the Johnson Space Center in Houston and Melissa is hoping to go to the NASA Jet propulsion laboratory in Pasadena, California, where she would continue to work on the Hera asteroid sample return mission. Of course, since the program is only 18 months old, these students were grand-fathered in, Melissa from the Chemistry program and Laurie from the University of Colorado.

Five students entered the program on January 1st 2005, four in August 2005, and seven will join the program in the fall 2006, bring the program to 16 and well on its way to the target of a steady state of fifty students in five years (Table 4). The program is not only attracting good students from around the country, but it is also attracting a highly interdisciplinary class of students.

Table 4. Students in the graduate programs in space and planetary science*

Graduated spring 2006

Laurie Darling	JSC	BS, Aerospace Engineering	JSC
Melissa Franzen	Loras College	BS, Chemistry	

Admitted spring 2005

Katherine Gietzen	Missouri State University	BS, Physics	
Sammy Grimes	University of Arkansas	BS, MS Physics	
Henry Turner	Oregon State University	BS, MS, Geology	DDF

Admitted fall 2005

Travis Altheide	Missouri Southern State	BS, Biology	
Lisa Billingsley	University of Tulsa	BS, Mechanical Engineering	
Kathryn Bryson	Northern Arizona University	BS, Physics & Astronomy	DAF
Shelly Bursick	University of Arkansas	BS, MS Physics	

Admitted spring 2006

Jonathan Craig	Southern Illinois Univ	BS, Physics & Geology	
Brendon Chastain	Northern Kentucky Univ	BS, Biology, BS, Physics	DAF

To be Admitted fall 2006

Katherin Coleman	Univ. Arkansas	BS, MS Geology	
Jackie Denson	Tenn Tech/U MD	BS, Biology/MS, Cell & Mol Bi	
Daniel Ostrowski	Carrol College	BS, Chemistry	
Robert Pilgrim	Univ Hertfordshire	BSc, Astrophysics	
Fatemeh Sedaghatpour	Shiraz Univ	BS, MS Chemistry	
Ahmed El Shafie	Cairo Univ	BS, Space Science	
Navita Sinha	Univ Patna	BS, MS Chemistry	

All but one of the students entering the program in the fall of 2006 are new admissions to the University, and again they represent multiple subjects in the science and engineering disciplines. It is worth noting that the quality of these students is very high, one is a highly

prestigious Distinguished Doctoral Fellow, two are Doctoral Academy Fellows and one was a NASA fellow. The DDF and DAF are University of Arkansas fellowships provided for especially talented graduate students.

During this year, the three two-week workshops (communications, ethics, entrepreneurship) were removed from the catalog and replaced by a one-hour course in professional development to be taught in the spring semester. To date, this has been approved to the University Courses and Programs Level. A 5000-level course in astronautics has been approved at all levels and a 5000-level course in astrobiology is currently working its way through the system.

This year saw the first of the space center graduate orientation programs. A central component of this is the annual graduate field trip that this time visited sites in western Oklahoma to study geological features similar to those found on Mars. The trip was led by space center faculty members, John Dixon of Geosciences and Derek Sears of Chemistry & Biochemistry.

1.4 Management

1.4.1 Personnel

The following are the space center managers/administrators:

- Hazel Sears is space center Manager under the university title of Project Program Manager. She is responsible for all aspects of space center management and finances.
- Jessica Park is the space center Programs Administrator under the university title of Project Programs Specialist. She has special responsibility for managing undergraduate programs and education and public outreach.
- Walter Graupner has been appointed as the space center Laboratory Manager under the title scientific research technologist. His responsibilities include management and maintenance of all the space centers research and instruction equipment, especially the Andromeda environmental chamber.

1.4.2 Institutional commitments

During the reporting period, the University of Arkansas has committed the following resources to the space center.

- An endowed professorship in space and planetary sciences was created and awarded to space center Director Derek Sears. Funds from the W. M. Keck Foundation were used to match funds from the Walton Family Foundation to create the W. M. Keck Professorship in Space and Planetary Science.
- The University has approved a plan from the space center that we try to raise funds to convert the main floor in a large and centrally placed building on campus into a space and planetary auditorium and planetarium.

- The University has approved a joint proposal from the space center and the geoscience department that we hire a planetary scientist interested in planetary geochemistry. The search began in the fall of 2005.
- The University has agreed that we may occupy the Old Museum Building until fall 2007 at which time we may petition for a further five years of occupancy.

1.5 *Evaluation of our programs*

The only program completed as of this date is the STORI teacher's workshop. To date the data have not been tabulated.

2. *Achievements in teaching and research*

2.1 *Awards including external funding*

The following space center faculty have received substantial external funding during this performance period.

- Vincent Chevrier has received funding from the Arkansas Space Grant Consortium to assist in his work on water on Mars.
- Julia Kennefick of the Physics department was awarded a grant of \$25,000 from the National Virtual Observatory science steering committee.
- Claud Lacy of the Physics department was recently awarded an NSF grant of \$90,000 to study webscopes for use in undergraduate research.
- Alan Mantooth of the department of Electrical Engineering recently won NASA funding for circuit development for use in space. Mantooth was recently named to the 21st Century Chair in Mixed Signal Circuit Design.
- Rick Ulrich of Chemical Engineering has received a grant (~\$225,000) from Space Photonics a local industrial partner of the space center to help establish an Optoelectronics Qualifications Center. Dr. Ulrich will be collaborating with Dr. Pat Parkerson of Computer Engineering in this effort.
- Derek Sears of Chemistry and Biochemistry received an award of \$0.5M from the W M Keck foundation in July 2004 to support his water on Mars research. He also has been named the W M Keck Professor of Space and Planetary Sciences as mentioned earlier.

2.2 *Conference presentations and publications*

Center faculty members and students (graduate and undergraduate) made presentations (~20) at several national conferences (~6) covering all the major science and engineering disciplines.

Publications (incomplete list, July 2005 to June 2006)

Chittenden, J. D.; Sears, D. W. G.; Chevrier, V.; Hanley, J.; Roe, L. A. (2006) Soil Effect on the Evaporation Rate of Pure Water Ice Under Martian Conditions. 37th Annual Lunar and Planetary Science Conference, March 13-17, 2006, League City, Texas, abstract no.1054.

Chevrier, V.; Chittenden, J. D.; Sears, D. W. G. (2006) The Stability of Sulfate-bearing Waters on Mars. 37th Annual Lunar and Planetary Science Conference, March 13-17, 2006, League City, Texas, abstract no.1039.

Chittenden, J. D.; Sears, D. W. G. (2005) Simulation Studies of Evaporation of Water on Mars. American Astronomical Society, DPS meeting #37, #32.22.

Franzen, M. A.; Haseltine, J. D.; Kramb, J.; Ostrowski, D. R.; Sears, D. W. G. (2006) Fluidization as a Potential Mechanism for Formation of Polar Surface Features on Asteroid Itokawa. 37th Annual Lunar and Planetary Science Conference, March 13-17, 2006, League City, Texas, abstract no.1022.

Franzen, M. A.; Sears, D. W. G.; Hapke, B.; Kracher, A. (2005) Space Weathering on Asteroids: A Mechanism for Sulfur Depletion on Eros American Astronomical Society, DPS meeting #37, #15.09.

Gietzen, Katherine M.; Lacy, C. H.; Rivkin, A. S. (2006) Visible and Near Infrared Spectra of Five Near Earth Asteroids. American Astronomical Society Meeting 208, #11.02.

Haseltine, J. D.; Franzen, M. A.; Sears, D. W. G. (2005) Fluidization from Continuous Outgassing as a Cause of Pondered Craters and Particle Sorting on 433 Eros. American Astronomical Society, DPS meeting #37, #15.10.

Haseltine, J. D.; Franzen, M. A.; Sears, D. W. G. (2006) Fluidization from Continuous Outgassing as a Cause of Geological Structures on 433 Eros. 37th Annual Lunar and Planetary Science Conference, March 13-17, 2006, League City, Texas, abstract no.1103.

Lacy, C. H. S. (2006) New Times of Minima of Some Eclipsing Variables. Information Bulletin on Variable Stars, 5670, 1.

Lacy, Claud H. Sandberg; Torres, Guillermo; Claret, Antonio; Menke, John L. (2006) Absolute Properties of the Main-Sequence Eclipsing Binary Star EY Cephei. The Astronomical Journal, Volume 131, Issue 5, pp. 2664-2672.

Lacy, Claud H. Sandberg; Torres, Guillermo; Claret, Antonio; Vaz, Luiz Paulo Ribeiro (2005) Absolute Properties of the Eclipsing Binary Star RW Lacertae. The Astronomical Journal, Volume 130, Issue 6, pp. 2838-2846.

Lebofsky, L. A.; Lebofsky, N. R.; Schmitt, B.; Sears, D.; Andersen, C. (2005) ORION and STORI: Bringing Inquiry into the Classroom. American Astronomical Society, DPS meeting #37, #12.02.

Lebofsky, L. A.; Lebofsky, N. R.; Sears, D.; Schmitt, B. (2006) STORI and ORION: Bringing Inquiry into the Classroom. 37th Annual Lunar and Planetary Science Conference, March 13-17, 2006, League City, Texas, abstract no.1107.

Moran, Mark; Miller, Joseph D.; Kral, Tim; Scott, Dave (2005) Desert methane: Implications for life detection on Mars. *Icarus*, Volume 178, Issue 1, p. 277-280.

Sears, Derek W. G.; Chittenden, Julie D. (2005) On laboratory simulation and the temperature dependence of the evaporation rate of brine on Mars. *Geophysical Research Letters*, Volume 32, Issue 23, CiteID L23203.

Sears, Derek W. G.; Moore, Shauntae R. (2005) On laboratory simulation and the evaporation rate of water on Mars. *Geophysical Research Letters*, Volume 32, Issue 16, CiteID L16202.

Torres, Guillermo; Lacy, Claud H.; Marschall, Laurence A.; Sheets, Holly A.; Mader, Jeff A. (2006) The Eclipsing Binary V1061 Cygni: Confronting Stellar Evolution Models for Active and Inactive Solar-Type Stars. *The Astrophysical Journal*, Volume 640, Issue 2, pp. 1018-1038.

2.3 *Education and Public Outreach*

2.3.1 *Public Lectures*

The Barringer lectures is a public lecture series in the space center funded by the Barringer Crater Company. Lectures are held every spring and fall; this series is now in its 15th year.

10th April 2006 - "Meteorite Porosity and Asteroid Structure: Are Asteroids Fluffy?" Dr. Guy J. Consolmagno, University of Arizona.

8th November 2005 - "The Cassini/Huygens Mission and the Saturn System" Dr. Robert M. Nelson, Jet Propulsion Laboratory, Pasadena, California.

The space center gave the first of the annual Arkansas Lectures in Space and Planetary Science series of public lectures in 2005-2006.

12th April 2006 - "Life on Mars" Dr. Tim Kral

22nd February 2006 - "Human and Natural Influences on Climate Change: Who's Doing What?" Dr. Rick Ulrich

16th November 2005 - "The Star of Bethlehem" Dr. Claud Lacy

5th October 2005 - "The Origins of Flight" Dr. Larry Roe

Two public lectures and two departmental seminars were organized for candidates being interviewed for a faculty position in the geosciences department.

31st March 2006 - “Impact Events and Effects on the Terrestrial Planets” Dr. Barbara Cohen, University of New Mexico.

30 March 2006 - “Testing the Lunar Cataclysm” Dr. Barbara Cohen, University of New Mexico.

13th April 2006 – “Silicate-bearing iron meteorites: A new paradigm for asteroid differentiation?” Dr. Alex Ruzicka, Portland State University

14th April 2006 – “Meteorites: What we know and what we don’t know” Dr. Alex Ruzicka, Portland State University

2.3.2 *Teacher workshops*

STORI

Through the mechanism of competed proposals (see above) we funded and hosted a one-week workshop that focused on learning about astronomy by doing astronomy.

The Summer Triangle: Observing, Research, and Inquiry (STORI) is for up to 20 elementary school teachers of grades 4-8 who want to learn more about basic astronomy concepts, observing, and current exploration of our solar system. No specific science background is needed, just the willingness to work with others in a learning environment and a commitment to take what they learn back to their schools. The program includes 30 contact hours during the week-long workshop plus at least an additional 30 hours of on-line discussions during the school year. STORI is designed to help teachers reach the goals of the Arkansas Science Standards for these grades. STORI is based on a similar program in Arizona and Ohio and allows participants to become a part of a growing community of teachers around the US who are participating in these programs. The project staff are Dr. Larry Lebofsky, a planetary scientist and educator from the University of Arizona; and Nancy Lebofsky, an instructional specialist now working with the Science Center of Inquiry. Participating teachers received a telescope for their personal use during the school year and a subscription to Night Sky magazine.

Details of the participants for this year are listed in Table 5.

Table 5. Participants in the teacher workshops, summer 2006, and their schools.

WebScopes in the Classroom

Linda Barnes	Oden High
Henry Childress	Ramay Jr. High
Kaye Clanton	Conway High - West
Christine Farr	Substitute teacher
Michelle Savell	Ozark Jr. High
David Young	Fayetteville High

Heather Wright Darby Jr. High

STORI

Glenita Anderson	Batesville 6th grade
Susan Abram	Woodland Jr. High
Henry Childress	Ramay Jr. High
Becky Cooper	Piggott Elem.
Bobbi Cummings	Wilson Intermediate School
Lorri Daniels	Washington Elem.
Christine Farr	Substitute teacher
Rick Hoos	Creek Elem.
Sarah Johnson	Devalls Bluff Schools
Stephanie Miles	Randall Lynch Middle School
Jan Paul	Holt Middle School
Daphne Richmond	Mountainburg Middle School
Shauna Sanders	Dover Middle School
Edward Scott	Carver Magnet School
Sarah Williams	Ozark Upper Elem.
Heather Wright	Darby Jr. High
Kimberly Yarbrough	Sugar Creek Elem.

Webscopes

The WebScopes workshop is intended for teachers who want to learn more about observational astronomy using robotic observing techniques. They learn the basic concepts about how the sky works as well as the principles of digital imaging and image analysis. No specific science background is needed, just the willingness to work with others in a learning environment and a commitment to take what they learn back to their school.

The workshop is led by Dr. Claud H. Sandberg Lacy who has developed the use of robotic observing techniques as a tool for use in the classroom. He has helped build robotic WebScopes in Fayetteville, Arkansas, (the URSA WebScope) and in Silver City, New Mexico (the NFO WebScope). These WebScopes are regularly used by over 500 students per year who do mini-research projects as a regular part of their class work. Teachers will work through several of these projects during the workshop.

2.3 Publications

Space Notes

The space center continues to publish its monthly newsletter, Space Notes that is widely circulated on campus and off campus to our colleagues at other institutions and to our senators and congressional representatives.

Meteorite magazine

The quarterly magazine *Meteorite*, produced by Joel Schiff and his colleagues in Auckland, New Zealand, since 1995, has moved to the space center. The journal was created to satisfy a growing need for amateurs, collectors, dealers, educators and researchers interested in meteorites to have a forum for communication. The magazine has satisfied that need very successfully. *Meteorite* has earned the trust and loyalty of a large world-wide following of subscribers and advertisers.

Under the new arrangements, Larry and Nancy Lebofsky, of the University of Arizona, will be joint Editor and Hazel Sears will be the Managing Editor. Derek Sears, as director of the space center, will be the Publisher. Dr. Lebofsky's background is in planetary sciences, specializing in asteroids. He and Nancy have spent over 15 years in education and public outreach with a particular emphasis in stressing the role of amateurs in science and the need for communication between researchers, amateurs and professionals in other fields.

3. *Achievements of students, former students, alumni*

3.1 *Students*

- Melissa Franzen, graduated with a PhD in the space and planetary sciences and is hoping to assume an NRC position at JPL where she can continue to be in the science team for the Hera mission proposal to NASA's Discovery program.
- Laurie Darling completed her M.S. in space and planetary sciences and has now returned to the guidance and navigation division at NASA Johnson Space Center. She is working on trajectory design for Japanese and European vehicles that will replace the Shuttle in supplying and supporting the International Space Station.
- Katie Bryson has won an internship at the Jet Propulsion Laboratory for summer 2006.
- Julie Chittenden has had her research on the stability of brines on Mars published in *Geophysical Research Letters*. These results have implications for future Mars mission planning.

3.2 *Former Students*

- Travis Altheide, former REU 2004, entered the space center graduate program in fall 2005.
- Jonathan Craig, former space center REU student in 2004 and 2005 entered the graduate program in space and planetary science in January 2006.
- Daniel Ostrowski, former REU 2005 will enter the space center graduate program in fall 2006.
- Shauntae Moore, a former graduate student has recently taken a position with one of the space center's industrial partners, Bioengineering Resources of Fayetteville.

- Jesse Buffington, former REU 2004 and research assistant in the space center held an internship at the Johnson Space Center in fall 2005.
- Lisa Venechuk, an REU student with us in summer 2004 presented a paper based on her summer 2005 REU at the NASA Johnson Space Center.
- Lucija Rakocevic, Zackery Smith, Jennifer Hanley, Jason Kramb, Daniel Ostrowski, Daniel Hawkins, Jessica Haseltine, and Brian Fleming, all former REU 2005 made presentations at three national conferences.

3.1 *Alumni*

- John Wasson received the Whipple award In Planetary science at the fall 2005 American Geophysical meeting.
- Robert Mitchell, Cassini program manager at JPL received the Citation of Distinguished Alumni award from the University of Arkansas in fall 2005.

Cell and Molecular Biology

The CEMB program currently has 61 faculty, 10 MS students, and 42 PhD students. Dr Douglas Rhoads was appointed Director of the program in May 2006, replacing Dr. John Kirby who became Experiment Station Director at South Dakota State University. The major problems for the program are a budget overrun of approximately \$46,000 in the research assistant stipend budget for FY2006, and expected overruns of about the same amount for FY2007. The program is working with Dean Geren, to control these costs and bring the budget under control. Most of the overruns are due to unexpected problems covering students through aggressive recruiting, and faculty departures, requiring moving graduate students to new labs with an inability to find alternative sources for student stipends.

Six CEMB students graduated with Ph.D. degree in FY06.

Publications, grants and student accomplishments for the past year are listed below. The program has instituted a new secure web site using WebCT for dissemination of applicant materials to CEMB faculty. Listserves were created for communications between CEMB faculty and between CEMB graduate students. The programs web site was recently updated in May 2006 to reflect admissions policies, and faculty listings. Proposed activities for FY2007 include adopting rules governing faculty participation, expanding course listings, and election of a new program advisory committee for developing policies and student admissions.

Publications

*-CEMB student

Ojano-Dirain*, C., W. Bottje, T. Wing and M. Cooper, 2005._ Glutathione and respiratory chain complex activities in duodenal mitochondria from broilers with low and high feed efficiency. *Poultry Sci.* 84:782-788.

Ojano-Dirain*, C., N.R. Pumford, M. Iqbal, T. Wing, and M. Cooper, W. G. Bottje, 2005. Biochemical evaluation of mitochondrial respiratory chain in duodenum of low and high feed efficient broilers, 2005. *Poult. Sci.* 84: 1926-1934.

Bottje, W., N. Pumford, C. Ojano-Dirain*, M. Iqbal, and K. Lassiter*, 2006. Feed efficiency and Mitochondrial Function. *Poult. Sci.* 85:8-14.

Gomez, S.K.*, Cox, M.M., Bede, J.C., Inoue, K., Alborn, H.T., Tumlinson, J.H., and Korth, K.L. (2005) Lepidopteran herbivory and oral factors induce transcripts encoding novel terpene synthases in *Medicago truncatula*. *Arch. Insect Physiol. Bioch.* 58:114-127.

Calhoun, L. N.*, and Y. M. Kwon. 2006. Minireview:Salmonella-based plague vaccines for bioterrorism. *Journal of Microbiology, Immunology and Infection.* 39, 92-97.

Korth, K.L., Doege, S.J., Park, S.-H., Goggin, F.L., Wang, Q., Gomez, S. K.*, Liu G., Jia L., and Nakata, P.A. (2006)_ *Medicago truncatula* mutants demonstrate the role of plant calcium oxalate crystals as an effective defense against chewing insects. *Plant Physiology* 141: 188-195.

S. Bailes*, J. Devers, J.D. Kirby and D.D. Rhoads. (2006) A Fast, Simple Protocol for DNA Isolation from Blood for High Throughput PCR or Restriction Endonuclease-based Genotyping. *Poultry Science* (In Review)

B. Zhang*, R. Horax, B. Cornelious, P. Chen, and N. Hettiarachchy. (2006) Effects of Various Solvents on the Extraction and Natural Elicitation of Soybean Isoflavone Content (Accepted by *Journal of Agricultural and Food Chemistry*)

B. Zhang*, Y. Chen, D. Wang, and P. Chen (2006) Putative Quantitative Trait Loci (QTL) Associated with Calcium Content in Soybean Seeds. (Submitted to TAG)

Wesner Antoine*, James M. Stewart and Benildo G. de los Reyes. 2005. The rice homolog of the sodium/lithium tolerance gene functions as molecular chaperon in vitro. *Physiologia Plantarum* 125: 299-310.

Mustafa R. Morsy*, Laurent Jouve, Jean-Francois Hausman, Lucien Hoffmann, and James McD. Stewart._ 2006._ Alteration of oxidative and carbohydrate metabolism under abiotic stress in two rice (*Oryza sativa* L.) genotypes contrasting in chilling tolerance. *Journal of Plant Physiology* 163: doi:10.1016/j.jplph.2005.12.004 (This is still "in press," but was made available on-line on Feb 28, 2006.)

Theses completed

Kentu Lassiter MS August 2005. Thesis title: Differential expression of mitochondrial and extra-mitochondrial proteins in lymphocytes of high and low feed efficient broilers.

Shawn Bailes, MS May 2006. Thesis title: Assessment of estrogen receptor alpha as a quantitative trait locus for egg production, in a large data set from a single commercial broiler breeder population.

S. Karen Gomez Ph.D. Aug 2005. Thesis title: Regulation of terpenoid pathway genes in *Medicago truncatula* in response to Lepidopteran herbivory.

Chris Hansen MS Summer 2006. Thesis title "Improved methods for construction of *Campylobacter jejuni* mutants".

Tuan M. Huynh MS Fall 2005. Thesis title "Modifying T cell proliferation during activation in aged mice."

Other CEMB student activities

Leona N. Calhoun (CEMB, Ph.D. student, distinguished doctoral fellowship recipient) was accepted to the Intramural NIAID Research Opportunities (INRO) program sponsored by the National Institutes of Health (NIH). INRO is a 5-day program for academically talented students from underrepresented groups in science who wish to learn more about NIAID and are interested in exploring career opportunities in allergy, immunology, and infectious diseases. The INRO program is highly competitive. Between 18 and 20 students are accepted to participate in this year's program. She participated the program between 2/5 - 2/10/2006 on the NIH Campus in Bethesda, Maryland.

Carolyn Ojano-Dirain was selected for a Alltech Student manuscript award at the Poultry Science meeting in Atlanta - January, '06.

After defending her dissertation, S. Karen Gomez took a post-doc position at the Boyce Thompson Institute in Ithaca, NY.

Poster presentations

Christopher L. Mazzanti. Tryptophan anchoring of the transmembrane domain of the Anthrax Toxin Receptor. Annual Meeting of the Biophysical Society Salt Lake City, Feb 2006.

Anna E. Daily. Influence of Anchor Group Identity on the Orientations of Transmembrane Peptides by Solid State ^2H NMR. Annual Meeting of the Biophysical Society Salt Lake City, Feb 2006.

B. Zhang, P. Chen, and C. Feng, Genetic Mapping of Quantitative Trait Loci Associated with Calcium Content in Soybean Seeds 2005 Plant & Animal Genome Conference.

B. Zhang, Y. Chen, D. Wang, and P. Chen, Identification of QTL for Calcium Content in Soybean Seeds 2005 ASA meeting.

B. Zhang, P. Chen, and C. Feng, Genetic Analysis of Calcium Content in Soybean Seeds 2005 International Plant Nutrition Conference.

B. Zhang, R. Horax, B. Cornelious, P. Chen, and N. Hettiarachchy, Effects of Various Solvents on the Extraction and Natural Elicitation of Soybean Isoflavone Content 2005 SASA conference.

J. Burge, B. Zhang, and P. Chen, Texture Analysis of Food Grade Soybean Seeds 2005 SASA conference.

Plumlee, B.L.*, X. Wang, G.F. Erf, 2006. Interferon-gamma expression in feathers from vitiliginous Smyth line chickens. Abstract presented at the Annual meeting of the American Association of Immunologists, *J. Immunol.* 176:S283; May 2006.

Honors and Awards for CEMB faculty

Erf, G.F. Helene Cecil Leadership Award, a national award presented by the Poultry Science Association for scientific contributions in the field of poultry science or for significant leadership in the promotion and development of women in poultry science

New Grants supporting CEMB faculty or students

Kwon, Y.M. National Institute of Allergy and Infectious Disease (R21). Genome scanning for virulence genes in bacteria. \$541,368 (July 2005 - June 2007).

Stites, W. Arkansas Biosciences Institute, Development of proteomic methods for detection of post-translationally formed methionine sulfoxide, 7/1/2006-5/31/2007 \$74,643, awarded at \$50,000.

Stites, W. NIH, NHLBI, R-15, Smoking, thrombomodulin oxidation, and thrombosis, 07/05-6/07, \$150,000 direct, 203,448 total.

Andersen, Koeppe, Roux NIH, NIGMS 8/01/2005 – 7/31/2009; \$242,000. Putting Molecular Dynamics to the Test: Ion Permeation.

Rhoads. Cobb-Vantress, Inc; 7/05-6/06 \$24,633. Development of molecular tests for a gene affecting male fertility in Cobb broiler breeders.

Tameka Bailey received an Asian Rice Foundation USA travel and study grant of \$3500 for FY2007.

Erf, GF. NIH, National Institutes of Arthritis and Musculoskeletal and Skin Diseases (R15). Autoimmune Vitiligo: gene-expression during pathogenesis. \$208,163 (July 2005-June 2007).

Erf, G.F., Arkansas Bioscience Institute Grant Program. Laser Capture Microdissection System: a necessary research tool to expand competitiveness of research with medical application conducted by researchers in the Division of Agriculture at the University of Arkansas. \$75,000 awarded; matched by funds from the Center of Excellence for Poultry Science (\$75,000).

Office for the Studies on Aging Graduate Certificate in Gerontology

The Office for the Studies on Aging (OSA) was established in August 1999 to explore educational, community service and research issues and needs related to aging and older persons. The mission of the OSA is to coordinate university resources to address gerontology needs and to facilitate better community interface between university resources and the needs of older adults.

For the last six years, the Office for Studies on Aging has been pro-active in reaching out to the university community and into Northwest Arkansas to identify needs and to target resources that may respond to those needs.

The OSA along with the Graduate School administrates the graduate certificate in Gerontology. Oversight for the certificate is provided by a representative from the Graduate School, Dr. Patricia Koski, and a steering committee comprised of Dr. Barbara B. Shadden, Co-Director of the OSA and Professor of Communication Disorders, Dr. Ro DiBrezzo, Co-Director of the OSA and Professor of Kinesiology, Dr. Jean Turner, Associate Professor of Human Environmental Sciences and Dr. Vaughn DeCoster, Assistant Professor of Social Work. The OSA along with the steering committee is currently exploring ways to expand Gerontology educational options available at the University of Arkansas through interdisciplinary and online programs.

In the spirit of the mission of the OSA, the following initiatives were completed this year:

Campus and Community Collaborations:

- Sponsored the 1st Annual Aging Well Writing Contest (Fall 2005)
Award recipients include:
 - 1st prize: *Girls to Jog With*, Miroslav Penkov
 - 2nd prize: *All your Life*, Necia Parker-Gibson
 - 3rd prize: *Anniversary Dance*, Judith Walker
 - Honorable Mention: *Can You Play?* Kathleen Barta &
Aging Well, Karen Walls
- Continuation of the first Distinguished Doctoral Fellowship in Gerontology (First Awarded, August 2003).
- Continuing to publish, *Across the Ages*, a newsletter about aging topics for the UofA community. (Fall 2005 & Spring 2006)
- Co-sponsored 3 video-teleconferences on aging issues (October 2005, November 2005, April 2006)
- Attended various community gerontology receptions, lectures and programs.

Development Efforts:

- Received a \$5,000 donation from Mr. & Mrs. Bob Garnett (July 2005). \$2000 dollars of this donation was designated for the 1st Annual Aging Well Writing Contest.

- Received a second \$5,000 donation from Mr. & Mrs. Bob Garnett (March 2006). \$2000 dollars of this donation will be used for the 2nd Annual Aging Well Writing Contest to held Fall 2006.

Proposals:

- Submitted a research proposal to the Arkansas BioSciences Institute entitled, Salivary Cortisol as a Biomarker of the Stress of Managing Employment and Caregiving (June 2006) Under Review
- Submitted proposal to the Women's Giving Circle (Fall 2005) Not funded
- Submitted the White Paper, Improving the Health of Caregivers (September 2005) Not funded.
- Submitted a research proposal to the Arkansas BioSciences Institute entitled, Salivary Cortisol Levels of Employed Female Caregivers: Comparison with Non-Caregivers (June 2005) Not Funded

Gerontology Certificate:

- Offered GERO 5013, Field Experience, for the first time in Spring 2006 for GERO certificate students. This course along with GERO 5023, Critical Issues in Aging, is being offered in Summer 2006. The first GERO certificate student is expected to graduate in Summer 2006.
- Called four meetings of the GERO Certificate Steering Committee to discuss the creation of an on-line certificate in Gerontology.
- Worked with the Division of Continuing Education to develop an on-line Graduate Certificate in Gerontology program scheduled to begin in Spring 2007
- Continue to pursue the addition of a specialization in Aging Studies in the interdisciplinary Public Policy program.
- The OSA maintains membership in the Association for Gerontology in Higher Education (AGHE), the only national organization devoted primarily to gerontology education.

Research Efforts:

- Attended the 4th Annual Chicago Biomarkers Workshop on June 8th- 9th (Co-director Shadden). Attendance at this conference was recommended by a program director at NIH, who has been working with the Office to prepare a proposal for submission to the NIH AREA program in October.
- Established a Technical Panel to advise the OSA on its current research initiative involved Caregiver Health. The first panel meeting was held March 14 and panel members have given feedback to help the OSA as it prepare to submit a proposal to the NIH AREA program in October. Panel members include:
 - Liz Greenwald, Alzheimer's Association (OK/AR Chapter)
 - Hugh Higginbotham, M.D., Fayetteville Diagnostic Clinic
 - Jerry Mitchell, Area Agency on Aging of Northwest Arkansas
 - Marianne Neighbors, Ph.D., Eleanor Mann School of Nursing
 - Melissa Rogers, Senior Health Center, WRMC
 - Randy Shinn, M.D., Senior Health Center, WRMC
- Collaborated with the Human Performance Laboratory to provide memory and fitness testing for the Retired Razorback Exercise Club. This program was

coordinated by GERO certificate student, Meighan Acuff, to meet the requirements of her field experience.

- Conducted pilot testing for the project submitted to the American Heart Association. Testing included salivary cortisol levels over 3 days, blood lipid levels and anthropometric measures among 11 UA employees.

Student Services:

- Continues to provide office space to the delta sigma chapter of Sigma Phi Omega, the national academic honor and professional society in gerontology, at the University of Arkansas. Seventeen members were initiated into the new chapter of SPO on October 26, 2005.
- Supervised a student intern in the Spring 2006 semester. Tori Burden, a senior health science student, worked on research projects, assisted with fitness and memory testing, coordinated SPO activities and attended the annual meeting of the AGHE.

Abstracts:

- Shadden, B.B., Di Brezzo, R., & Powers, M. (2005). Factors influencing perceived physical and emotional health impact of caregiving, *The Gerontologist*, 45 (2), 306.

Presentations:

- Powers, M. Di Brezzo, R., Shadden, B.B., & Gray, M. (June 3, 2006). *Comparison of the effects of land and water-based exercise on memory among mature women*. Poster presented at the 53rd Annual Meeting of the American College of Sports Medicine, Denver, CO.
- Di Brezzo, R., Murphy, C. & Powers, M. (January 6, 2006). *Experiences for Exercise Scientists: From the Classroom to a Senior Center*. Panel session presented at the 4th Annual Hawaii International Conferences on Education, Honolulu, Hawaii.
- Shadden, B.B., Di Brezzo, R., & Powers, M. (November 2005). *Caregiving Health Impact: Relationship to Care Recipient Communication Problems*, Poster presentation presented at the 2005 American Speech-Language-Hearing Association Convention, San Diego, CA.
- Powers, M., Gray, M., Di Brezzo, R., & Shadden, B.B. (October 21, 2005). *The Impact of Caregiving on Salivary Cortisol Levels*, Poster presentation presented at the Annual Meeting of the Central States Chapter of the American College of Sports Medicine, Kansas City, Missouri.

This year, the Office for Studies on Aging has actively worked to increase the opportunities for students to study gerontology and aging studies at the UofA. The on-line Graduate Certificate in Gerontology is scheduled to begin in the Spring of 2007. Efforts are now focused on advertising and promotion of the on-line certificate. The Office continues to seek funding to expand the Caregiver and Health project.

In order to continue to meet its mission and to grow enrollment in Gerontology programs, the Office continues to need operational support for Co-Directors time (or hiring of additional personnel) to pursue the agenda of the Office, as well as a pool of preliminary project funding that can be applied to pilot projects identified through the Office. The potential for the Office for the Studies on Aging is enormous, as witnessed by the overwhelming response of the campus and community. A continued university

commitment to this Office would enhance capabilities for delivering services and increase the likelihood of securing external funding.

Biotechnology Center

The Biotechnology (Biomass) Center is now the permanent home for the University of Arkansas Herbarium. Offices for museum personnel are located in the Center as is the curation laboratory.

The Center continues to house the food safety research efforts of Professor Michael Johnson of the Department of Food Science as well as the Agricultural Research Services Laboratories and Offices. It also houses Genesis client NN Labs.

University of Arkansas Press

Sales for University of Arkansas Press titles finished unusually strong in FY06. We nearly nailed our original sales forecast, exceeding it by 1%. Fourth quarter sales surpassed FY05 by 43%. We continue to see increases in sales and revenues from lead titles--with more hits than disappointments. Front list (new) titles still carry the load but, increasingly, back list staples are taking on a sustaining role in our revenue picture. This bodes well for future strength and growth in revenue.

Returns are stable at 18% for the last two years, beating industry-wide figures by more than 2%. Keeping returns at this level while doing more trade books is very encouraging. Non-book publishing income also improved in FY06 especially through Journals income and our distribution operation. We are looking into other acquisitions to our distribution business as well.

Expenses were slightly (6%) over forecast in FY06, almost all in marketing. It is important to note that the mid-stream adjustment in marketing—i.e. increasing marketing activity--was done by decision in order to increase the visibility of the Press and the University and to increase revenues. The substantial increase in 4th quarter sales seems to indicate this was the right decision.

Some highlights for the year were:

- The press had a gala celebration of its 25 years of operation with a guest appearance of Billy Collins--two time US Poet Laureate and UA Press best selling author. Sponsored by the Winthrop Rockefeller Distinguished Lectures committee, this event drew several hundred people and resulted in a huge sale of Press books. Sales for Collins' THE APPLE THAT ASTONISHED PARIS continue strong--more than 5000 copies sold last year.

- The Press's new paperback edition of *THE BOOKMAKER'S DAUGHTER*, by Shirley Abbott, was named by the Arkansas Center for the Book as the 2006 "If All Arkansas Read the Same Book" winner.
- The Press concluded a distribution agreement with the Ozark Society wherein we will market and distribute their publications from our warehouse--thus adding to sales, increasing the economy of scale in the warehouse and attaching the press to an entity that celebrates the natural resources of the state and the region.
- The Press concluded an arrangement with The Permissions Company thus eliminating a substantial amount of tedious work while increasing revenue for the sale and licensing of rights to our publications by 37%.
- The Press received a starred review in *PUBLISHERS WEEKLY* for *LET ME TELL YOU WHERE I'VE BEEN: NEW WRITING BY WOMEN OF THE IRANIAN DIASPORA*. This book has drawn great attention around the world and has sold 4000+ copies in three printings after only five (5) weeks.
- The Press received much attention for the re-design of the seasonal catalog and its publication, for the first time, in a four-color format.

Among prizes and awards:

- Silver/Book of the Year award from *FOREWORD* magazine, anthologies category, for *DINARZAD'S CHILDREN: An Anthology of Contemporary Arab American Fiction*.
- Semi-finalist in the Independent Publishers book award in the short fiction category, *DINARZAD'S CHILDREN*.
- Finalist, Independent Publishers book award, *READING WITH OPRAH*.
- Finalist, Paterson Poetry prize, *STANDING AROUND THE HEART*.
- 2006 Booker Worthen Prize of the Central Arkansas Library System, *PROMISES KEPT*.

The Press continues to receive strong support from private donors and agencies with gifts for special publications. Among donors in FY06 were: The University of Arkansas System; The Blair Center; the Honors College, U of A Fayetteville; the Fulbright Institute; and The King Fahd Center for Middle East and Islamic Studies.

Ongoing organizational fine tuning and staff development promote the improvement of the Press as a productive and important participant in the enterprise of scholarly and regional publishing and as a visible and important representative of the University and the State.

Survey Research Center

1. Significant achievements and changes, both positive and negative

Events of fiscal year 2005 to 2006

Projects

The projects completed and undertaken by the Survey Research Center (SRC) during fiscal year 2005 to 2006 are listed in Table 1. The SRC engaged in 29 projects during the year. The staff completely administered 20 surveys during the year and wrote reports for 16 of the 29 projects. The SRC entered data for three projects, analyzed data in one project and drew UA sample for one student. The organization did preliminary work on three projects during 2005 to 2006 and followed up on two projects.

Table 1. Projects Begun and/or Concluded in 2005 to 2006

Projects	Types of Investigators
Surveys	
Statewide Political Survey	Faculty, U of A
Institutional Web Survey on Needs for Information	Graduate student and faculty, U of A
Statewide Survey on Various Topics, June and July 2005	Faculty and Educators, U of A and Cooperative Extension
NWA Survey on Various Topics September, 2005	Non-profits and Cooperative Extension
Statewide Survey on Various Topics, May, 2006	Cooperative Extension, two state agencies, for-profit organization
NWA Survey on Various Topics, June, 2006	Non-profit, regional governmental agencies, regional college
Survey of City Residents – Report & presentations	Local government
Survey of Arkansas Households on Retirement Needs	Faculty, U of A
Survey of Students on Classroom Civility	Administrative, U of A
Survey of Faculty on Classroom Civility	Administrative, U of A
Survey of Undergraduate Alumni and their Employers	Department, U of A
Survey of Undergraduate and Graduate Alumni and the Employers of Undergraduate and Master's Alumni – Reporting	College, U of A
Survey of Participants in a Program to Develop a Watershed Management Plan	Doctoral students and faculty, U of A
Survey of Urban Residents of a Watershed in NWA – Experimental Group, Start-up phase	Partnership of UA Cooperative Extension, Local Water Utility(ies), non-profits with government funding
Survey of Urban Residents of an Area in Central Arkansas – Control Group, Start-up phase	Partnership of UA Cooperative Extension, Local Water Utility(ies), non-profits with government funding
Screeener Survey to Identify Students to Critique Website	Graduate Student & Faculty Advisor, U of A

Projects	Types of Investigators
Surveys of attendees of a local open-air market	Non-profit
Data Entry	
Entry of Data from a Survey	Faculty, U of A
Entry of Health Data	UAMS and State Agency
Entry of Training Evaluation Data, 2 nd phase	Faculty, U of A
Data Analysis	
Analyzed data from a survey of nonprofits conducted by SRC	Non-profit
Evaluation	
Evaluation of Statewide Training by Phone	Non-profit
Evaluation of Statewide Training by Paper Survey	Non-profit
Report for Statewide Training of 2005	Non-profit
Evaluation of a national leadership training series	Consortium of university colleges
Evaluation of project in the Bentonville Public Schools	Non-profit
Evaluation of a set of presentations on legal issues for non-profits	Non-profit and UA Faculty and Students
Evaluation of a set of educational modules on non-profit law	Non-profit and UA Faculty
Other	
Random sample of UA students	UA Undergraduate Student's Honors Thesis

Client Critiques of the SRC's Work

Clients of more than seven of the 14 completed projects have evaluated the SRC and some projects from 2004 – 2005 were evaluated during 2005 – 2006. The omnibus surveys have numerous participants so some evaluations remain to be done on these. The evaluations are held with Dr. Koski and Dr. Longstreth after projects have finished. The evaluations are very positive overall. Some examples follow, although some of these projects are from the previous year or were completed during 2005 – 2006, but were evaluated in 2005 - 2006.

Telephone Surveys:

Advantages cited by clients (similar comments are grouped):

- Worked great! This person “kind of” knew the SRC existed and it was so great to find that the SRC is a resource the Arkansas Cooperative Extension could use.
 - Went well; the SRC kept her up to date. This person was informed all along; sent preliminary data as SRC was collecting it.
- This client worried that it would take a lot of her time, but the SRC did the work for her.

- Answers will help them plan.
- She's very pleased and wants to put questions on January survey.
- The State agency was pleased that it was a scientifically conducted survey.
- Client didn't expect the breakdown of each type of music. He can now say the exact percentage of people in this area say that classical is their favorite music.
 - He was happy to see all the kinds of music listed and why.
 - Client felt the SRC was extremely nice, easy and inexpensive;
 - He also felt the survey was of good value for the money.
- Client appreciated the SRC's meetings with the City Council members.
- Findings were given in briefs to legislature, senators, and the Northwest Arkansas Council.
 - Happy with the service of the SRC. Logistics worked pretty well.
 - The geographic distribution of respondents was helpful to this client.
 - Paperwork was very tolerable.
 - The SRC was careful to say the half way point is such, but he liked receiving the information part-way through.
- The Survey Research Center did a good job working within their budget.
 - Quick service and turnaround.
 - Dr. Molly Longstreth and the staff were helpful in making suggestions.
 - The SRC addressed issues if they didn't.
 - Good sample size.
 - Outstanding value for the money.
 - Question design exceeded expectations.
 - Overall, expectations were exceeded. Omnibus was so impressed they recommended the Survey Research Center to a Wildlife facility that plans to do survey work.
 - The larger report will be made public by UALR press and presented to various government officials such as Senator Lincoln and Senator Pryor.

Web Surveys:

- (Web and paper survey) The greatest asset to this client was our approach to information availability regarding how to reach the age group and the additional questions we suggested.
 - SRC put her question in context of a broader scope of information so as to get answers that would be useful to health educators like this client and the State.
 - We went above and beyond to try to achieve what they wanted in trying to find 18-24 year olds who would take the survey. Experience was wonderful and she learned so much from Dr. Longstreth and the rest of staff about availability process. Appreciated time we spent with her.
 - The budget made perfect sense to her after she saw all the allocations to the various parts; at first it seemed high. It was hard to determine the value they get for the money because this was the first survey she has done. Gave lots of good information. Already thinking of their next questions for the next survey.

- The client, his colleague and Molly Longstreth had the exact kind of respected collaboration you would like to have.
 - The PI differentiates between SRC and Computing Services in the way web surveys are done.
 - U.S. military unit proposed too tight a dead line. Our IRB and military folks were out of the country. The SRC gambled it was a go and for low price.
 - Linked with limited military access, SRC converted data to SPSS and cleaned it. SRC gave the client a dataset almost immediately. It was preliminary with a approximant response rate of 60%.
 - The final results were presented at Eisenhower Medical Center. It had a ridiculously fast turnaround. The military gave Dr. [client] the Commander's coin to show their appreciation.
 - SRC went beyond survey to do first and second passes at content analysis.
 - Have not worked on project that well and that quickly.
 - The military were very impressed with quality and timeline.

Mail Surveys:

- Dr. Longstreth and the SRC staff were extremely helpful in interpreting the meaning of things the PI did.
 - The SRC adhered to the timeline although it was extended a bit. Big deadlines were met and at the end, the PI couldn't be more pleased.
 - The Survey Research Center ran into glitches with the software; PI was expecting replies quicker.
 - PI is recommending the Survey Research Center to any organization or person that works with this foundation.
- Responses from graduates from each department; therefore, not meaningful enough for individual departments.
 - Confident that SRC followed proper survey procedures.
- The SRC prepared and shepherded IRB process critiqued his 70+ question survey.
 - Reworded questions to clarify, delete duplicates, double-barreled questions, etc. It allowed them to measure these variables which they otherwise didn't know how to do.
 - They appreciated the very high response rate.
 - Delivery of data was seamless.
 - Easy contract to enter, manage, and pay.
 - Dr. [Client's advisor] has worked with surveys before. This was so much better organized and thought out than any he'd worked on before. No problem hung up for more than a week, which is very good comparatively.
 - Dr. [Client's advisor] considered this survey to be of high value. In Texas he had surveyed 1,000 by phone, but it took 20 times more money than this survey did.
- ML and other staff were great to work with and they appreciate the SRC's willingness to accommodate volunteers
 - SRC made it easy for the director of this nonprofit to do a solid evaluation.
 - The evaluations produced great information.

- They were seeking both reputation and expertise for doing the evaluation and the SRC had these.
- Reports were great.

Data Entry:

- They had lots of open-ended questions and it may have been too much. The SRC staff took the survey, which Dr. [client] developed with her colleagues which made it more difficult to enter data since it was so complex. SRC staff met with her several times to ensure SRC entered it correctly.
 - The SRC did a better job than the business school at [another university] did in entering the data. The business school didn't take the time to do all of the math and calculation on the very complex questions and answers that the SRC staff did.
 - A statistician in the [other university] raised questions about the way the SRC coded the missing on the series of our content questions. After she read the SRC's explanation of the logic, she agreed with it and accepted it.
 - The SRC staff didn't have the time to finish as quickly as the PI might have liked.
 - Dr. [Name] isn't a statistician and Molly took the time to explain and refresh statistics with her.
 - We asked questions about the structure of the data that were like the questions she had.

How the SRC could improve its services:

- The SRC needs to check with everyone to ensure they received the e-mailed data. Email security systems are tighter than ever so clients may not receive the emails sent.
- Explain valid versus cumulative percentages.
- Income at high end might be more helpful than income at low end.
- We should have told a department that wanted large changes at the last minute "No".
- ML should have been more forceful in arguing to shorten survey. She did make suggestions but could have been more assertive or argumentative.
- Didn't have a time period for the survey, but Dr. [Name] feels that the SRC is understaffed. She/He wasn't under a time squeeze.
- Start the process of a local government's survey earlier in the year so as to allow sufficient time for democratic revisions of questionnaire
- Make a glossary of terms with which researchers are familiar, but lay audience isn't.

Progress on goals set for 2005 to 2006, including improvements made:

- 1) The top goal of the SRC is to serve the campus community, especially faculty.
 - a) In 2005 – 2006, the SRC director and Research Project Analyst introduced the SRC during new faculty orientation and the graduate student orientation. At least two graduate classes have met at the SRC this year. Greater efforts were not made

- because the SRC was operating at capacity.
- b) Approximately 72 percent of the projects done by the SRC in 2005 – 2006 were done for faculty, graduate students, administrators, departments or Cooperative Extension specialists and/or agents from the U of A. At least 17 UA faculty and four graduate students were involved in the 25 projects³ on which the SRC has worked this year. In addition, work was done for one university administrator, five Cooperative Extension specialists, administrators and/or agents and two department chairs. Thus, a total of 29 faculty, graduate students, administrators, departments (department chairs), or Cooperative Extension specialists, program leaders or agents have been served.
 - c) Altogether the SRC has written 17 proposals for 26 faculty and/or administrators.
- 2) Serve more graduate students.
 - a) Service to graduate students grew in 2005 – 2006 very slightly, from two in 2004 – 2005 to three. The SRC also served an undergraduate student working on his honor's these.
 - b) The SRC does not have the capability of conducting classwork for graduate students.
 - 3) Implement the two new omnibus surveys
 - a) Arkansas Omnibus Survey
 - b) NWA Omnibus Survey
 - c) Each of these was conducted twice
 - i) The surveys offer UA educators and administrators, government agencies and nonprofits excellent means for collecting data quite inexpensively.
 - ii) They offer the SRC opportunities for publicity
 - (1) In selling the surveys, SRC staff spend hours contacting and recontacting faculty, state agency administrators and nonprofit leaders and/or publicists and thus inform them that the SRC exists and what services it can offer
 - (2) Articles have been published in regional newspapers, been carried on radio stations in Central Arkansas and locally
 - 4) Seek new level of projects.
 - a) SRC conducted more projects this year than on any year in the past.
 - b) Wrote the Behavioral Risk Factors Surveillance Survey proposal for the Arkansas Department of Health.
 - c) Completed a project for a graduate student and faculty member who work with the state regularly and with regional issues.
 - d) Completed two projects for state agencies *per se*; completed survey for a faculty member who has a grant from a state agency.
 - e) Started a sizable (for the SRC) longitudinal project for a local consortium of educators, public service providers and nonprofit groups funded by a federal agency through a state agency. Each of these organizations now knows about the SRC and its services. This work builds upon work done six years ago for Cooperative Extension.
 - 5) In order to achieve the budgetary goals, the SRC analyzed its performance through an

³ Some projects contain more than one survey and some were begun last year, but the data were analyzed this year.

- annual report and will do so again this year.
- a) SRC used both the annual report that we submit to the graduate school and an internal annual report for the analysis.
- 6) Improve the efficiency of operations and achieve budgetary goals.
 - a) Improve research designs to achieve efficiency and reliability.
 - i) Staff have been promising less in proposals.
 - b) Seek standardization of work stations with minimal investment (See Section 10, b, iii).
 - c) Bill mid-term in projects more often.
 - d) Continue efforts to reduce costs.
 - i) Except for travel this year, costs may have been reduced by about as much as they are going to be. The full-time staff are tired and need to cut back. All have too much comp time.
 - e) We have the accounting tools to assess project budgets but have not been using them, primarily due to lack of time.
 - 7) In order to achieve operating and budgetary goals, the SRC continued attempts to improve project and SRC management.
 - a) To adequately staff the SRC
 - i) Added a Research Assistant position.
 - ii) Initiated adding an Assistant Director.
 - iii) Hired and trained computer maintenance personnel before the previous one graduated.
 - b) Staff development.
 - i) The SRC has had virtually no funds to devote to staff development in the past.
 - ii) Nonetheless in 2005, staff have been encouraged to
 - (1) Take as many of the Computer Center's trainings as possible.
 - (2) Study Computing Service's ElementK programs.
 - (3) Take as many of Human Resource's special programs as possible.
 - (4) Take the training to work with the automated questionnaire system.
 - iii) Over the past two to three years, three of the four managers have taken HR's diversity training; the newest team member will be encouraged to sign up when these are offered again.
 - iv) In 2006, Danielle Wood, Affirmative Action, did a presentation for the entire staff on sexual harassment and every staff member, to the best of our ability, including interviewers were given the literature she provided on sexual harassment.
 - v) Several staff took a remote class to improve their skills in programming paper surveys.
 - vi) Community Care Foundation (CCF) offered SRC staff an opportunity to attend their offerings for leaders of nonprofits as we wished for only a relatively small charge.
 - (1) At CCF's invitation, the director participated in the Milestone Program with three months of coaching by an experienced leader. The goal of this program is to strengthen participants' leadership capabilities and maintain his or her ethics. Dr. Longstreth benefited greatly from these opportunity and the benefits are accruing to the SRC in the forms of better management,

- and new projects.
- (2) All managerial and on-going part-time staff who were in town participated in two management training sessions, Team Track and Management Map, taught by Elise Mitchell and Blake Woolsey, Executive Communications Consultants. The trainings occurred in June and July 2006. 12 staff members attended Team Track and 11 Management Map.
 - (a) At least two distinct goals and procedures for managing to accomplish them emerged from these trainings. In addition, at least three other goals emerged. Since the trainings have been so recent, it will take a while to determine the effects of these, but implementation on one has already started.
- c) To better manage existing work force and stabilize programming and testing of telephone, web and mail surveys.
 - i) Continue cross-training staff.
 - (1) The Accounting Assistant is working well; another two staff also assist the accountant.
 - (2) Programming telephone and web surveys – one person can now program in addition to the main person; two more are learning this vital skill.
 - (3) Cleaning data – one staff member handles all data cleaning but delegates part of it to part-time staff; this is a potential area for cross-training.
 - (4) Setting up tables for reports – primary person in charge has left to take a full-time job; several have some skill at this, but need more experience.
 - (5) Need to cross-train staff on paper survey programming.
 - ii) Continue using work/study students.
 - (1) SRC employed 12 work/study students during each semester, autumn and spring.
 - d) Refine project manager approach.
 - i) Hired a full-time person to manage mail surveys, prepare data and write reports – Research Assistant.
- 8) To improve proposal writing and budgeting:
 - a) Decrease turn-around time for proposal writing and budgeting – Some improvement.
 - b) Budget more realistically – Regressed.
 - 9) Provide an accounting infrastructure to accommodate the needs of a multi-project cost center such as the SRC.
 - a) Accounting Assistant is working out well.
 - b) Accountant and ML learning how to handle the details of an external project.
 - 10) Computer hardware and software:
 - a) The UA server, Gizmo, has been quite reliable.
 - i) Computing Services has, by and large, informed us about scheduled maintenance, but they started forgetting and this interfered with a telephone survey.
 - b) This was the third year of an annual computer replacement plan.
 - i) Downtime for repairs of in-house computers has been minimal.
 - ii) Replaced a laptop that ML uses; replaced four computers for an SRC manager,

- the computer manager, project manager and front desk.
- iii) We foresee a need to upgrade all lab computers – RAM and security have been upgraded.
 - (1) Lab stations have been standardized from programming and software points of view; having all stations with the same hardware would be a next step.
 - c) Computer software:
 - i) The software used to design paper surveys to be scannable was sold to a new company that no longer supports it and offers a very expensive alternative. Another company offers as less expensive alternative and the SRC purchased it just before support on the other ceased.
- 11) Other physical capital improvements:
 - a) Bought a conference telephone.
 - i) This has saved time and effort because we used to send someone to the telephone office to borrow it.
 - ii) It has also enabled us to hold more team meetings with our clients which has saved time and effort.
 - 12) Better quality assurance of telephone surveys.
 - a) Purchased a monitoring system.
 - b) Developed and revised form for monitors to use.
 - 13) Ensure that Hotz Hall is well maintained:
 - a) The SRC director became co-supervisor of Hotz Hall.
 - i) Need emerged because so much of what happens in Hotz occurs on the first floor or through the first floor. Since the SRC is the most public of the five organizations using the first floor, and thus the one with which the most Facilities Management staff interaction, it seemed natural to join with Polly Parnell in supervising the building.
 - ii) Co-supervision works well because at least one tends to be present during the year. Furthermore, two supervisors double the number of listeners to whom building residents may turn when something needs attention.
 - 14) Ensure that the SRC's space within Hotz Hall is well maintained:
 - a) All leaks, except the rare, but perennial wall of water from above the west window, seem to have been repaired as of the hour of this writing.
 - b) Two network connections malfunctioned this year. They were repaired somewhat quickly, but were very expensive both financially and time-wise.
 - 15) Staffing – we have lost several potentially very good pieces of business due to inadequate capacity.

Goals to be Accomplished in 2006 – 2007, Including Improvements To Be Made

- 1) Continue to assertively seek work with faculty.
 - a) Present at the New Faculty Orientation.
 - b) Write follow-up letters, including brochures and cards, to new faculty from the beginning year and from last year.
 - c) Seek advice from faculty for whom we have given quotes but who have not been funded or who have gone elsewhere to have their surveys done.

- d) Meet with all Dean's councils.
- e) Present SRC information at all College meetings and/or for all departments which are relevant and interested.
- 2) Continue increasing work with graduate students and their advisors.
- 3) Personnel:
 - a) Hire assistant director.
 - b) Hire another full-time person to supervise telephone surveys or create a full-time position that would encompass the computer technician position with a supervisor.
 - c) Hire additional part-time staff and assign them to full-time staff.
- 4) Improve proposal estimation process:
 - a) Using the new accounting tools, streamline and speed the process.
 - b) Continue to work more closely with and learn from RSSP.
- 5) Improve the efficiency of operations and achieve budgetary goals:
 - a) Use the accounting tools available weekly, if possible, to track project costs
 - b) Formalize procedures.
 - c) Identify a person in the SRC to maintain timelines on all projects and help project managers and all to abide by them.
 - d) Improve research designs to achieve efficiency and reliability.
 - e) Seek standardization of work stations with minimal investment.
 - f) Bill mid-term in projects more often.
 - g) Continue efforts to reduce costs.
 - h) Reduce the size of reports the SRC writes, but retain the meaning
 - i) Communications:
 - i) Reduce meeting times for full staff meetings – provide needed info, but few details.
 - ii) Reduce meeting times for weekly managers' staff meeting and focus on prioritizing.
 - (1) Use the expeditor's due date info.
 - iii) Continue learning about ourselves and each other so as to increase efficiency and productivity.
- 6) Continue to pursue larger research projects.
- 7) Determine the parameters for conducting the Omnibus Surveys.
- 8) Capital improvements:
 - a) Would like a projection system.
 - i) This would enable easier preparation for presentations – both for rehearsing and presenting.
 - ii) It would facilitate teaching. As it is, people sit around the director's or another staff's computer and squint (when it's not possible to increase font size).
 - iii) Increase the number of interviewers who could be trained simultaneously, thus reducing training costs.
- 9) Seek data entry and evaluation work to supplement surveys.
- 10) To continue expanding, the SRC will face space needs:
 - a) Where will the Research Project Analyst work when an assistant director arrives?
 - b) The accountant would like a more private space.

Employees

Numbers and types of hourly employees the SRC employed during academic year 2005 – 2006 are listed in Table 2.

Table 2 Number and types of hourly employees during 2005 - 2006

Semester	Regular hourly employees		Temporary Hourly Employees		Total
	Students	Community Members	Students	Community Members	
July 1 - Oct. 31, 2005	11	2	56	17	86
Nov. 1, 2005 - Feb. 28, 2006	11	2	32	7	52
Mar. 1, - June 30, 2006	9	3	77	30	119

**The Center for Mathematics and Science Education
Eisenhower National Clearinghouse Access Center
NASA Educator Resource Center**

The Center for Mathematics and Science Education (CMASE) is located in the West Avenue Annex and supported through the University of Arkansas Graduate School. This center is an outgrowth of the University of Arkansas Science Education Liaison Office begun fourteen years ago as a K-12 science education outreach facility for the University. Currently, CMASE is one of twelve science, mathematics and technology education centers working in conjunction with the Arkansas Department of Higher Education (ADHE) and the Arkansas Department of Education (ADE) as a professional development network of mathematics and science centers on university and college campuses around the state.

The main objectives of the center continue to be 1) to assist the University of Arkansas in K-16+ education outreach, 2) to coordinate University of Arkansas participation in state K-16 science and mathematics proposal initiatives, 3) to provide regionally beneficial grant-funded programs for K-16+ education, 4) to provide access points for dissemination of educational materials, resources and information and 5) to link the University of Arkansas with common education allies throughout the state and nation.

Through CMASE, annual University-sponsored activities such as **University Day**, the **Northwest Arkansas Regional Science and Engineering Fair**, **Springfest** and various teacher and student programs are still top priority. Day-to-day educational outreach information continues to be sent to local, regional, and state education entities through email listservs, web page information, and regular mail. Grant writing, specifically for Center outreach activities, continues and, as needed, is provided to other departments and colleges requesting assistance for pertinent grants. The maintenance of **University of**

Arkansas K-16+ Outreach program is the first layer of responsibility for CMASE.

The second layer of CMASE is as the **Arkansas National Aeronautics and Space Administration Educator Resource Center** (NASA ERC). As the only **Arkansas NASA ERC**, CMASE is responsible for warehousing and disseminating NASA materials provided by NASA HQ in Washington, D.C. and NASA Marshall Space Flight Center in Huntsville, Alabama, to the state's educators. In general, all state NASA ERCs are responsible for providing regular updates on NASA programs and materials in the context of email, webpage, and workshop information distribution. Educational materials and information are supplied to CMASE/NASA for local, regional, and statewide dissemination to Arkansas teachers through mail and workshop presentations. Webpages, specifically created for the Arkansas NASA ERC, provide a database of all materials and information available for statewide educator access.

A third layer of CMASE has just occurred because of a need for some form of connectivity with the museums around the state. The Reynolds Foundation funded a \$7.4 million grant for traveling museum exhibits and a 40ft van that will go to rural schools around the state. CMASE is the northwest Arkansas partner and will act as the northwest coordinator for the Foundation's education outreach.

Within the past year, CMASE has had the following grants funded:

- ADE: Math Instruction Specialist \$ 65,000.00
- ADHE: Elementary Science Specialist \$ 168,000.00 (year 3 of 3)
- ASTA Minigrant facilitation \$ 6,000.00
- EPA: Electronic Waste \$ 28,000.00
- NCLB: ADHE Teacher Enhancement \$ 69,700.00
- NASA: State Educator Resource Center \$ In kind
- Reynolds Foundation: Discovery Network \$7,400,000.00

During the past year, the CMASE director, mathematics specialist, and science specialist have, to list only the major components, provided education outreach professional development services to:

- In-service Teacher science/mathematics/technology content professional development:
 - 54 1-day workshops (6 hours/day) – 972 teachers with full day contacts (average 18 teachers/day X 1 day within the 54 workshops)
 - 6 5-day institutes (45+ hours/institute) – 840 teachers with full day contacts (average 28 teachers per day X 5 days within the 6 workshops)
 - TOTAL – 1812 teacher full day contacts**
- Pre-service Teacher science/mathematics/technology content professional development:
 - 23 ½-day sessions (2-3 hours/session) – 11.5 pre-service teacher day contact (326 UA, UAFS, JBU and NWACC undergrad/MAT) student teachers (326 college students X ½ day)
 - TOTAL – 163 student teacher day contacts**

Because teachers influence from 30 to 150 students per day within their classes, the number of students impacted by these education outreach opportunities, if properly estimated, would literally be in the **10s of thousands of students** who benefit from teacher to classroom implementation through CMASE activities.

The number of parents/public/others is unable to be determined but would safely be estimated as being over 2000+.

- Regional K-12 student activities
 - 4 full day programs – 2750 students and family members
(University Day, Northwest Arkansas Regional Science and Engineering Fair and Springfest)
 - 26 Classroom teaching sessions – 1262 students
 - 12 half day sessions for community such as library sessions - 200 students
 - STARLAB (traveling portable planetarium) sessions – 3067 students, 108 teachers, 21 schools

TOTAL – 7279 K-12 student contacts

The combined total number of days of regional, state, and national travel in which the director, math specialist and science specialist represented the University of Arkansas totals – 159 days of travel. Of these, 55 regional meeting days, such as: UA faculty; area Education Service Cooperative members; school representatives; and other regional outreach planning. Forty-three days were instate meetings dealing with the annual Arkansas Conference on Teaching state teachers’ conference, the network Centers directors and math/science specialists’ meetings, ADHE/ADE meetings, and state professional development programs/projects.

The remaining 61 days of travel were spent attending out-of-state meetings and conferences. These dealt with both representing the state of Arkansas and the University of Arkansas at national levels and presenting invited workshops. These presentations were given at NASA (regional state consortium and national) conferences, the International Space Station Educators’ Conference, the National Science Teachers Association annual national conference, and the GLOBE international conference.

Records are also kept for those who visit the Center. During the past year, approximately 781 have signed in to obtain information and resources from CMASE/NASA. An estimated 24,000 (yes, that is thousands) number of email contacts through personal communication & listserv mailings and 6266 numbers of materials such as teacher guides, posters, and lithographs were given out.

Another important part of CMASE is interaction with faculty in creating proposals, working with ARSC and COEHP students, and UA “general education outreach” business. This interaction occurs weekly to monthly and is not listed within the overall categories of activity.

Within the past year, CMASE had problems with **Office/Storage Space**: Moving to larger quarters in WAAX has helped to offset storage problems. However, even with the new

quarters, CMASE is at maximum capacity for storage and is unable to expand resources and materials because of lack of storage space. There is a definite need for breakout rooms for concurrent teaching sessions.

Future Plans are to continue to provide

- a) On-campus science, mathematics and technology outreach programs for undergraduate and graduate education majors,
- b) *College of Education and Health Professions* pre-service teacher workshops and opportunities for UA students to become more involved with education outreach,
- c) Education outreach for K-16+ science, mathematics and technology teachers and students,
- d) Grant funded professional development sessions, workshops and institutes for K-16+ teachers,
- e) Science, mathematics and technology materials and resources to K-16+ teachers, and
- f) Education listserv and web page mentoring to local, regional and state education networks.

Testing Services

I. EXECUTIVE SUMMARY

Testing Services provides exceptional, accessible and comprehensive testing services to all to guide and facilitate learning and support the achievement of their professional and personal educational goals. The office provides a welcoming and supportive atmosphere that promotes and supports the educational endeavors of all students and prospective students. Testing Services administers many graduate and professional school admission tests, professional certification and licensure tests, and exams offered by other state and national testing programs. Also the office administers national exams such as GRE, LSAT and MCAT as well as institutional admission tests such as ACT, TOEFL, MAT and SLPT. Placement tests like the Math and Reading Placement Tests, ASSET and ELPT are also administered in addition to credit-granting tests such as CLEP and NOCTI. Another population served by this office is students in distance learning programs. A complete list of tests offered by this office on a regular basis is included in Appendix A.

During 2005-06 Academic Year **over 11,000 students and prospective students** who were satisfying admission/degree requirements at UA and other institutions were tested. Considering the University's goal of significantly increasing the student body by the year 2010, the demand for testing will grow, and the gap between testing that is needed and testing that can be provided will be even greater.

To better manage limited space and personnel resources while increasing services to current students, alumni, and northwest Arkansas residents, Testing Services offers many test sessions during Saturdays, Sundays and evenings. **During the past year, a total of**

366 tests were administered: 92 sessions administered Saturdays, 32 administered late afternoon or evening hours, and 22 sessions administered Sundays.

Often, UA students, staff or northwest Arkansas residents must satisfy testing requirements of other institutions to fulfill educational, certification, or licensure programs. Testing Services provides individual and correspondence test services to support the needs of these individuals. Also, standard test administrations are scheduled through special request for those taking tests not normally administered by this office. **During the past year, Testing Services administered 55 such tests.**

Testing Services accommodated students' special testing needs by providing non-standard administrations to test takers with disabilities (e.g., visual, physical, hearing, learning, etc.). In the 2005-2006 Academic Year, **29 examinees with documented disabilities were tested on an individual basis.**

Demand for testing services is highest between October and April. (See Appendix B) The competition for space to administer tests continues to be a major challenge. Test sessions are scheduled using Testing Services' computer-based testing room containing only 15 computers and paper-based testing seating 45 examinees. To support large state and national test administrations, tests are administered on Saturdays and Sundays in other buildings across campus. **This year a total of 22 tests were administered on Sundays.** Classrooms in Kimpel Hall and computer labs in the Walton College of Business are used to support the large numbers of students who are required to test during peak times.

To support enrollment growth, the needs of academic departments and supplement the office budget, Testing Services continues to expand services. An example of these additions is a series of nursing exams administered to students in that field at the end of each semester. Testing Services operates with funding generated from a variety of testing services offered to the campus community and area residents.

II. NEW INITIATIVES

During the past year, many changes took place in administration formats of the existing computer-based testing programs, especially the Test of English as a Foreign Language (TOEFL), the Graduate Record Exam (GRE) and the Graduate Management Admission Test (GMAT). The GRE and TOEFL programs will move from a continuous administration to a fixed date format which began with the conversion of the TOEFL program in September 2005. Not only has Testing Services adapted to all the changes that took place this year, but the office has added new exams while accommodating both the students in this area and the testing companies.

The COMPASS is another example of the changes which took place this year. This is an ACT-developed advising, course placement, and retention tool which will be used specifically to assess non-traditional students' skills. Based on the suggestion of the Vice Provost Dr. Nancy Talburt and Northwest Arkansas Community College's Dr. Karen Hodges, Testing Services will begin scheduling and administering the reading part of the

COMPASS during the New Student Orientation in the summer of 2006. This test will be administered to the non-traditional students on a regular basis beginning fall 2007. At this point the reading portion will be used only during the New Student Orientation and will be given as the Developmental Reading Test to those individuals required to take the Reading 0003. The test will provide these students with another opportunity for exemption from this class.

The TOEFL program moved from a continuous administration to a fixed date format this year with the conversion beginning in September 2005. The new internet-based (iBT) TOEFL was implemented this year, and was launched for the first time at the University of Arkansas on September 24, 2005. Testing Services successfully administered the first iBT TOEFL to 5 test takers in the Computer-Based Test Center.

Another change included the Test of Spoken English (TSE). This test will no longer be offered as a stand-alone test after this year, except in countries where iBT TOEFL has not yet been introduced. The test was administered for the last time on Friday, June 2, 2006 at the University of Arkansas.

Beginning fall of 2006 Testing Services will administer the Advanced Composition Exam at the request of Dr. David Joliffe and Dr. Pat Slattery of the English Department. Testing Services will be responsible for scheduling the necessary test dates, posting information on the website, registering students, test administration, and coordinating essay readers/evaluators who will be notified in advance of the test date, evaluation time and location. A \$20.00 test fee was approved and will be charged to students to partially offset the cost of administration staff and the reader fees.

Over the past years, Testing Services has generated ideas to increase funding for the office by **advertising CLEP** as an option to earn credit through Testing Services' website and signs posted around campus. CLEP Information and Advising packets were also mailed to all deans' offices and advisors familiarizing them with this service. With the hard work of the work-study students posting CLEP signs in University buildings and strong partnerships across campus, the results have been successful and **additional revenue was generated**.

III. SPECIFIC ACCOMPLISHMENTS OF 2005-06

Collaborating with UA departments

- Collaboration with deans, academic advisors and major professors to inform students of their eligibility to take the state-mandated AAGE Exam.
- Cooperation and collaboration with different departments on campus to receive SLPT topics for students who are interested in obtaining a teaching assistantship.
- Collaboration with the Graduate Studies Department of Walton College of Business in regard to the new GMAT contract and test administration at UA.
- Collaboration with the Registrar's Office to identify eligible AAGE students.
- Collaboration with the Office of Admissions to streamline joint processes regarding admission tests and referrals to Testing Services.

- Collaboration with the New Student Office by scheduling and administering the Developmental Reading Placement Test and Math Placement Test with each orientation session.
- Collaboration with the Honor's College by administering the CLEP exam with the first few orientations specifically to accommodate honor students.
- Collaboration with the Office of Study Abroad to accurately identify AAGE students in their program who will be taking the state-mandated test.
- Collaboration with the Center for Students with Disabilities by reinforcing testing companies' deadlines and providing time for review and follow-up correspondence with regard to students with special needs.
- Organizing and scheduling all institutional tests to accommodate the needs of different departments on campus.
- Collaboration with the College of Education Nursing Department to administer a series of nursing exams to their students each semester.
- Continual training of office staff in the new information system updating students' record with regard to the AAGE.

Collaborating with Other Partners in Education

- Complying with the continuing changes pertaining to the CBT tests such as TOEFL, GRE and GMAT.
- Collaboration with the Northwest Arkansas Community College to administer the new e-COMPASS test to students in the developmental math and reading courses.
- Collaboration with Northwest Arkansas Community College to share AAGE examinee data.
- Collaboration with the New Students Office by providing them with CLEP brochures and an information sheet to be included in student orientation packets.
- Collaboration with area high school counselors by accommodating their students with disabilities with ACT information and non-standard testing.
- Collaboration with area high school counselors to share information regarding the CLEP testing program with their students.

Expanding Test Program Offerings

- Expansion of services by increasing the number of tests; the Advanced Composition and COMPASS are examples.
- Implementation of e-COMPASS as an alternative to the ACT for the non-traditional students.

Streamlining Procedures

- Working with Educational Testing Service and Thompson Prometric to ensure a smooth transition from the CBT TOEFL to the new iBT TOEFL.
- On-going development of an on-line test registration system for the AAGE Exam.
- Working with ISIS and the Registrar's Office to ensure a sound integration of ISIS and the AAGE or Rising Junior Exam.
- Working with the ISIS team, Admission and Registrar's Offices to determine Testing Services' needs for ISIS reports and inquiries.

- Processing and monitoring all test registrations and issuing admission tickets.
- Maintaining Testing Services website so information is available to students 24 hours a day/7-days a week. The site provides students with test dates and deadlines, registration procedures, test preparation, registration forms, other relevant test information, and links to testing companies and their websites.

Managing Resources Efficiently

- Ending the year with an income of over \$30,000 generated by the CBT Center.
- Obtaining newer computers and servers for the Computer-Based Test Center from College of Business.
- Working with College of Business and Pearson VUE to get the new GMAT contract signed with terms and agreements that are beneficial to Testing Services and the administration of this exam at UA.

Other

- Collaboration with Parking and Transit by obtaining parking permits for test takers directly from Testing Services.

V. ONGOING PROGRAMS

- A. Test Administration - Testing Services administered 366 sessions of standardized tests during FY 2005-06 to over 11,000 students. The number of students tested this year exceeds the previous years.

National test dates are set by the testing companies and usually fall on Saturdays. Institutional test dates, including CBT dates, scheduled by Testing Services on weekdays, evenings and weekends (including some Sundays) are liable in accommodating students' schedules and the University's admission requirements and orientations schedule. Two tests, TOEFL and GMAT, were suspended by the testing company thus creating a false escrow for UA Testing Services. The TOEFL re-instated October 2005 as the iBT TOEFL; the GMAT was terminated indefinitely December 2005. At the time of this report no agreement is reached with Pearson VUE (the company responsible for GMAT administration) to ensure future administrations.

- B. Test of English As a Foreign Language (TOEFL) – The last test date for TOEFL CBT was 9/15/05. After this date, TOEFL iBT was delivered on a fixed-date schedule with the first test date in the United States as September 24, 2005. The new TOEFL internet-based test (TOEFL iBT) introduced in phases, started in September of 2005. For security reasons, iBT TOEFL will have fixed start times to ensure that candidates in all geographic locations start at approximately the same time to minimize the chance of candidates exchanging information with others who have already completed the test that day. The problem with the fixed schedule is the test time in the U.S. The starting time on some of the tests is 9:00 in the evening here on a Friday night! Testing

Services denied testing during these late hours and as a result had too few dates to accommodate the number of students who need to take this exam.

Educational Testing Service is also considering a new institutional internet-based TOEFL test that would offer Reading, Listening, Speaking and Writing sections. This new test would give customers increased student-data management capabilities, more flexible testing options, faster and easier scoring, and better information about students' English skills.

The goal of the fixed administration date schedule is to test as many people on the same form at the same time. For example, if the anchor time is 12:00 noon in New York, the West Coast is testing at 9:00 a.m. and Europe is testing at 6:00 p.m. Tests will start no earlier than 8am and no later than 7:00 p.m.

- C. Non-Standard Test Administration - Non-standard testing accommodations are available for test takers who meet the Americans with Disabilities Act (ADA) eligibility criteria. Testing Services is committed to serving test-takers with disabilities by providing reasonable accommodations deemed appropriate. All requests for accommodations must be approved in accordance with the particular testing companies' policies and procedures, except for test takers who require only minor modifications to the standard testing environment due to documented medical needs. Minor modifications include special lighting, adjustable table or chair, and breaks for medication or snack. Documented medical needs may include diabetes, epilepsy, or chronic pain. These test takers must submit a letter of support from a medical doctor or other qualified professional stating the nature of the condition and the minor modifications requested. The letter with the appropriate registration form and fee are sent to the testing company for final approval.

In the 2005-2006 academic year, Testing Services tested examinees with documented disabilities on an individual basis. Please see Appendix C for a complete list of different disabilities accommodated by Testing Services. Every effort was made to accommodate each and every student with disability who needed to test at the University of Arkansas. This includes qualified individuals with disabilities who appear at the site with personal assistive devices or animals, such as service animals (dogs or other animals trained to assist), wheelchairs, walkers, canes, braces, speech or hearing aids, and other communication or mobility enhancing technology or animals.

To reinforce testing companies' deadlines and provide time for review and follow-up correspondence the Center for Students with Disabilities was informed of appropriate deadlines and requirements.

- D. Graduate Management Admission Test (GMAT) Transition - Beginning January 1, 2006, the GMAT test was no longer delivered by ETS and Thomson Prometric. There was a transition period of October 1 through December 31,

2005, during which the new vendor, Pearson VUE, began to accept registrations for testing in 2006. Registration through the new vendor for test dates in 2006 opened on October 3, 2005. Candidates were directed to the Web site where information was communicated as it became available.

To date University of Arkansas has not reached an agreement to administer the GMAT. At present only four test centers provide GMAT services. There are many problems associated with the new proposal from the Graduate Management Admission Council (GMAC) and Pearson VUE. The new schedule calls for a payment of \$20.00 instead of the \$27.00 paid by ETS as well as paying \$10.00 for no shows instead of \$27.00 received before. Another related issue is the lack of a cancellation policy. If a student calls and cancels his/her test at the last minute, the center receives no compensation. If a test taker does not show up for their test, the center receives \$10.00.

Another issue with the new contract is that Testing Services will be forced to administer other Pearson VUE tests that are not relevant to the University of Arkansas student population. Using a seat for a test that the office only receives \$5.00 to administer, forces Testing Services to forgo giving tests for which it is paid \$27.00 for every test administered. Test center closings due to inclement weather, etc – also present another challenge: UA would be responsible for reimbursing students when the center is closed due to inclement weather!

Testing Services Director has expressed her concerns about the new contract, the new test fee schedule, the cancellation/rescheduling policy and other issues. Her chief concern in regard to the fee schedule has to do with cost-benefit analysis and simple economics. Testing Services has to be able to break even. It is a cost center. The revenues derived from testing have to cover the costs of administering the tests. One of the biggest costs is staff. The test center should not be put in a position of losing money every time the GMAT is administered. Additionally, from a purely business point of view, this office has limited testing resources and a lot of demand for various tests. It just makes good business sense to offer those tests that generate the most revenue. If on any given day, Testing Services can administer 15 GMAT tests at \$20.00 for a total of \$300.00, or 15 GRE tests for \$27.00 for a total of \$405.00; one can see why the center might be inclined to offer the GRE.

At the final moments of preparing this report Testing Services learned that the problems associated with the new GMAT vendor have been ironed out so the University of Arkansas will be able to administer the test. Here is a summary of all the proposed changes that GMAC agreed upon:

- 1) Fee paid per administration of the test: GMAC understands the economics of the testing center and agreed to Pearson VUE paying the \$20 and \$10.

GMAC will pay the UA the difference of \$7 per test administered and \$17 for no shows.

2) Administration of other Pearson-Vue tests: As an institutional test site, UA will NOT have to offer the other Pearson VUE certification tests.

3) Inclement weather payment policy: Pearson VUE attorneys will strike this clause so that the University will not have to compensate examinees in case the center closes.

4) Mixed testing: Testing Services can administer the GMAT and the GRE at the same time.

5) Saturdays & Evenings: Testing Services can administer the test at days and times that are convenient to University students.

6) 2 days/month: GMAT should be scheduled and offered at least 2 times or more per month as dictated by demand at the University.

7) Computer-Based Test Center: The center is not dedicated for the exclusive use of the GMAT. The server must be a dedicated server and it is provided by GMAC. The test stations can be used for other tests.

8) Springdale Pearson VUE – the GMAT will NOT be offered in the Springdale office.

The only requirement to be an institutional test site is to require the GMAT for admission to the University. The attorneys at Pearson VUE will revise the contract and send it back to the University's General Counsel' Office for review to make sure that the contract meets the requirements for the state of Arkansas.

If General Counsel's office turns the contract around quickly, GMAC will expedite the next steps which include delivery of the server, installation of server and any software and training. At this point it seems like mid-August is a reasonable time frame to be up and running.

- E. Medical College Admission Test (MCAT) Transition: The MCAT is retiring the paper-and-pencil delivery method after the August 2006 administration. Beginning with January 2007, the MCAT will be delivered exclusively at Thomson Prometric computer-based testing sites. After this administration University of Arkansas will no longer be able to administer this test despite the fact the testing company scheduled a total of 22 tests between January and September 2007. Most of the international testing sites have been computer-based for several years. Last year, American Association of Medical Colleges (AAMC) added 10 U.S. computer-based testing (CBT) sites which had served as pilot test centers as alternatives. They now plan to deliver the MCAT exam as a CBT only. Thomson Prometric will deliver the computer-based MCAT on behalf of the AAMC multiple times per year, at hundreds of testing sites in North America and select sites in Europe, Asia, Australia, Africa and the Middle East. Of these dates, only three are on a Saturday; all the rest are during the week with the months of May and August having a total of nine test dates.

AAMC lists the advantages of the new CBT MCAT testing as follows:

- Test administrations will increase from twice a year to 22 per year.
- Morning and afternoon sessions will be available on weekdays and Saturdays.
- Students may take the MCAT exam up to three times per year (but may be registered for only one testing date at a time).
- The computer-based test day will be about half as long as the paper-and-pencil administration day, primarily because there is less administrative overhead.
- Beginning in 2007, the number of questions will be reduced by about one-third (without changing the content representation), and the allowed testing time will be reduced by about 30 percent. Research showed that a shorter MCAT exam would retain its predictive power.
- Beginning in 2007, scores will be reported in 30 days instead of 60 days. Their objective is to eventually reduce reporting to 14 days.

Given some of the difficulties inherent in the current Prometric proposal to ETS CBT sites, specifically the exclusivity issue, it would be nice if another idea could emerge that would allow university sites to add in just the MCAT. This would provide AAMC and Prometric with a significant number of seats and help ensure that they would be able to meet their goal of providing adequate access to the MCAT. One of the problems inherent with the limited (or fixed) date CBT/iBT models is that the one important variable upon which companies do their modeling - namely candidate behavior - is the one they have the least control over. The AAMC and Prometric want to be sure to have an ample supply of seats available to meet candidate and medical school expectations. The scheduling modeling predicts candidates to behave exactly as they have in the past with most of the seats and sessions being available during May and August. This is very much like the traditional paper and pencil schedule. May and August are also not high volume GRE test times. With the right agreements in place, the institutional sites will be able to easily participate in the MCAT CBT.

- F. Revised GRE General Test - Educational Testing Service will launch the revised *Graduate Record Examinations* (GRE) General Test in the fall of 2007. The revised exam was originally scheduled to launch in October 2006. However, the delay will better serve test takers and graduate institutions as ETS transitions from the current computer- and paper-based forms of the test to the new Internet-based (iBT) version. Until the revised General Test is launched, ETS will continue to deliver the GRE General Test using the current network of secure, proctored test centers at educational institutions.

The GRE Program will introduce a revised GRE to increase test validity, provide faculty with better information regarding applicants' performance, address security concerns, increase worldwide access to the test, and make better use of advances in technology and psychometric design. Changes planned include changes in Verbal Reasoning, Quantitative Reasoning,

Analytical Writing, Changes in the Verbal and Quantitative Score Scales and in the test delivery. Please see Appendix D for a complete list of changes.

The following will change in the test delivery:

- The GRE General Test will be administered on fixed administration dates.
- An expanded Internet-based testing network will be available worldwide.

G. Individual Test Administration - When students cannot test during a regularly scheduled test date, they may request an individual administration. This does not apply to nationally scheduled tests, but does include tests such as MAT, NOCTI, independent study, internet-based exams taken for other colleges and universities and distance learning exams. These tests are administered per student's request at a time mutually convenient for both the student and the Director of Testing Services. Students requesting these *standard* administrations are charged an individual administration fee in addition to the test fee.

H. College Level Examination Program (CLEP) - Over the past year Testing Services has generated ideas to promote CLEP, increase the number of students who take this test and as a result generated additional funds for the office. The following efforts were taken to achieve this goal:

- Advertise the availability of the CLEP as a way of obtaining credit through Testing Services' website.
- Post signs around campus to make students aware of the CLEP test.
- CLEP Information and Advising packets were mailed to all deans' offices, academic departments, academic support services, the Financial Aid Office and advisors familiarizing them with this service. Testing Services made sure these offices are aware of CLEP's benefits, so that they can more effectively advise incoming students. Handouts and brochures were distributed to these offices.
- Recruiters are encouraged to share information about CLEP policy while visiting high schools or hosting on-campus open houses; this way, incoming students will already be aware of the program.
- Order the CLEP *Take One* brochure and other free CLEP publications and make them available to all.
- A copy of UA CLEP policy and CLEP brochure is included in the orientation and admissions information mailing to admitted applicants.

The result of these efforts has been successful and additional revenue was generated by this test. According to a recent survey conducted by the College Board the advantages of administering CLEP during orientation and other times at the University are as follows:

Enhances retention and completion rates. Test-takers report that CLEP made a difference in helping them to complete their degrees.

Seal the deal with prospective and incoming students. Students not currently enrolled say that the CLEP policies of the institutions they were considering would affect their decision to enroll.

Increase access for other entering students. Colleges have determined that CLEP opens up seats in lower-division courses for students who need that course work.

Help students move ahead in their course work. A recent study conducted at a major research institution showed that CLEP students had a higher-than-average number of hours per semester. CLEP students took additional course work in the area where they received credit by examination or they took additional elective courses.

Help students (and their parents) finance their education. Test-takers claim that earning CLEP credit made a difference in their ability to finance tuition and fees.

The 2005–06 year has yielded important new developments for CLEP. In January, CLEP Precalculus was introduced, the first new CLEP exam in more than 15 years. January also saw the debut of a new online training course for CLEP test administrators.

The CLEP eCBT exam fee will increase to \$60 beginning July 1, 2006. CLEP publications and the Web site will be updated to reflect the new exam fee. Information regarding this change will be provided to students.

VI. DIVERSITY

Testing Services underwent multiple staff changes, and upgrades to address the office's increased responsibility and workload partly due to the implementation of the new student information system, ISIS.

- A. Efforts - In compliance with the university's and the testing companies' policies, test supervisors and proctors are recruited, selected and trained in order to operate the center on a nondiscriminatory basis. To meet this responsibility, the Director of Testing Services hires workforce as required and makes certain that they meet the qualifications given in the test administration manuals and that they reflect the same ethnic and gender ratios as the expected examinees.

There were some changes with the office staff this year. Jennifer Ross resigned from the Secretary II position and Jacob London who was hired as a full time Secretary I in February of 2005 moved to her position in May of 2006. Randy

Nix was hired as Secretary I in May of 2006. This is the first time the office has two male secretaries! There were no significant testing personnel changes this year.

B. Goals - Promote retention of international students by providing services in a congenial atmosphere that fosters relationships and a sense of community among the diverse population groups at UA.

Continue partnership with and support International Student Admission Office to increase the number of graduate and undergraduate students from an underrepresented group such as Iranian students.

Provide time for office staff to participate in multicultural events on campus or in the community regarding services provided to the diverse UA population.

Assist in creating a diverse campus environment by establishing and maintaining ties with individuals internationally to assist with recruitment of international students to the University of Arkansas.

Encourage and support staff by allowing them to take advantage of diversity training opportunities on campus, e.g., "Building a More Inclusive University of Arkansas."

Assist in developing ties that boost the likelihood that prospective graduate and undergraduate applicants from Iran will enroll.

Continue providing support to international students in the Spring International Language Center by providing general test preparation workshops.

Facilitate information exchange and enhance support by connecting new Iranian faculty/staff/students and their families with others in northwest Arkansas.

Continue collaboration with all university offices regarding the diverse population and their needs, e.g., Center for Students with Disabilities, Veterans Upward Bound, etc.

Continue educating community members through responding positively to requests for presentations from students, faculty and various off-campus groups, e.g., Multicultural Center of NWA, Altrusa International of Fayetteville, NWACC, churches, public schools, etc.

Provide support to international students in the Spring International Language Center by making presentations regarding TOEFL test preparation.

Maintain collaboration with Ozark Literacy Council by referring international student spouses to their ESL program.

Continue to facilitate accommodation of students with disabilities and administer tests based on their needs and the testing companies' approval.

Attend NCTA Conference in order to increase knowledge of how to properly administer tests to a diverse population.

VII. CHALLENGES AND BARRIERS

LOSS OF TESTS/INCOME: During the past year, changes took place in administration formats of many of ETS' existing computer-based testing programs, including the Test of English as a Foreign Language (TOEFL) and the Graduate Management Admission Test (GMAT). TOEFL moved from a continuous administration to a fixed date format, beginning with the conversion of the TOEFL program in September 2005. Both the TOEFL changes to fixed test dates, along with the transition of the GMAT exam to a competitor's testing network, impacted the testing volumes and associated revenue generated here at the University. Testing Services must be able to establish alternative sources of testing revenues.

STAFF: Linda Stuckey, left after being employed by Testing Services for 13 years, first as a Secretary I, then Secretary II, and then as a Lead Test Administrator. She had to relocate to Colorado where she has family, due to her husband's illness. She will be greatly missed. The skills required by Testing Services' staff is not commensurate with the pay they receive; as a result, the office continues to lose staff members who were able to find higher-paying positions within or outside the University. Testing Services employs three work study students to help with the day to day operation of the office. Finding qualified and reliable students who are trainable continues to pose a challenge this year.

EQUIPMENT PURCHASES: Testing Services is required to purchase new computers for the Computer-Based Test Center under its current contract with ETS. Through negotiations with the Walton College of Business Testing Services obtained 15 newer computers and two servers at no cost to the office. Other computers were obtained from this college to upgrade the computers in the office.

Noise: Efforts are coordinated with the Facilities Management Office so that Testing Services is notified in advance when work is scheduled to be done in the building to minimize noise during the test administrations. Work in Hotz Hall is scheduled at times that there is no testing scheduled.

WEBSITE MANAGEMENT: Constant updates to the testing schedule/calendar and other necessary changes made it mandatory for Testing Services to hire a staff member, Jacob London, who was capable of updating site on a regular basis. David Boddie from the Graduate School had been instrumental in designing and maintaining Testing Services' website originally, but throughout this year Jacob has been able to provide the maintenance to the site.

Appendix A

Testing Services is charged with the responsibility of administering standardized academic tests given at this institution. This office administers such academic tests as:

- Arkansas Assessment of General Education (AAGE)
- ACT Assessment, national and residual versions
- Advanced Composition Exam
- ASSET
- COMPASS*
- College Level Exam Program (CLEP)*
- English Language Placement Test (ELPT)
- Foreign Service Written Exam (FSWE)
- Graduate Management Admission Test (GMAT)*
- Graduate Record Exam (GRE)*
- Graduate Record Exam (Subject)
- Grain Merchant Exam (GM)
- Human Resources Exam (HRCI)***
- Law School Admission Test (LSAT)
- Miller Analogies Test (MAT)*
- Medical College Admission Test (MCAT)
- Multi-State Professional Responsibility Exam (MPRE)
- Math Placement Test (MPT)
- National Board of Professional Teaching Standards (NBPTS)*
- National Occupational Competency Testing Institute (NOCTI)
- Pharmacy College Admission Test (PCAT)
- PRAXIS I (Pre-Professional Skills Test or PPST)*
- PRAXIS II (national teachers exam)
- Reading Placement Test*
- School of Nursing Assessments*
- SLPT (Spoken Language Proficiency Test)***
- Test of English as a Foreign Language (TOEFL)*
- Test of English for International Communication (TOEIC)
- Test of Spoken English (TSE)**
- Individual test administration based on special needs (disabilities)
- Correspondence tests for students testing for other institutions
- Distance Learning Exams
- Exams for students receiving degrees from overseas institutions

*Denotes computer-based exams

**Was discontinued in 2005-2006

***replaced the TSE

Appendix B

Number of Examinees Tested Per Month

Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
329	675	329	1699	967	847	776	1672	924	1003	631	957

Appendix C

The assessment of students with disabilities has taken on considerable importance since the passing of the Americans with Disabilities Act (ADA) of 1990. Under ADA, a "disability is defined as (a) a physical or mental impairment that substantially limits one or more life activities, (b) a record of such an impairment, or (c) being regarded as having an impairment despite whether or not the impairment substantially limits major life activities." ADA requires that assessment of individuals with disabilities be performed with any reasonable accommodations being made.

Testing companies offer specialized administrations for examinees with common types of disabilities. Depending on the disability, some accommodations permit continued administration in group settings; others require individual administration. For example, assessments may be available in enlarged print, Braille, and audiocassette versions for those with visual disabilities. In these cases, time limits can be enforced or extended by authorization from the testing companies. Test takers may be given extra rest breaks, a reader, an amanuensis (a recorder), a sign language interpreter, convenient test taking locations and assessment times, distraction-free test environment, individual test administration and other accommodations as needed to meet the examinee's particular requirements. Accessibility to the testing site also needs to be considered.

The following special needs students were accommodated by Testing Services during the 2003-2004 Academic Year.

- Students with visual impairments
- Students with hearing impairments
- Students with learning disabilities
- Students with motor disabilities
- Students with emotional disabilities

Appendix D

Changes to the Revised GRE

Verbal Reasoning

- Greater emphasis on higher cognitive skills and less dependence on vocabulary
- More text-based materials, such as reading passages
- A broader selection of reading passages
- Emphasis on skills related to graduate work, such as complex reasoning
- Expansion of computer-enabled tasks (e.g., clicking on a sentence in a passage to highlight it)
- Two 40-minute sections rather than one 30-minute section

Quantitative Reasoning

- Quantitative reasoning skills that are similar to skills typically used in graduate school
- Proportion of questions involving real-life scenarios and data interpretation increased
- Proportion of Geometry questions decreased
- Expansion of computer-enabled tasks (e.g., entering a numeric answer instead of choosing from a list)
- On-screen, four-function calculator with square root

Analytical Writing

- New, more focused prompts that reduce the possibility of reliance on memorized materials
- The Issue and Argument tasks are each 30 minutes in length
- Essay responses will be made available to designated score recipients

Changes in the Verbal and Quantitative Score Scales

- The new score scales will have 40-50 scale points. The scales will increase in one-point increments and will be centered between 120 and 179. The actual score ranges will be finalized in 2006 based on field test results.
- A concordance table to compare old and new Verbal and Quantitative scores will be available.
- The Analytical Writing section will continue to be scored using a six-point holistic scale.

Vice Provost for Research

The Vice Provost continued to serve in FY2006 as the Vice Chair of the Arkansas EPSCoR Committee and as the head of the Arkansas Department of Defense EPSCoR (DEPSCoR) and Department of Energy EPSCoR efforts. He also served on the Arkansas Space Grant and NASA EPSCoR Committees. Geren also acts as the project director for Arkansas' DEPSCoR proposal. He served on the Executive Committees of Genesis and the Mack Blackwell Transportation Center. Geren managed the interactions of the University's faculty with Van Scoyoc and Associates. Geren managed the fellowship programs of the Graduate School including the Benjamin Franklin Lever and those resulting from the Walton endowment. In FY 2006, the Vice Provost continued his service on the Board of the Arkansas Science and Technology Authority and the Coalition Board of the Arkansas Mathematics, Science, and Technology Coalition.

Associate Vice Provost for Research

Professor Dennis W. Brewer continued as Associate Vice Provost for Research as a half-time position during the academic year and full-time during the summer months. Dr. Brewer teaches one course each semester as part of his half-time position in the Department of Mathematical Sciences.

Dr. Brewer has traveled frequently during FY06, primarily representing the Vice Provost for Research at meetings sponsored by university consortia and funding agencies. These meetings include

- NSF Panel Reviews for the Division of Undergraduate Education (2), Washington, DC,
- NASA Space Grant Consortia meetings (5), Little Rock, Arkansas,
- Mathematics as an Enabling Science Conference, Blacksburg, Virginia,
- Southeastern Universities Research Association Fall Meeting, Washington, DC,
- Beaver Lake Working Group Meeting, Little Rock, Arkansas,
- EPSCoR PD/PA Meeting and Cyberinfrastructure Conference, Nashville, Tennessee.

Dr. Brewer was responsible during FY06 for special initiatives and projects related to

- coordination of campus participation in state-wide or regional research initiatives,
- participation in the NASA EPSCoR Space Grant Committee,
- serving on the Building Committee for the J. B. Hunt Transport Services, Inc. Center for Academic Excellence,
- serving on the 2010 Commission,
- scheduling and hosting NSF staff visits to the University of Arkansas campus,
- chairing an exploratory committee on computational biology,
- managing a research project funded by the Walton Family Foundation to analyze water quality in Beaver Lake,
- managing the university's response to funding solicitations which limit the number of proposal submitted by a single campus,
- nominating faculty and community partners for competitive awards and sponsored conferences,
- chairing an advisory committee for the Office of Research and Sponsored Programs,
- provided support for the Research Council, especially as it relates to inquiries into cases of research misconduct,
- instituting a program, managed by the Research Council, to fund centralized research laboratories,
- organizing and conducting six workshops for graduate students on the responsible conduct of research and professional ethics,
- writing a report on research ethics educational activities for graduate students in *All Things Academic* <<http://libinfo.uark.edu/ata/v7no1/researchethics.asp>>
- organizing and hosting a Nanotechnology Summit featuring Dr. James Tour (Rice University) and Senator Mark Pryor,
- co-chairing (with Dr. Pat Koski) an exploratory committee on Preparing Future Faculty,
- serving as principal investigator on a funded NSF Computer Science, Mathematics, and Engineering Scholarship Program,
- hiring and supervising a new linux cluster administrator for Red Diamond (the Arkansas supercomputer),

- generally facilitating and nurturing cross-campus research collaboration and funding competitiveness, and
- managing informational technology support for all units reporting to the Vice Provost for Research and Dean of the Graduate School.

Assistant Vice Provost for Finance and Administration

During fiscal year 2006, Ms. Gail G. Piha continued in her role as Assistant Vice Provost. Her responsibilities in finance and administration were emphasized so that her working title was updated to reflect that role.

In the 2005-2006 year,

- The business structure proposed at the end of FY05 was approved and much of the first part of the year was spent revising existing procedures to reflect the new structure. Ms. Piha also took on budget entry responsibilities which had previously been handled by the Budget Office within Finance & Administration.
- Ms. Piha served as the United Way representative for all units reporting to the Dean of the Graduate School/Vice Provost for Research.
- Ms. Piha attended monthly college business/financial officer lunches which are held to promote better communication between academic colleges and schools.
- Ms. Piha coordinated training of all classified staff in units reporting to the Graduate School as part of the OPM/HR Compensation Study. Also, she provided organizational charts for all units as part of that study.
- Ms. Piha continued to work with Ms. Paula Lasner, Project Management Analyst I, and BASIS team members on reviewing and updating needed changes to the BASIS graduate assistant tuition payment process. Ms. Piha maintained the screen of centrally-funded tuition waivers by POOL for Fall 2005 and Spring 2006. Starting with Summer 2006, this responsibility was moved to the Treasurer's Office. BASIS screen templates and procedures were reviewed and revised to incorporate the unique needs of Summer 2006. The new GATW is considered by the Graduate School to be a vast improvement over the former paper process.
- Human Resources reviewed a vacant secretary I position and approved an upgrade to a secretary II. This position provides administrative and accounting support to Ms. Piha as well as to the Director of Graduate Fellowships, Ms. Vicky Hartwell. The position was filled in March 2006 by Ms. Melissa Longamore who left to take a new position in Mechanical Engineering in April 2006. Ms. Kim Yocham was hired on May 24, 2006.
- Ms. Piha attended the 2006 Annual Conference of the Southern Association of Colleges & University Business Officers which was held on April 9-11, 2006, in Asheville, North Carolina.
- After consulting with Associate Vice Provost Dennis Brewer, Associate Dean Patricia Koski and Director of RSSP Rosemary Ruff, the decision to centralize all information technology equipment for the Graduate School and RSSP was made. Efforts were initiated to identify all equipment so replacement schedule guidelines can be created.

Strategic Plan for Graduate Education and Research (reprise)

In the interest of institutional memory, herewith is included our ongoing strategic plan for reaching the University of Arkansas 2010 goals in graduate education and research.

The goals of the Graduate School for graduate education and research are:

- By 2010, enroll 4,364 domestic students and 1,136 international students, for a total graduate enrollment of 5,500
- By 2010, enroll 960 underrepresented graduate students thereby equaling their representation in the state
- By 2010, graduate at least 185 doctoral students per year and at least 1,295 master's and specialist students per year
- By 2010, submit 1500 proposals per year which generate at least \$100 million in new grant awards, have a total research expenditure of at least \$150 million/year and have a total federal expenditure for research of at least \$50 million/year
- Continue to serve as a catalyst for research and creative activity on campus, including the integration of research and teaching

Graduate Education

We will increase graduate enrollment through a combination of strategies, including:

- Recruitment of domestic students, with special attention to reaching out to underrepresented groups and enhancing the diversity of our graduate student population
- Recruitment of international students
- Retention (see below)
- Assist the deans in the strategic development of new degree programs, particularly in multi- and inter-disciplinary areas (see below)
- Assist the deans in increasing resources to existing degree programs (see below)

Research

We will stimulate research and creative activity, continue to integrate research into our educational mission, and increase external support for research through a combination of traditional and innovative strategies, including:

- Traditional support through the Office of Research Support and Sponsored Programs for faculty, staff, and student investigators
- Increased mentoring for faculty and graduate students in preparing proposals and the responsible conduct of research
- Continuation of current supportive policies such as providing support for visiting funding agencies and identifying corporate partners
- Increased grant activity as a result of new degree programs
- Pursuing federal support through continuing collaboration with Van Scoyoc and Associates
- Maintaining a robust research infrastructure which provides the tools and training necessary to conduct competitive research (see below)

- Assist in the development of focused but flexible organizational units that encourage collaborative research and can respond rapidly to large-scale funding opportunities (see below)
- Encourage the development of strategic hiring plans which build active research groups around endowed chairs and professorships (see below)

Retention

Our enrollment and graduation goals, for 2010 and beyond, cannot be attained without increased retention. The *Council of Graduate Schools* has begun a project entitled “The Ph.D. Completion Project,” which will give us some insights into best practices in this area. However, we already know much about how to retain both master’s and doctoral students, although the strategies differ slightly for the two groups; and we have begun implementing programs to retain underrepresented students. For doctoral students, the most important factor will be to connect the student with an appropriate faculty advisor. For all students, we must create a welcoming and supportive graduate community. Some examples taken from the *Strategic Plan* for the Office of Graduate Recruitment are:

- Help to increase the level of awareness and support for graduate minority students, by partnering with faculty and staff
- Develop a peer recruitment and reclamation program
- Help make graduate students aware of resources available on campus for counseling
- Provide a communication vehicle between graduate students and the Office of Graduate Recruitment
- Develop seminars to facilitate academic growth, leadership development, and the responsible conduct of research

Development of New Degree Programs

The following new degree programs have been suggested as having the potential to increase graduate enrollment, diversity, and degree production. In addition, some of these programs will increase research funding and/or increased tuition.

- Ph.D. in Workforce Development
- Creation of a School Counseling specialization in the M.S. in Counseling to focus on bilingual (Spanish/English) culturally competent school counselors
- M.S. and Ph.D. in Human Nutrition Science, interdepartmental between Food Science and Human Environmental Sciences
- Ph.D. in Biomedical Engineering
- M.A. program in English as a Second Language
- An interdisciplinary M.A. degree in Criminal Justice – Department of Sociology and Criminal Justice, or a new interdisciplinary Department of Criminal Justice
- A master’s degree in Biostatistics – Departments of Biological Sciences and Mathematical Sciences
- A master’s degree or certificate in Community College Teaching
- A certificate in Computational Biology

Increases in Enrollment in Existing Programs

In addition to these new programs, we feel that the following existing degree programs have the potential to attract increased numbers of students. Additional resources are indicated as needed.

- All of our cross-college interdisciplinary programs (Cell & Molecular Biology, Microelectronics-Photonics, Space and Planetary Sciences, Public Policy) and Environmental Dynamics
- Master of Science in Biomedical Engineering
- The cultural studies concentration in the Ph.D. in Comparative Literature
- Psychology
- Recreation (leisure studies)

Building a Robust Research Infrastructure

The efficient conduct of modern research requires sophisticated tools and services which are accessible to investigators across the campus. We propose to assist in the designation and establishment of “University Research Support Centers” (URSC) whose mission is to collectively establish a set of tools and services that comprise a robust campus-wide research infrastructure. A URSC may be administratively housed in a program, department or college; however, the central administration will partially fund a hard-budgeted director position for the URSC in exchange for a pledge that the center will provide equal access to all campus researchers. Examples of units which are currently organized along this model are the Mass Spectroscopy Laboratory, the Nuclear Magnetic Resonance Imaging Facility, the Molecular Beam Epitaxy Facility, the Survey Research Center, and the Glassblowing/Machine Shop. An existing center which would benefit from this organization is the Arkansas Analytical Laboratory. The High Performance Computing Facility (Red Diamond) is a potential URSC and the Provost has agreed to provide partial support for a system administrator of this facility.

Promoting a Collaborative Research Culture

Modern research tends to cross traditional disciplinary lines and requires teams of faculty whose existing relationship is positioned to respond to large-scale research challenges and funding opportunities. We propose to assist in the designation and establishment of “University Research Advancement Centers” (URAC) whose mission is to provide a broad vision of university research and serve as foci for multidisciplinary scholarly engagement. The administrative and financial structure of the URACs will be similar to the URSCs described above. URACs may be administratively housed in a program, department, or college, but this designation will impart enhanced access to centralized funds, including allocated start-up funds, and a corresponding commitment to rally research expertise from across the campus. An example of an existing unit in this model is the Center for Advanced Spatial Technologies.

After the Campaign for the 21st Century: Strategic Hiring for the 21st Century

Departments often select tenure-track faculty based on pressing but relatively transient motives, even though these decisions have an impact on the university for decades. While hiring decisions are not within the purview of the Graduate Dean/Vice Provost for Research, we urge the University to broaden and extend the vision of our hiring decisions through the following steps:

- Give priority to early-career hires whose research area will complement an endowed chair or professor,
- Allocate a portion of available start-up funds to collaborators of a new faculty member or to supporting research facilities and centers;
- Encourage collaboration and a broader vision by requiring all tenure-track search committees to include members from more than one department;
- Place a high priority on the ability of a potential faculty member to engage graduate and undergraduate students in research and attract students from a diverse population.

Appendix: Publications and Presentations 2004-05

Due to its substantial length, the appendix is bound and formatted as a separate volume.