



Technology Licensing Office (Fiscal Year 2008)

Executive Summary

The Technology Licensing Office's mission is to commercialize world-class research to build a sustainable knowledge-based economy to benefit Arkansas and the world. During FY2008, we reorganized our office to facilitate the growth of UA's technology transfer. We also began reintroducing the TLO via internal and external marketing, including meetings with many faculty and students, posting our technologies on various websites, completely redesigning our own website, and meeting with people interested in growing Arkansas' knowledge-based economy. We are now evaluating and improving how we identify and move intellectual property from the University into the world.

We spent much of FY2008 in a successful search for first one, and then two, technology licensing officers and we added a 0.3 FTE administrator. With fewer than ten years in the TLO collectively, our team of 5.3 FTEs is quite new. Despite the chaos of learning how our team works together, we have had a good year. We ended the year with about \$60,000 more than we spent on outside attorney fees, and saw a modest increase in invention disclosures over FY2007.¹ We signed nine licenses and options, six with Arkansas companies. Seven Arkansas companies founded on UA technologies had commercial sales, including four reporting their first commercial sale. We met with all but one unit head for the Division of Agriculture, presented eleven intellectual property lectures to about three hundred and fifty University management, faculty and students, and met many of our Arkansas licensees.

The Technology Licensing Office Reorganizes

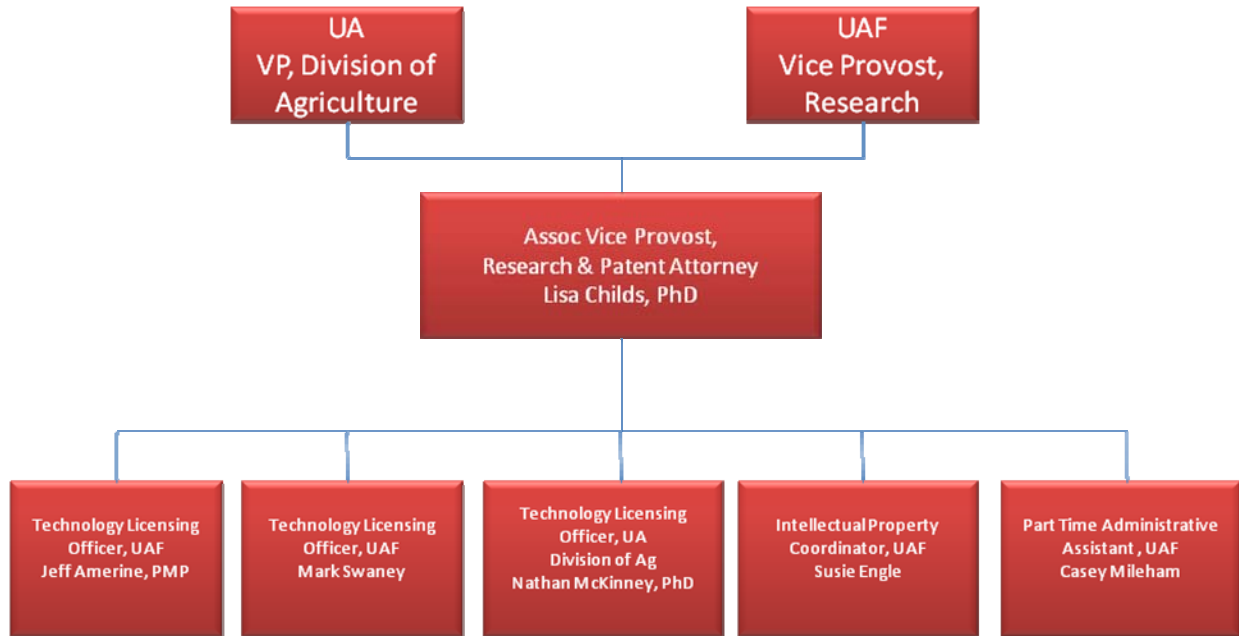
The TLO manages most intellectual properties belonging to the Division of Agriculture² and the flagship campus (UAF). Despite this dual responsibility, the TLO has traditionally been funded by and reported to UAF's Vice Provost for Research, although Dr. Lisa C. Childs is funded by and reports to both UAF's Vice Provost for Research and the Vice President for the Division of Agriculture.³

Thus, to better reflect our relationship with Division and UAF, the TLO was reorganized in FY2008 to report to Childs as shown below. The Division of Agriculture agreed to fund a third technology licensing officer position, so we spent much of FY2008 interviewing for two technology licensing officers (one for the Division of Agriculture, and a second officer for UAF after our senior officer left in May 2007). In January, we hired Nathan McKinney, Ph.D., for the Division of Agriculture, and in March, Jeff Amerine, PMP, for UAF. They joined Mark Swaney, technology licensing officer for UAF.

¹ Because the TLO does its accounting on an accrual basis and much of our invoicing for reimbursement of patent costs occurred at the end of this fiscal year, some of this revenue may not be collected. We will take this into account as we plan for FY2009.

² The Division of Agriculture manages most small fruit and plant variety intellectual properties internally.

³ Childs is ending her second year as UAF's Associate Vice Provost for Research and Patent Attorney for the Division of Agriculture.



Our three technology licensing officers bring a variety of skills and talents to the office. We have a long-time engineer with strong ties to many of the campus faculty, a seven-time serial entrepreneur with deep knowledge of information technology and logistics and the resources available in Arkansas for entrepreneurs, and a former small business owner who is also a long-time Division of Agriculture employee. In addition, our administrative support (Susie Engle and Casey Mileham) bring their own skills and talents in web design, bookkeeping, attention to detail, compliance with federal regulations, patience, and general cheerfulness in keeping our office functioning.

The TLO Evaluates and Revises Its Internal Processes

As we integrated our new team members, we reevaluated our team’s mission: We commercialize world-class research to build a sustainable knowledge-based economy to benefit Arkansas and the world. With this in mind, we are streamlining our processes for moving UA’s research out of the lab and into the world.

During FY2008’s last quarter, we evaluated our business processes with an eye to further automating our office. We have created a secure web site where we can access the most current versions of our template agreements (along with business contacts, technology briefs, best practices, and other information). With the help of Mark Larmoyeux (a new member of Research Support and Sponsored Programs), we are mapping our business processes to document what we do and how technology can help us do it. We have also investigated several other information management systems for technology transfer in the event we decide to replace our current system.

We have updated our logo to reflect our Arkansas-centric approach, and completely revised our public web site, including its address, <http://www.uark.edu/ua/tlo/>. This searchable web site lists our available technologies, and, because many of our licensees are amenable to sublicensing, many of our licensed technologies. We have removed abandoned technologies, and reviewed every element of our website to ensure its relevance to our mission. Our listed technologies are linked to technical briefs and patents or published patent applications. As a result, our technologies are being constantly, though passively, marketed. Additionally, we have listed many technologies with technology brokers.

With our new team in place, we addressed several legacy issues. The Board of Trustees has approved all licenses in which there may be a conflict of interest. We have amended our licenses to reflect the addition or removal of technologies and amended a half dozen licenses to address typographical errors. We are now preparing other amendments to clarify the licensees' obligations to the federal government. We expect to complete an audit of all our US patents and patent applications during FY2009 to ensure that federal rights are properly identified.

Our in-house patent attorney now reviews most communications with the United States Patent and Trademark Office before our outside counsel submits them, resulting in more consistency among our patent counsel. We are also working out protocols to manage the risks that are inherent in a large patent portfolio distributed among several different law firms.

Continuing Education

Because we are a young office, we are working to ensure that we all have a basic understanding of technology transfer and to ensure that, among us, we can identify and deal with related issues. We have completed some important continuing education this year. Childs attended AIPLA and NASVF national meetings. McKinney and Childs attended the national Association of University Technology Managers (AUTM) meeting this spring, and, by August 2008, all TLO members will have attended at least one recent AUTM meeting. McKinney and Amerine attended an export control course this spring. Engle attended a two-day workshop on Bayh-Dole compliance. Also, we attended webinars on material transfer agreements, Bayh-Dole, and technology licensing metrics. We have started an ongoing education program during our weekly office meetings, where topics have included export control, business plans, and foreign patent filings. We have developed a training manual for new hires.

Outreach

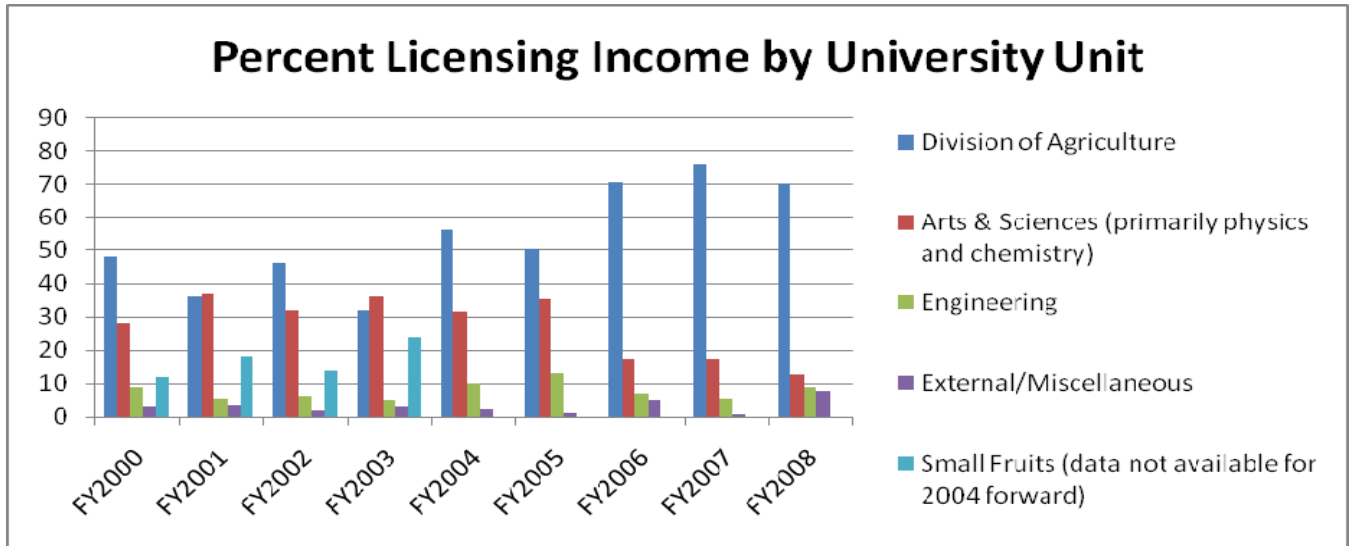
We have met with many people interested in growing Arkansas' knowledge-based economy, including our Arkansas licensees, Arkansas technology companies that have not yet licensed UA technologies, our colleagues at other university technology transfer offices in Arkansas, and potential strategic funding sources, such as Fund for Arkansas' Future, Innovate Arkansas, Arkansas Science and Technology Authority, and Diamond State Ventures. Moreover, we meet twice monthly with management of our local, for-profit incubator to discuss issues relating to their current and prospective licenses. We also meet regularly with Arkansas Research and Technology Park's management. We have lectured on intellectual property to about three hundred and fifty UA management, faculty and students on eleven separate occasions. As described earlier, our web site has been revamped so that it is more user-friendly, and contains current information. McKinney met with all but one unit head in the Division of Agriculture. As an outgrowth of Amerine's judging business plan competitions and lectures on venture capital for the Walton College of Business (WCOB) this spring, we have been invited to develop a WCOB course, *Technology Commercialization Consulting Project*, for Spring 2009.

FY 2008 Quantitative Measures

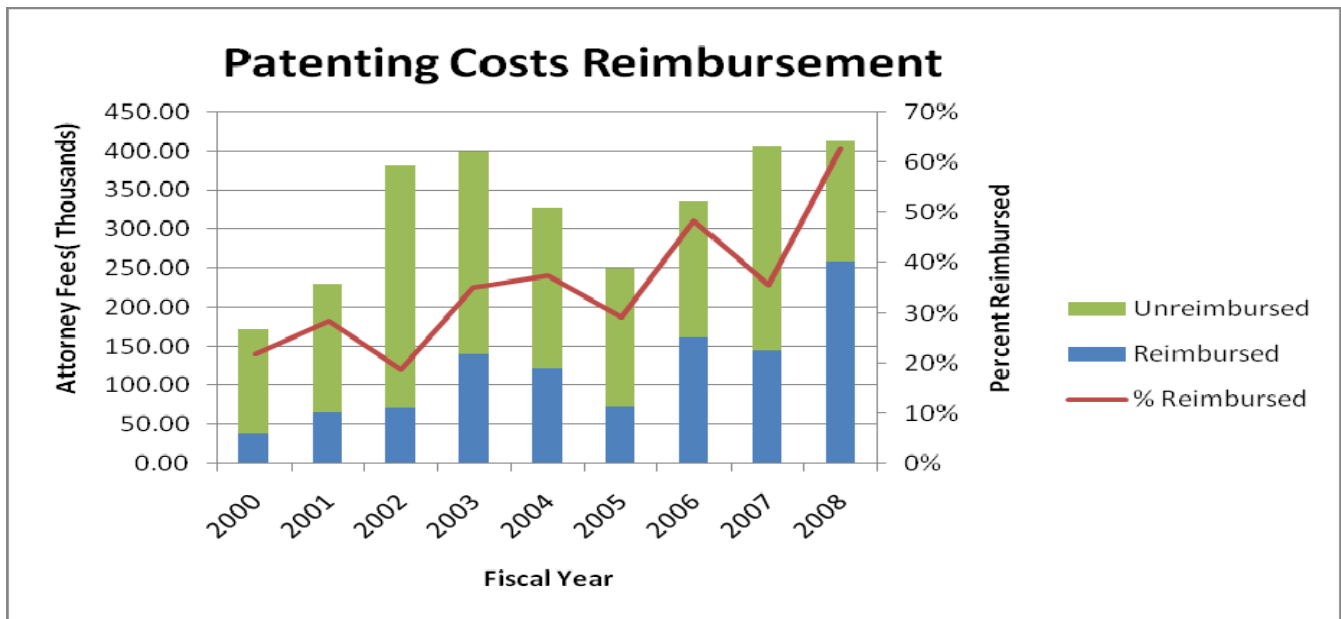
The TLO executed three options, four licenses, and two assignments this year, and six of these deals were with Arkansas-based companies. We received licensing income from 21 companies, of which twelve companies reported commercial sales. Excitingly, seven Arkansas companies based on UA technologies had commercial sales, including four reporting their first commercial sale. We had gross royalty income of \$228K.⁴ \$74K in additional income came from options, license signing fees and

⁴ A single license (from the Division of Agriculture) generated more than half the gross royalty income.

milestones. Inventors received \$77K, and the UA system received \$9.8K, pursuant to UA Board of Trustees Policy 210.1. The University units generating licensing income are shown below.⁵

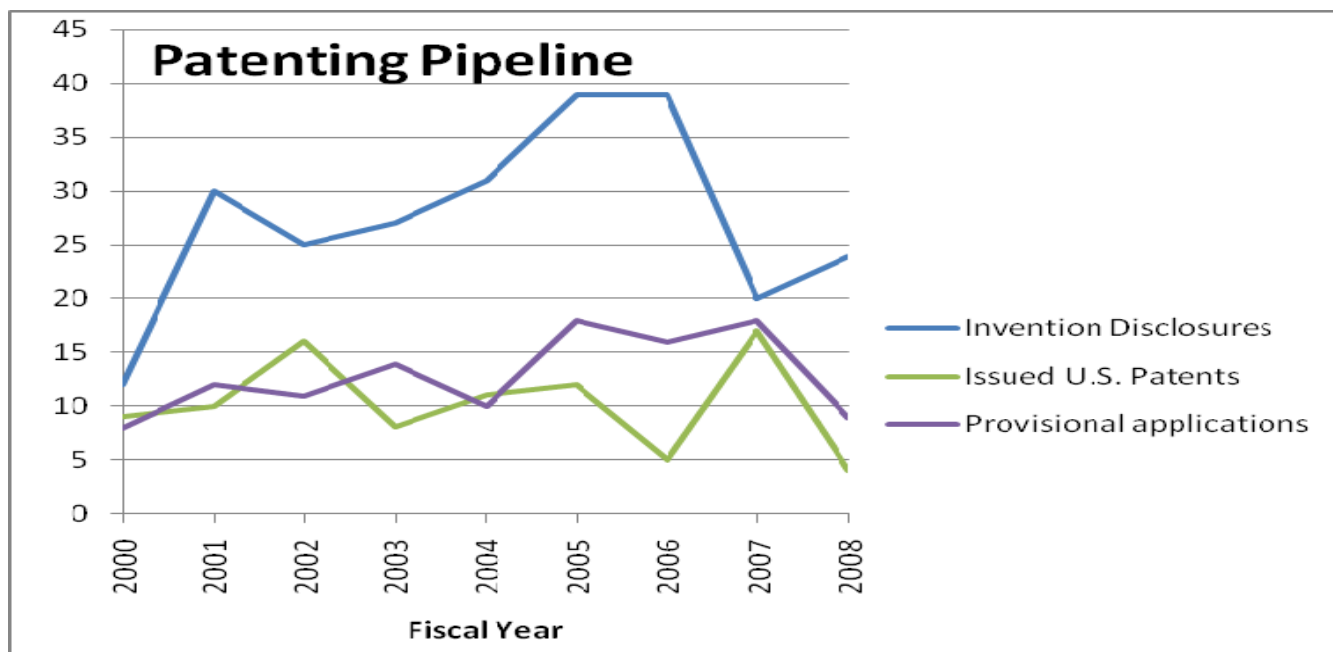


Sixty-three percent of our patenting costs were reimbursed by licensees this year and, as shown below, the percent reimbursed is trending upward over the last nine years.



⁵ The external/miscellaneous category encompasses non-University intellectual property given to the University, as permitted under University Board of Trustees Policy 210.1, and intellectual properties from other University units, such as the College of Education or the law school.

As shown below, we received twenty-four invention disclosures,⁶ filed seven new provisional patent applications,⁷ and issued four patents.⁸ Because a provisional patent application is generally the first filing absent a compelling reason to go directly to a utility or PCT application, the number filed is an indicator of the TLO's inventory. We cannot perceive any particular trend in disclosures, filings, issued patents or several other data sets. One reason may be that our funding was well below the target level of 1% of the University's research expenditures (or about \$1M). With such limited resources, it has been difficult to consistently expand the innovation pipeline.



⁶ The term *invention disclosure* is a misnomer because the TLO also manages copyrighted technologies, especially for software. Indeed, we updated our disclosure forms this year to differentiate between copyrighted works and patent applications. These updated forms were approved by the Chancellor as FY2008 closed.

⁷ This year, we are not reporting the total number of US patent applications because current USPTO conditions require more refilings before an application issues as a patent, making this number less meaningful.

⁸ The decreased volume of issued patents may be caused by several factors. First, proposed rule changes at the United States Patent and Trademark Office (USPTO) resulted in almost no USPTO activity for about four months. Although the rule changes were enjoined, we continue to have difficulty in moving patent prosecution forward. (Recent research, consistent with our experience, suggests that “the large number of non-final rejections per round of prosecution [at the USPTO] is the major cause of the backlog of applications.” *Improving Patent Examination Efficiency and Quality: An Operations Research Analysis of the USPTO, Using Queuing Theory*, Ayal Sharon and Yifan Liu, 17 Federal Circuit Bar Journal, <http://ssrn.com/abstract=1026320> (2007).) Second, the University decided about three years ago to file fewer patent applications without a licensee's agreement to sponsor the patent costs. With the USPTO's recent average pendency of 42 months from filing to grant (and longer in the biotech and high tech arenas), we could be seeing a decline in output caused by a decline in input although the patenting pipeline graph above does not clearly support this theory. <http://www.patentlyo.com/patent/2008/06/patent-prosecut.html>. Or, we could be dealing with statistical noise, and perhaps the steady state of UA patents has been about ten per year.

In sum, while we see a positive trend in percent attorney fee reimbursement, we cannot identify a trend in invention disclosures and patent filings.

Goals for FY08

We achieved most of our FY08 goals.

Goal: Continue to balance patent and copyright expenses with available licensing income.

Result: Achieved, with more than \$60K left over.

Goal: Hire a new TLO Director.

Result: We hired two new technology licensing officers, and reorganized the TLO to report to Dr. Childs. Also, we now share an administrator with the Arkansas Research and Technology Park.

Goal: Achieve the patenting cost reimbursement ratio at or above the AUTM standard of 40 percent.

Result: We have invoiced for 63% reimbursement, an all-time record for our office. (We expect that we will have to work out payment plans for some of our licensees.)

Goal: Execute agreements with Arkansas companies for three intellectual properties.

Result: We executed agreements with six Arkansas companies for seven intellectual properties.

Goal: Remain current in meeting reporting requirements on inventions made with federal funds, in compliance with the Bayh-Dole Act.

Result: Achieved. Also, we have attended a conference and two Bayh-Dole webinars. As a result, we are further improving our reporting and licensing requirements.

Goal: Improve information management to generate reports tracking IP expenses and income by college.

Result: This continues to be a struggle. We are now able to track IP expenses and income by college for invention disclosures from FY2008 going forward, but we have to do this manually for earlier disclosures. We hope that by the end of FY2009 we will have reached a decision about whether to continue with the current information management system or to move to another system. If we decide to keep the current system, we hope it will be more functional going forward.

Goal: Complete internal TLO audit of existing intellectual property.

Result: Audit completed. We now have a searchable list of all current intellectual properties, which we regularly update. This audit also enables us to efficiently market our technologies via our website, which is regularly visited by technology brokers.

Goal: Update information posted on the TLO website.

Result: Our team, with Casey Mileham taking the lead, re-designed the entire website, and rolled it out in June. It now lists all properties, whether licensed or available, in several formats (by technology type, by patent number, by availability). We can now market all our properties, and we have already received inquiries about posted technologies.

Looking Ahead to FY2009

Over the next year, we intend to continue to improve relations with our faculty and Arkansas-based companies. We will develop and teach the first round of a course offered through the Walton College of Business, titled *Technology Commercialization Consulting Project*. We are developing a strategic plan, our 2020 Vision, which we expect to have fleshed out early in FY2009.