



Academic and Student Affairs Agenda Item #1

**UPDATE ON TECHNOLOGY TRANSFER MATTERS AND
THE LSU LIFT² FUND & PROGRAM**

To: Members of the Board of Supervisors

Date: September 12, 2014

Status Report on Technology Transfer and the LSU LIFT² Fund & Program

1. Overview of Technology Transfer Transformation Activities

Over the past year, the philosophy, regulations and structure of technology transfer across the LSU System have been fully transformed. This important research-related activity has been carefully evaluated by multiple entities and re-shaped into a more distributed and responsive system in support of both faculty innovation and economic development through commercial partnerships.

A brief timeline is presented below to illustrate the pace and scope of changes which have been implemented by staff at the system and at the campuses, in close consultation with faculty representatives and university leadership.

September, 2013	President’s Committee on Technology Transfer (PCTT) launched
October, 2013	Board Bylaws revised, removing license agreements from significant board matters requiring Board approval
December, 2013	PCTT Report delivered, recommending: <ul style="list-style-type: none"> • A new model for technology transfer at LSU in partnership with the LSU Research & Technology Foundation • A new shared mission statement • A new proof-of-concept fund
January, 2014	<ul style="list-style-type: none"> • Board Regulations, Chapter VII on Intellectual Property, fully revised to clarify & streamline policies. • Permanent Memoranda 16 and 64 rescinded • LSU LIFT² Fund created, funded with \$2 million in restricted funds, sustained with 5% of future licensing income
March, 2014	LIFT ² Implementation Committee formed to ensure faculty input into program rules

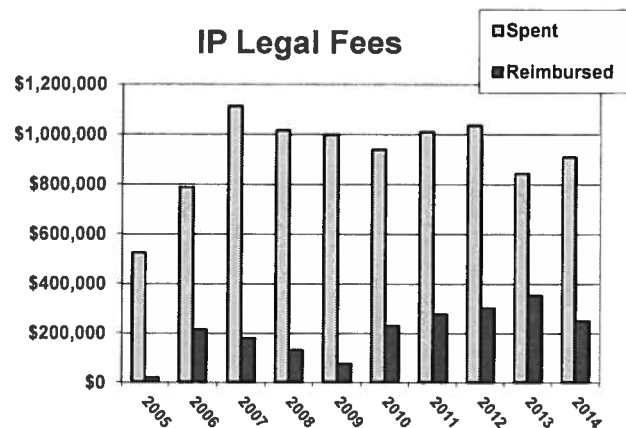
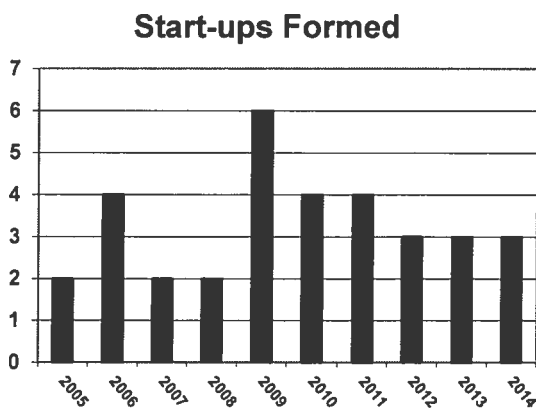
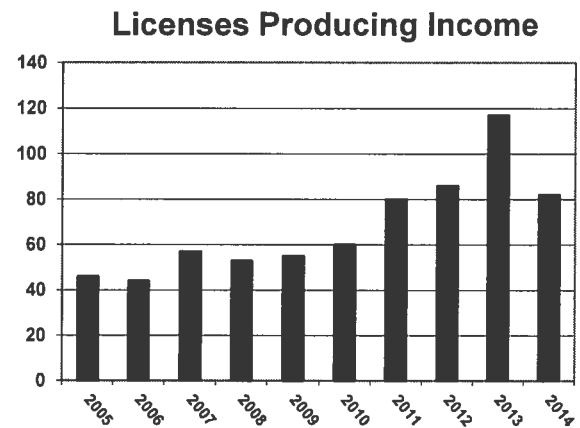
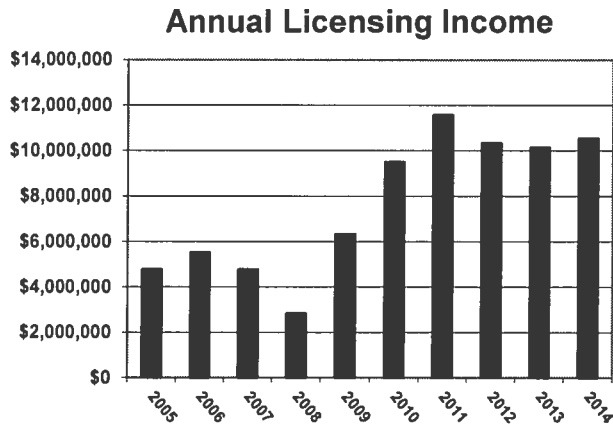
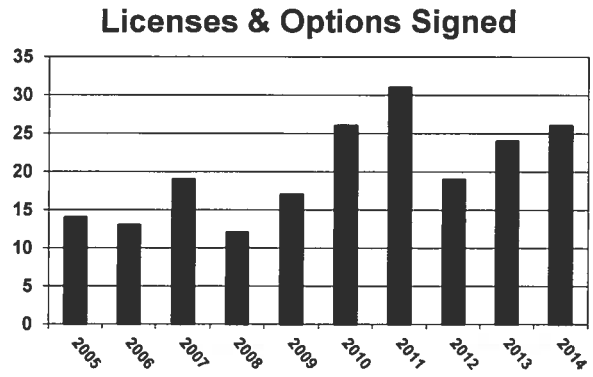
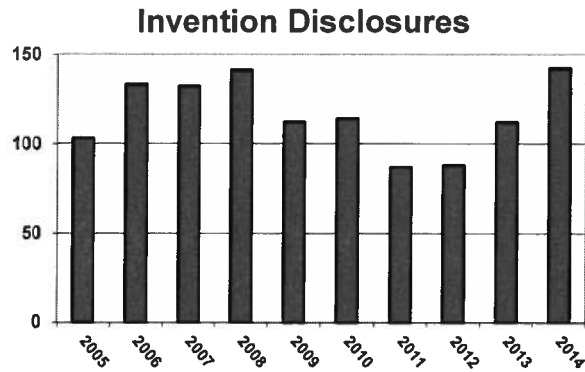
May, 2014	Pilot Request for Proposals (RFP) for LSU LIFT ² grants released
July, 2014	First round of LSU LIFT ² grants announced, awarding \$500,000 to 15 projects on 5 campuses (see Appendix I for more details)
July, 2014	<ul style="list-style-type: none"> • New Partnership begins with the LSU Research & Technology Foundation (RTF) for support of shared services related to technology transfer • Signature Authority for License Agreements delegated to Chancellors • RTF designated as LIFT² Program Manager and Custodian of all LSU System technology transfer records
August, 2014	<ul style="list-style-type: none"> • RTF hiring Legal Affairs Officer, expanding services to campuses
November, 2014	<ul style="list-style-type: none"> • Planned release of RFP for Pilot Round 2 of the LIFT² awards
January, 2015	<ul style="list-style-type: none"> • Planned announcement of the second group of LSU LIFT² grants awarded

2. Technology Transfer & Commercialization

As a part of the transformation of technology transfer activities listed above, with the beginning of Fiscal Year 2014-15, the new delegated responsibilities of the five research campuses and the new partnership with the LSU Research & Technology Foundation (RTF) for the commercialization of LSU Intellectual Property have officially launched. In addition, the new fiscal year brings two new campus leaders of technology transfer (at LSU & PBRC) onto the team of experts leading this initiative in partnership across all LSU's campuses across the State.

In order to have an appropriate yardstick for measurement of success of the campuses and of the RTF in their respective technology-transfer roles, the following charts provide a baseline of ten years of activity in six key metrics. In Appendix II, specific campus-by-campus data on each of these metrics can be found.

Consolidated LSU System Technology Transfer Metrics, FY2005-2014



Appendix I

Overview of Pilot LSU LIFT² Program

- The LSU Board of Supervisors approved the creation of the new LSU LIFT² Fund in January to *Leverage Innovation for Technology Transfer*. This program is designed to enhance commercialization by better preparing inventions for license to a commercial partner
- This fund is intended to support proof-of-concept research to advance innovation and commercialization at LSU. “Innovations” include both creative and artistic works as well as devices, drugs, software, and other more traditional ‘inventions’. Innovations which already have been disclosed to a campus technology transfer office and which need further work to prove the concept are eligible for consideration
- 47 applications were received, indicating the tremendous interest in this program and the need for such proof of concept funding to support innovation and commercialization
- 15 grants were awarded after being scored by an external review panel on criteria related to primarily technical merit and commercial potential
- Results of the research from these first grants are expected within twelve months
- It is expected that some experiments to validate a proof-of-concept will fail. Such failures, however, should not be regarded as a failure of the LSU LIFT² Fund purpose. It is better to be “fast to failure” if a concept cannot demonstrate commercial potential, so that future research efforts and funding can be re-directed to projects with a higher likelihood of success.
- The next round of applications for LIFT² awards will open in November, for the semi-annual program. Applicants who were unsuccessful in this round will receive feedback and will be encouraged to apply again.
- The grants are distributed as follows across the campuses:
 - LSU A&M: 7 awards (16 applications)
 - Ag Center: 3 awards (12 applications)
 - PBRC: 1 award (7 applications)
 - HSCNO: 3 awards (10 applications)
 - HSCS: 1 award (2 applications)
- A brief list of each award follows on the next page.

Brief List of Awardees for Pilot LIFT² Grants

Campus	Faculty Principal Investigators	Brief Project Description	Award Amount
LSU A&M	Guang Jia, Kenneth Matthews & Wei-Hsung Wang	Development of an X-ray air purifier to reduce pollutants emitted from industrial chimneys	\$ 22,145
LSU A&M	Jin-Woo Choi	Development of a miniature, implantable, wireless neural stimulation device	\$ 27,457
LSU A&M	Konstantin Kousolas & Vladimir Chouliencko	Development and testing of a vaccine for prevention & treatment of genital herpes	\$ 47,161
LSU A&M	Michael Khonsari	Prototype to determine the breaking point and remaining life of certain metallic components of rotating machines	\$ 43,700
LSU A&M	Shengimin Guo	Recycling of waste materials to produce high quality, low-cost components of composite materials for use in commercial, military and industrial applications	\$ 27,510
LSU A&M	Supratik Mukhopadhyay	Development of an automated system for video analysis and tracking to detect activities of interest and generate real-time alerts	\$ 21,888
LSU A&M	Varshni Singh	Prototype of microfabricated gratings to refine CT imaging and reduce patient radiation exposure	\$ 49,516
Ag Center	Jefferey Beasley	Enhancement of an irrigation and leaching-control system for container plant nurseries	\$ 20,504
Ag Center	Julie Anderson	Development of a new, cost-effective blue crab bait using local seafood industry waste	\$ 13,619
Ag Center	Todd Shupe, Richard Vlosky, & Jim Richardson	Reclaiming preservatives & recycling treated wood to produce raw materials for "green" spray-foam insulation	\$ 39,844
PBRC	Leanne Redman & Corby Martin	Software development to enhance a smartphone app for weight loss & management programs	\$ 49,500
LSUHSC-NO	Aaron Martin	Prototype and testing of a biodegradable urethral scaffold to treat children with urinary conditions	\$ 30,000
LSUHSC-NO	Daniel Kapusta	Testing of novel compounds to protect, prevent and treat kidney injury	\$ 30,000
LSUHSC-NO	Xiaoming Xu	Development of antimicrobial materials to reduce the chance of hospital infections from invasive medical devices	\$ 42,754
LSUHSC-S	Cherie-Ann Nathan	Development and testing of a novel chewing gum to prevent certain cancers	\$ 50,000
TOTAL AWARDED			\$ 515,598

LSU System Tech Transfer Activity by Campus (w/o UNO)

Invention Disclosures

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
LSU A&M	32	69	34	46	40	43	38	38	31	42
Ag Center	22	22	52	31	33	33	25	27	30	36
Pennington	18	26	8	16	13	14	11	5	10	8
HSC-NO	25	7	26	28	14	13	3	12	33	52
HSC-S	6	9	8	16	12	11	10	6	8	4
LSU-S	0	0	4	4	0	0	0	0	0	0
TOTAL	103	133	132	141	112	114	87	88	112	142

Licenses/Options Executed (*totals may not correspond if multiple campuses per deal)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
LSU A&M	3	4	2	3	4	4	5	5	2	3
Ag Center	1	8	6	5	7	17	18	9	15	14
Pennington	4	2	2	2	1	1	5	2	5	3
HSC-NO	4	1	2	1	3	0	1	1	3	5
HSC-S	0	2	6	2	2	2	2	2	0	1
LSU-S	0	0	0	0	0	0	0	0	0	0
TOTAL	14	13	19	12	17	26	31	19	24	26

Total Licensing Income

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
LSU A&M	\$238,078	\$181,859	\$121,940	\$111,359	\$123,003	\$156,576	\$121,511	\$447,892	\$624,135	\$907,616
Ag Center	\$4,332,303	\$5,165,466	\$4,318,805	\$2,524,643	\$5,969,066	\$9,068,981	\$10,620,789	\$9,582,731	\$9,294,880	\$9,258,701
Pennington	\$2,148	\$29,077	\$3,460	\$8,170	\$24,737	\$46,662	\$12,169	\$25,618	\$12,495	\$9,090
HSC-NO	\$194,780	\$128,525	\$246,076	\$111,753	\$111,778	\$114,097	\$159,651	\$96,124	\$81,610	\$97,755
HSC-S	\$0	\$10,000	\$70,624	\$78,207	\$89,017	\$111,083	\$647,478	\$170,440	\$135,292	\$274,330
LSU-S	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL	\$4,767,309	\$5,514,927	\$4,760,905	\$2,834,132	\$6,317,601	\$9,497,399	\$11,561,598	\$10,322,805	\$10,148,412	\$10,547,492

Start-up Companies Formed (*totals may not correspond if multiple campuses per start-up)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
LSU A&M	1	2	1	1	2	1	1	0	1	0
Ag Center	0	2	0	0	4	0	2	1	0	1
Pennington	1	1	0	0	0	1	1	0	2	1
HSC-NO	0	0	0	0	1	0	0	1	1	0
HSC-S	0	2	0	1	0	2	0	1	0	1
LSU-S	0	0	0	0	0	0	0	0	0	0
TOTAL	2	4	2	2	6	4	4	3	3	3

Licenses Generating Income

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
LSU A&M	16	16	14	14	11	13	15	19	16	15
Ag Center	15	16	23	22	26	27	44	44	79	38
Pennington	5	2	3	2	5	4	2	3	5	6
HSC-NO	10	9	13	8	7	7	7	8	7	10
HSC-S	0	1	4	7	6	9	12	12	10	13
LSU-S	0	0	0	0	0	0	0	0	0	0
TOTAL	46	44	57	53	55	60	80	86	117	82

Legal Fees Expended

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
LSU A&M	\$190,817	\$263,369	\$447,291	\$381,186	\$314,796	\$268,066	\$297,598	\$429,485	\$275,845	\$316,937
Ag Center	\$196,667	\$252,046	\$223,153	\$262,792	\$209,820	\$257,354	\$285,780	\$199,868	\$239,850	\$197,746
Pennington	\$30,255	\$30,717	\$31,036	\$44,759	\$41,550	\$60,392	\$40,789	\$113,767	\$71,153	\$66,991
HSC-NO	\$91,198	\$226,831	\$393,405	\$308,963	\$369,701	\$296,993	\$332,451	\$227,933	\$180,236	\$224,204
HSC-S	\$15,483	\$15,441	\$17,250	\$2,735	\$63,017	\$56,313	\$52,264	\$63,660	\$76,025	\$103,259
LSU-S	\$0	\$0	\$0	\$15,000	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL	\$524,420	\$788,404	\$1,112,135	\$1,015,435	\$998,884	\$939,118	\$1,008,882	\$1,034,713	\$843,109	\$909,137

Legal Fees Reimbursed

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
LSU A&M	\$15,689	\$20,635	\$61,192	\$25,672	\$18,177	\$24,936	\$43,280	\$33,642	\$47,599	\$3,928
Ag Center	\$0	\$149,919	\$53,828	\$49,570	\$13,593	\$121,716	\$139,762	\$68,184	\$170,421	\$97,776
Pennington	\$0	\$12,500	\$5,000	\$0	\$15,000	\$37,507	\$10,000	\$14,918	\$0	\$855
HSC-NO	\$0	\$31,045	\$39,168	\$56,287	\$30,000	\$46,080	\$46,080	\$80,779	\$39,281	\$109,566
HSC-S	\$4,945	\$0	\$20,322	\$0	\$0	\$0	\$36,651	\$104,022	\$94,710	\$36,502
LSU-S	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL	\$20,634	\$214,099	\$179,510	\$131,529	\$76,770	\$230,239	\$275,773	\$301,545	\$352,011	\$248,627

Percent of Legal Expenses Reimbursed

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
LSU A&M	8%	8%	14%	7%	6%	9%	15%	8%	17%	1%
Ag Center	0%	59%	24%	19%	6%	47%	49%	34%	71%	49%
Pennington	0%	41%	16%	0%	36%	62%	25%	13%	0%	1%
HSC-NO	0%	14%	10%	18%	8%	15%	14%	35%	22%	49%
HSC-S	32%	0%	118%	0%	0%	0%	2%	163%	125%	35%
LSU-S	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TOTAL	4%	27%	16%	13%	8%	25%	25%	29%	42%	27%