

**The University of Iowa**  
**Economic Development Grow Iowa Values Fund Proposal**  
**FY12**

**OVERVIEW**

The University of Iowa (UI) is requesting \$576,000 to sustain our commitment to enhancing technology transfer, commercialization, job creation and economic development. Over the past 6 years, the UI has been able to effectively utilize GIVF funding to augment university support and create a robust infrastructure to transform UI faculty discoveries into new businesses and/or licensing opportunities, expand entrepreneurial education programs, and increase faculty and student focus on entrepreneurship and economic development. During this period we have also consolidated several university programs in the Iowa Centers for Enterprise (ICE) which has enabled UI to effectively partner with State of Iowa as well as regional economic development entities in enhancing recruitment and retention of new and existing industry.

The UI research enterprise continues to attract large amounts of peer reviewed federal research funding and is an increasingly important asset critical for innovation and job creation that will position Iowa to be competitive in the global economy. The UI, along with the other Regents institutions, has been a strong partner with industry and government in transforming Iowa's economic development programs into an innovation driven model. With proper state and private investment, we can continue to capitalize on these earlier investments and realize significant growth in jobs related to innovative industry, while continuing to prepare a 21<sup>st</sup> century globally competitive workforce.

**PROPOSED APPROACH IN 2012**

GIVF funds will allow the UI to continue to invest and enhance faculty disclosures, technology transfer, commercialization, and especially new company formation with an integrated model involving the Office of the Vice President for Research, the UI Research Park, the John Pappajohn Entrepreneurial Center (JPEC) and the UI Research Foundation. The ultimate goals of the Iowa Centers for Enterprise are to facilitate university-private sector partnerships in entrepreneurship and continue to create new companies in Iowa based upon UI technology. These Grow Iowa Values Fund (GIVF) funds will be used to support:

- Proof-of-concept funding of highly promising, but very early stage, technology from faculty inventors that has commercialization and licensing potential, following a careful vetting process.
- Comprehensive student and faculty entrepreneurial education and business support programs to help create and sustain University startup companies.
- Incremental infrastructure investment needed to support growing numbers of University startup and technology-based companies, including space and technical assistance.

**PROOF OF CONCEPT FUNDING**

**\$230,000**

Exciting discoveries from University research are, by definition, very early stage and require sustainable sources of funding to take nascent intellectual property to the point where private investment is viable. This gap between federal support and private support to move ideas towards commercialization has been termed the "valley of death" and we have been very successful utilizing GIVF funding to help sustain this exciting research through the so called proof-of-concept phase. It is only after this phase of research and investment that we are in a position to establish new start-up companies or position the technology for possible licensure to Iowa companies. GIVF filled this critical void and has enabled UI to continue to take advantage of our growing technology pipeline. These funds are critical for:

- University-private sector collaborations for "proof-of-concept" support for the commercialization of UI- or Iowa-related intellectual property.
- Gap funding for early-stage technologies and startup companies based on UI- or Iowa- related intellectual property.
- Engagement of Entrepreneurs-in-Residence to support UI spin-out companies.

- University-private sector formation and development of startup companies in Iowa directly related to existing UI- or Iowa-related intellectual property.
- Competitive funding to stimulate new ideas among our highly entrepreneurial faculty.

Our continuing ability to leverage state investments can be directly linked to the creation and growth of 11 existing local startups as of FY11. Over this period, 16 proof of concept projects were vetted, competitively reviewed and ultimately funded. Fourteen of those projects are associated with startup companies, or intended startups, of which, 11 remain viable and are moving forward. Most significant are 5 companies that formed in large part due to potential shown by GIVF funded experiments in the areas of human health, disease models, and battery technology. Two other existing startups were propelled by GIVF funded experiments and have leveraged GIVF with significant federal and/or venture financing or industry funded product development in the area of human health.

**ENTREPRENEURIAL EDUCATION & BUSINESS SUPPORT PROGRAMS**

**\$135,000**

JPEC will continue its efforts to significantly enhance entrepreneurship on the UI campus and look to accelerate entrepreneurship and economic development across Iowa through unique programming and partnerships. Specific JPEC initiatives for FY 2012 will include:

- Lead the ICE efforts to centralize and expand web-based technology commercialization educational materials and business development links.
- Assist faculty who are considering the creation of a new venture based on their research and innovations. An experienced entrepreneur will lead a menu of services to faculty as they navigate through early stage business planning and development activities. This includes linking faculty to UI resources, external funding opportunities and identifying industry experts and business mentors.
- Expand the Iowa Medical Innovation Group (IMIG) initiative to complete four commercialization projects. IMIG is a highly successful interdisciplinary program involving students from Medicine, Engineering, Business and Law, who are focused on identifying new opportunities for medical devices and technologies.
- Deliver community and regional entrepreneurial training through the FastTrac program and specialized seminars, speaker events, and workshops to meet the needs of aspiring entrepreneurs in partnership with several entrepreneurial development organizations.
- Partner with Iowa industry and the entrepreneurial business community to identify experiential learning opportunities for students and help to facilitate internship opportunities between top UI students in JPEC's Entrepreneurial Management Institute and Iowa technology-based companies.
- Direct initial concept and new venture funding competitions at the UI. Elevator pitch competitions identify new venture opportunities and provide initial seed awards to assist aspiring entrepreneurs to further develop and enhance their business concepts. Business plan competitions provide early-stage funding to support the launch of new ventures.

Annually, JPEC helps develop and nurture approximately 20-25 student-led companies through the Bedell Entrepreneurship Learning Laboratory. In FY 2011, state support resulted in 261 teams (444 participants) competing in elevator pitch and business plan competitions at Iowa; over \$160,000 was awarded to 54 teams/companies (this amount included state funds and private donation supported competitions). Competition winners included recently launched ventures as well as those that are in the R&D process, prototype development, or formation stage. Additionally, JPEC provides direct consulting/mentoring services to 60-70 companies per year and oversees 40+ student/faculty consulting projects.

**INFRASTRUCTURE INVESTMENT FOR GROWING STARTUP COMPANIES**

**\$211,000**

The UI Research Park continues to mature and provide unique facilities to foster and incubate technology based companies as well as facilitate linkage with key university core resources. GIVF funds have been pivotal for enhancing park capacity and infrastructure. The requested funds would continue to invest in technology development infrastructure to strengthen and accelerate commercialization and support critical economic development support functions associated

with the UI Research Park, BioVentures Center, Technology Innovation Center and ICE. We will create an innovative, joint venture partnership between the UI, regional economic development leaders and the private sector to expand and develop a new non-laboratory based Incubation Center at the University of Iowa Research Park on the Oakdale Research Campus.

GIVF provided critical funding for the UI BioVentures Center at the Research Park, which has provided an incubator facility to support technology based companies and other startup companies drawn to the area by the substantial R&D assets of the University. Despite the current economic climate the occupancy is now at 63% and we are exploring expansion plans based upon increased demand for incubator space. GIVF funds have also been critical in support of job creation associated with the UI Research Park. As of FY11, there are 1,618 employees with an average salary of \$63,000. The 1,618 employees of companies and labs affiliated with the UI Research Park and business incubator reported living in 161 communities in 29 Iowa counties, a regional labor shed covering almost one-third of the State.

### **MATCH**

The UI will leverage GIVF funds with a dollar-for-dollar match. Examples of funds that will be used to match GIVF include 1) research funding focused on applied research with intellectual property potential; 2) licensing revenues; 3) incubator operating expenses and lab lease rental payments; 4) revenue from land leases; 5) operating expenses from JPEC; 6) Tax Increment Financing funds from the City of Coralville; and 7) revenue from Oakdale Research Park facilities leases.

### **OUTCOMES AND METRICS:**

The UI will use the following metrics to measure success:

- Patents and licenses associated with GIVF investments.
- Research and development agreements executed with Iowa companies related to GIVF-funded projects.
- Companies formed and jobs created related to GIVF-funded projects.
- Additional leveraged capital to start ups associated with GIVF funding.
- Increase in companies, and numbers of employees within the University of Iowa Research Park and in downtown Iowa City incubators.
- Number of startup companies receiving assistance.
- Number of startup companies formed and reaching critical milestones.
- Number of participants participating in programs and competitions.

To: Board of Regents  
From: Sharron Quisenberry, Ph.D.  
Vice President for Research and Economic Development, Iowa State University  
RE: FY12 Grow Iowa Values Fund Appropriation  
Date: 26 August 2011

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This memo contains information on Iowa State University's request for the FY12 Grow Iowa Values Fund Appropriation of \$ 576,000. We propose to allocate the money consistent with the proposal presented to the Board of Regents in FY06, but with an improved process and emphasis on pulling technologies toward commercialization. In response to the continued budget cuts, we have cut \$424,000 from the Infrastructure allocation and \$749,000 from the original project allocation.

**FY10 Funding Summary (for each year):**

Infrastructure and Entrepreneurial Culture	\$ 76,000
ISU Research Park	\$26,000
ISU PappaJohn Center	\$25,000
Vice Provost for Research	\$25,000
Commercialization Start up Program	<u>\$ 500,000</u>
<b>Annual Funding During This Period</b>	<b>\$ 576,000</b>

**System for Innovation**

The Iowa State University *System for Innovation* is focused on the transfer of university technologies into commercial applications in startup or existing companies. This System is coordinated by the Vice President for Research and Economic Development and has demonstrated significant success over the years. It recognizes that the fuel for a technology transfer/commercialization system is faculty and staff research. The GIVF funding is used to support two aspects of the System for Innovation.

**Commercialization Startup Program**

The purpose of this program is to build and sustain a pipeline of projects that will lead to increased commercial activity by new and existing Iowa companies. There is also a need to identify and foster new projects that have potential to contribute significantly to Iowa's economy. Because of funding reduction, we have eliminated the portion of the commercialization program that focused on technologies appropriate for existing companies and are focusing the resources on technologies that can lead to new Iowa companies. We propose to use the resources to pilot our new **Innovate Iowa Proof of Concept (IIPOC)** initiative. This initiative is envisioned to take the progress made with the GIVF funds and move it to the next level. Instead of just funding projects, in parallel we will put resources toward market research, mentoring and other services to accelerate the growth the new companies. These funds will be used to demonstrate the value of proof-of-concept in de-risking early-stage discovery (technology) into a validated, robust package at a meaningful pilot scale that meets performance, cost, and quality criteria for commercialization.

**Process**

Projects will be selected by an application process. Projects will be funded in \$50,000 increments, with \$100,000 possible over an 18-24 month period. Projects will be monitored for progress toward commercialization and further funding is contingent on meeting the milestones. A successful outcome of a project that is funded through the IIPOC will be companies that are ready to attract additional outside funding such as programs offered by the Iowa Economic Development Authority or angel, seed cap, or venture funds.

**Infrastructure and Entrepreneurial Culture**

This funding will support the people and activity required to grow, improve, and sustain the technology transfer/commercialization efforts at ISU. The progressive improvement is critical if the entrepreneurial culture at ISU and the *System for Innovation* is to achieve its full potential. The people are what truly make a difference in the acceleration of growth.

Unfortunately, the funding going toward infrastructure in FY12 is not enough to sustain the activity at the level of service we would like to provide, but it will provide a starting point.

**Program Evaluation**

We feel that we have done an excellent job in utilizing GIVF funds to start and grow Iowa companies. The metrics (Impact Summary) attached at the end of this memo demonstrate the impact the funds have had – and the fact that we can even measure an impact this soon after project completion is a success in itself. Often the investments made in research do not show the true commercial impact for 10-30 years.

We respectfully submit this request to you to support both the commercialization and infrastructure components. While we do not have specific projects identified at this time, we are actively pursuing projects that have the potential to lead to new Iowa companies and contribute to the growth and future of Iowa.

## IMPACT SUMMARY

### Commercialization Program

The projects pair ISU faculty with Iowa companies to create or improve products or processes. Each project lasts two years. One year after the completion of the project (or three years after the start), the Iowa companies are surveyed for impact by CIRAS. These funds are a **critical source of gap funding**. They represent a unique resource that can be applied toward the success of Iowa companies. A summary of the projects funded to date is below, followed by the list of active projects. To date, 77 projects have been funded through the Commercialization Program. Forty-one of these projects are complete and many show excellent progress in improving the competitiveness and profitability of the Iowa companies involved. 28 startup companies have been assisted; including **13 new companies that were started in the first five years as a direct result of the GIVF funding**. In total more than 50 Iowa companies have participated in the program.

Surveys are conducted by the Center for Industrial Research and Service (CIRAS) one year after project completion (true impact takes a minimum of 5-10 years).

Project Dates	Survey Year	Companies Surveyed	Jobs Created or Retained	Total Sales Increase	Total Investment & Cost Savings	Average Impact per Company
FY06-FY07	FY08	9*	71	\$9,100,000	\$23,500,000	\$3,600,000
FY07-08	FY09	9	18	\$3,700,000	2,760,000	720,000
FY08-09	FY10	8**	6	600,000	732,000	166,500
FY09 – FY10+	FY11	7**	13	675,000	967,000	234,571

\* All surveyed companies were start-up companies

\*\* Surveys were not completed for all projects (not everyone chooses to participate in the survey)

+ The sales increase was primarily from 1 successful project, but the jobs impact was spread. Many companies indicated it was too early to tell the sales impact (this is a frequent comment through the years).

Year Project Completed	Number of Projects	Number of Publications & Presentations	Number of Awards	Number of Invention Disclosures	Number of External Funding Applications	Number of Applications Awarded	External Funding Received*
FY12**	11	13	0	3	11	4	\$ 1,304,000
FY11	11	46	1	3	20	6	\$ 940,000
FY10	14	99	8	6	47	13	\$ 2,720,000
FY09	15	53	9	4	48	20	\$ 3,500,000
FY07-08***	n/a	n/a	n/a	n/a	n/a	n/a	n/a

\*Some information on award amounts was not included    \*\*These projects are ongoing    \*\*\*Data was not collected

**University of Northern Iowa**  
**Grow Iowa Values Fund Proposal for FY 2012**  
**Total - \$288,000**

**Overview:** The University of Northern Iowa (UNI) respectfully submits this request for sixth year support from the Grow Iowa Values Fund (GIVF). Due to substantial funding reductions, UNI proposes narrowing our focus to four important economic development projects previously supported, in part, through the GIVF. Each project has leveraged private and federal support and achieved substantial outcomes with modest investment from the state. Specific details are included for the following projects:

- Technology Transfer and Business Incubation
- Rural Entrepreneurship
- Regional Development
- National Ag-Based Lubricants Center

**Project 1 - Technology Transfer and Business Incubation ♦ \$93,000**

UNI continues to advance intellectual property evaluation and protection, commercialization of campus innovations through licensing/strategic partnerships, and new business development statewide. A number of proposed services directly impact these efforts, including the Innovation Incubator and extension of the MyEntre.Net initiative. These efforts will result in stronger, broader based linkages between the University and the greater Iowa business community. Specific priorities for FY 12 are:

**Area 1: Business Incubation:**

Limited resources are available to support UNI's business incubation program. Our goal for FY12 is to focus programming toward the Innovation Incubator on the UNI campus. Services will be expanded to include additional co-work space and innovative programming to accelerate tenant growth. Minor support will also be provided to the student business incubator which continues to graduate successful student businesses into the regional economy.

**Area 2: Technology Transfer:**

Intellectual property development at UNI continues to be a priority for GIVF support. With very limited institutional funds available for intellectual property development, UNI will focus on areas of core strength for faculty and staff technology transfer. Our goals for FY 12 are to develop at least three technologies for commercialization, increase corporate sponsored research, license two existing technologies, and expand collaborations with our fellow Regents institutions. We will also provide market research projects for faculty disclosures and targeted small businesses in Iowa.

**Matching Funds:** Federal Funds from the SBA, UNI Research Foundation and program income

**Results/Metrics:** Occupancy at the expanded Innovation Incubator will continue to be at 100%. We will pursue 8-10 intellectual property disclosures, file 3 patents, and 3 technologies will be commercialized.

## **Project 2 - Rural Entrepreneurship ♦ \$95,000**

MyEntre.Net is an entrepreneurship development system serving entrepreneurs and rural communities since 2003. This system brings online services to entrepreneurs and in-community support to rural leadership toward creating entrepreneurial communities. In FY11, MyEntre.Net membership grew to more than 10,000 entrepreneurs online. In FY12, the online community will continue to be enhanced by marketing new business research services for MyEntre.Net users, and the ongoing *Dream Big, Grow Here* campaign and contest. UNI will continue to lead a consortium of statewide service providers in the planning of EntreFest!, the statewide conference for small business and entrepreneurs. This project will address the following specific areas of entrepreneurial development in the coming year:

### **Area 1: Continued growth of MyEntre.Net, as Iowa's Online Community for Small Business Owners and Entrepreneurs:**

In FY12, MyEntre.Net membership will continue to be expanded at by marketing recently developed services and resources statewide, including the new Business Concierge research team, as well as Connections, an interactive database of 2,700 sources of capital, research, incubation and technical assistance in Iowa. Online membership at [www.myentre.net](http://www.myentre.net) is expected to reach 12,000.

### **Area 2: UNI will lead a consortium of 15-20 service provider and private partners in the delivery of the fifth annual EntreFest!, Iowa's conference for small business:**

EntreFest!, Iowa's statewide traveling conference for small business and entrepreneurs will celebrate its fifth year in 2012. UNI will continue to lead a consortium of service providers to host the event in the spring of 2012, anticipating 200 attendees.

### **Area 3: Enhance the popular MyEntre.Net Webinars**

Based upon the demand expressed by MyEntre.Net users, UNI will continue to host bi-monthly educational webinars, recruit other partners to host webinars through MyEntre.Net and market archived webinars through YouTube.

### **Area 4: Continue the expansion of *Dream Big, Grow Here* online contests**

Pending sponsor support for contest winnings, the successful *Dream Big, Grow Here* contests will continue into 2012 with additional regional contests and a statewide "pitch-off" among winners.

**Matching Funds:** Federal funds (SBA) and private sponsorship

**Results/Metrics:** In FY 2012, MyEntre.Net's online community will grow to 12,000 small business owners engaged online. The 5<sup>th</sup> annual EntreFest! conference will attract 200 attendees, 1,000 participants will attend a live or YouTube-hosted MyEntre.Net webinar, 300 individuals will be served by the Business Concierge with research or direct referrals, and multiple, online *Dream Big, Grow Here* contests will be held in FY 2012.

### **Project 3 - Regional Development ♦ \$50,000**

Building upon keen expertise and understanding of regional development, the Institute for Decision Making (IDM) will continue implementing economic development assistance programs that help to sustain Iowa's regional economies into the future. Specific priorities for FY 2012 are:

#### **Area 1: Reorganizing Iowa's Regions.**

IDM will collaborate with the Professional Developers of Iowa and the Iowa Partnership for Economic Progress to assess the current structure and success of regions in Iowa. An important part of this assessment is to review current asset mapping and determine the next level of regional development in Iowa.

#### **Area 2: BEST of Iowa Partnership**

In partnership with the Iowa Partnerships for Economic Progress (IPEP), Regents universities, community colleges, utilities, Professional Developers of Iowa (PDI) and the Iowa Department of Education, IDM will strengthen the Business Expansion & Strategic Trends (BEST) of Iowa program. BEST of Iowa supports local economic development organizations in implementing or increasing the effectiveness of their business retention and expansion efforts. BEST initiatives include enhancing statewide coordination of existing industry programs and implementation of the Synchronist Business Information System® at the regional level. Specifically, IDM will assist with improving data collection and input at state and regional levels as well as developing a coordinated response to technology transfer issues on behalf of the Regents universities.

#### **Area 3: Entrepreneurial Communities Project**

In support of entrepreneurial development across Iowa, IDM will partner with the UNI Regional Business Center and their MyEntre.Net program to implement two pilot Entrepreneurial Communities Projects (ECP). The goal of the ECP is to build the capacity of community stakeholders towards fostering entrepreneurial development within their respective communities. The approach centers on four areas: 1) research and assessment, 2) education of community stakeholders, 3) development of a community entrepreneurship strategic plan, and 4) implementation of the plan and follow-up. IDM staff will lend research and strategic planning expertise to this project, as well as providing customized technical assistance to meet each community's needs.

**Matching Funds:** Program income, workforce development grants/contracts, federal funds from the Economic Development Administration (anticipated)

**Results/Metrics:** IDM's collaboration with IPEP and PDI will be jointly evaluated, but this is the first step in a 2-year progression to reorganize Iowa's regions. Status of the BEST partnership and participation by regions in Iowa will be assessed. IDM will solicit and report testimonials from the two pilot entrepreneurial communities.

#### **Project 4 - National Ag-Based Lubricants (NABL) Center ♦ \$50,000**

The University of Northern Iowa's National Ag-Based Lubricants (NABL) Center's 25,000 square foot facility, part of the growing Cedar Valley TechWorks campus, houses one of the most comprehensive biolubricant testing labs in the United States. The NABL Center offers more than 100 specific product testing methodologies per ASTM, AOCS, and other standardized specifications, to testing clients and research partners. In addition, NABL offers biodiesel testing, analytical fingerprint analysis, and a full spectrum of customized research and development capabilities.

FY12 research at the NABL Center will continue to explore modified vegetable oils and vegetable oil derivatives for products with superior lubricity, cold temperature performance, and increased oxidative stability. The end goal of these efforts is to expand the successful use of biobased lubricants in applications currently restricted to petroleum or synthetic oils.

##### **Area 1 – Fundamental Research of Vegetable Oil Based Products**

This research identifies and evaluates technologies which will enhance the inherent characteristics and fundamental properties of vegetable oils. Current prospective processes include esterification, estolides, genetic crop modifications, and the creative use of non-traditional additives with non-edible *industrial* vegetable oils.

##### **Area 2 – Support Iowa's Biobased Products Industry**

NABL Scientists will continue active participation with industry organizations such as ASTM (American Society for Testing and Materials), NFPA (National Fluid Power Association), NLGI (National Lubricating Greases Institute); ELGI (European Lubricating Grease Institute), and AOCS (American Oil Chemists Society). Appropriate standardized testing methods and industry compliance prevent sub-par products from entering the marketplace, protecting consumers, end-users and producers.

**Matching Funds:** State funding will be matched with Federal funds from the U.S. Department of Energy, and fees from NABL Center testing

**Results/Metrics:** NABL will provide fee-based testing services to at least three biolubricant and/or biofuels industry clients during FY12.