

IOWA STATE UNIVERSITY

Strategic Plan Progress Report / August 2013

Executive Summary

Managing record enrollment

- Student body represents all 99 Iowa counties, 50 U.S. states, and 101 countries
- A continuous improvement initiative in Iowa State's basic mathematics courses has increased student success rates (receiving an A, B, or C) by 30 percent in two years
- Student Experience Enhancement Council works to ensure students are both successful, and have a great experience at Iowa State

A catalyst for economic development

- \$234 million in external research funding in FY2013 (through May), faring better than many universities in sequestration
- Iowa companies using Iowa State-licensed technology generated more than \$45 million in sales in 2012
- Worked with 4,250 Iowa businesses and manufacturers, creating or retaining 7,500 jobs, and generating more than \$435 million in economic impact
- Helped create 187 new business start-ups
- The U.S. Department of Energy's Ames Laboratory, administered by Iowa State, won a five-year, \$120 million award to address the shortage of rare earth materials critical for U.S. energy security

Addressing affordability

- No tuition increase for Iowa undergraduate students for the 2013-2014 academic year
- No increase in mandatory student fees for 2013-2014
- Iowa State named a "top-50" affordable college offering a high return on investment by Affordable Colleges Online (#33)
- The College of Veterinary Medicine's resident and non-resident student expenses are among the nation's lowest, compared to peers
- Established a program with King and Moulton elementary schools in Des Moines to ensure students' access to higher education

Becoming more efficient

- New Internet-based phone system saves \$600,000 annually while improving service and functionality
- LEAN project with Boeing is streamlining the process by which graduate students develop programs of study, saving money and facilitating growth in graduate enrollment
- Recently launched software for financial services and research administration, developed jointly by a consortium of leading universities, will save \$8.5 million in licensing and consulting fees over the next 10 years
- A new county office accounting system, and the elimination of T1 lines, has resulted in an annual savings of \$40,000 for Iowa State's Extension and Outreach program
- Administrative initiatives in the College of Human Sciences have resulted in personnel savings of \$330,000 annually

A Magnet for Adventurous Students, Faculty & Staff



Mary Swander, distinguished professor of English and Iowa's Poet Laureate, worked with her graduate students, and students from the Iowa School for the Deaf, to create *Poetry in Motion*, a video project that shows deaf students' interpretation of poetry through movement.



Himar Hernandez, community and economic development specialist in Iowa State's Extension and Outreach program, is helping Iowa communities adapt to changing populations, revitalize their main streets, and help Latino entrepreneurs start their own businesses. Last year, his work was featured on NBC's *TODAY* show, *The Wall Street Journal*, and *The Chronicle of Higher Education*.

A Magnet for Outstanding Students

Well-prepared for growth

- Estimated hiring of more than 60 faculty for fall 2013
- Additional sections of core classes planned for 2013-2014 academic year
- Investments in academic advising for new and current students
- Expanding on- and off-campus housing to ensure new students can participate in learning communities and other success initiatives

Improving student retention and graduation rates

- New Writing and Media Center helps students with oral, written, visual, and electronic communication skills
- Center for Excellence in Learning and Teaching helps new instructors create optimal learning environments
- First-year students participating in the MapWorks program, which identifies students having trouble academically, achieved better grade point averages and retention rates

Offering an exceptional student experience

- 1,300 students studied abroad in 54 countries in FY13, gaining experience to help them succeed on a global scale
- Nearly 35,000 students, faculty, and community members attended 134 presentations offered by Iowa State's lectures program
- 800 organizations provide students with leadership skills; Team LunaCy won NASA's annual Lunabotics Mining Competition
- Iowa State's Army ROTC Cyclone Battallion named the best unit among 40 programs in the midwest
- History major Melvin Ejim named inaugural Big 12 Conference men's basketball Scholar-Athlete of the Year

A rigorous and varied curriculum

- Launched a doctoral program in wind energy
- DesignIntelligence ranks Iowa State's architecture program 9th, and its landscape architecture program 11th, nationally
- A new, one-year graduate program in translational biomedical research offered by the College of Veterinary Medicine prepares students for professional school, Ph.D. programs, or industry
- 153 students enrolled as first athletic training majors in fall 2012

Great faculty a key to student success

- Sarah Rajala and David Spalding named deans of engineering, business colleges
- Thomas Peterson, professor of genetics, development and cell biology, and Arun Somani, distinguished professor of electrical and computer engineering, were named fellows in the American Association for the Advancement of Science
- Architecture Professor Thomas Leslie received the prestigious Rome Prize from the American Academy in Rome
- Manjit Misra, agriculture and biosystems engineering, named chair of the USDA's National Genetic Resources Advisory Council
- April Eisman, assistant professor of art history, named a 2012-2013 American Fellow by the American Association of University Women
- James Andrews, professor of history, named a senior policy expert by the Woodrow Wilson International Center for Scholars



Computer science majors **Cassidy** and **Camryn Williams** were two of only 10 students selected by the National Center for Women and Information Technology to speak at the White House Tech Inclusion Summit in Washington, DC. The sisters shared their experiences as Hispanic women pursuing careers in a traditionally male-dominated field.

Cyclones on your corner: 2012 graduates enjoyed a 94 percent placement rate within six months of graduation; 67 percent of Iowa students, and 23 percent of nonresident students, remained in Iowa to begin their careers.



Gross Renewables, incorporated in 2012 as a spin-out from the ISU Center for Crops Utilization Research, is developing a biofilm-based algae cultivation system. The start-up, led by student **Martin Gross** with assistance from **Zhiyou Wen**, **Kurt Heiar**, and the NSF Center for Biorenewable Chemicals, is part of the Center's biobased foundry program, which helps students become entrepreneurs.

Addressing Society's Challenges

External funding

- \$234 million in external research funding in FY2013 (through May)
- Presidential research initiatives awarded for interdisciplinary work in global food security, vaccine development, and crop engineering
- The College of Veterinary Medicine has doubled its research revenues in the last five years, and ranks among the top four colleges for USDA funded research

An engine for economic activity

- A new, flexible IP option allows industry to negotiate exclusive licenses for breakthroughs that stem from their partnerships with ISU researchers, providing additional funding for researchers while increasing the rate of technology transfer to the private sector
- \$2 million Big Data grant helps researchers develop high performance computing tools

Promoting discovery

- Animal science faculty received a \$3 million USDA grant to study genetic resistance to porcine reproductive and respiratory syndrome; the Veterinary Diagnostic Laboratory recently identified the first cases of porcine epidemic diarrhea virus in the U.S.
- Researchers from the engineering and veterinary medicine colleges received funding from the Bill and Melinda Gates Foundation to develop new drug delivery platforms with the potential to improve the lives of millions in the developing world
- Iowa State faculty played prominent roles in sequencing the genomes of cotton, barley, pigs, and turtles, helping improve agriculture and addressing animal and human health concerns
- Kaitlin Bratlie received a grant from the Roy J. Carver Charitable Trust to develop new materials to deliver chemotherapy drugs while strengthening the immune response to cancer
- Jason Chan and colleagues in the Department of Psychology were featured in the *Proceedings of the National Academy of Sciences* for their work on "rewriting" human memory

Growing the ISU Research Park

- New gateway building approved by Iowa legislature in 2013
- HarrisVaccines, an Iowa State start-up company, received a \$1 million contract from the U.S. Department of Homeland Security to develop a vaccine for foot and mouth disease
- PK Biosciences, a new start-up biotechnology company, is developing oral medicines for neurodegenerative conditions like Parkinson's, Alzheimer's, and Huntington's diseases
- WebFilings completed the Phase 1 building on their Ames campus, and has added 148 jobs in Ames in the last 12 months. WebFilings also employs more than 50 Iowa State interns
- OmegaChea Biorenewables LLC, founded by an Iowa State graduate student to develop bio-based materials to improve detergents and lubricants, took top honors in the Pappajohn Center for Entrepreneurship New Venture Student Business Plan contest



A research team led by **Sanjeevi Sivasankar**, assistant professor of physics and electrical and computer engineering, and a research associate in the U.S. Department of Energy's Ames Laboratory, received a grant from the American Cancer Society to study the bonds between cells. His work to examine how cancer cells spread could lead to more effective treatments for the disease.



Margaret Smith, an extension specialist in the Value Added Agriculture Program, and **Tom Brumm**, associate professor of agriculture and biosystems engineering, received a grant from the Bill and Melinda Gates Foundation to study the use of portable, hand-operated soybean seed cleaners for Ugandan farmers. The cleaners, developed by Iowa State mechanical engineering students, are helping provide improved nutrition for rural families.

A Treasured Resource for Iowans

Extension and Outreach helps one in three Iowans

- Providing service in every Iowa county
- Partnering with 900 elected County Extension Council members
- Enlisting 17,000 volunteers

Helping Iowa businesses, manufacturers

- The Center for Industrial Research and Service worked with 1,600 companies last year, adding or saving 5,600 jobs, and generating \$389 million of total economic impact
- The Small Business Development Center counseled 2,600 clients, created or saved 1,800 jobs, helped raise \$48 million in capital, and helped create 187 new business start-ups in 2012
- MBA students in the College of Business worked with eight central Iowa nonprofits, including the American Red Cross, Heartland Senior Services, and the Evelyn Davis Center for Working Families

Helping Iowa communities

- For every dollar spent on Extension and Outreach's Strengthening Families Program, nearly \$10 is saved by reducing substance abuse and other risky youth behaviors
- Faculty in the College of Agriculture and Life Sciences worked with multiple state departments to create the Iowa Nutrient Reduction Strategy, a science-based approach to reduce farm nutrients in Iowa waterways leading to the Gulf of Mexico
- Students and faculty in the Department of Apparel, Events, and Hospitality Management worked with Iowa Prison Industries to provide technical skills to their Sewing Industry Program
- Students and faculty from the design and engineering colleges are collaborating with the Rural Health and Safety Clinic of Greater Johnson County to prevent tractor rollover fatalities

Sharing information

- More than one million Iowans connected with Iowa State University Extension and Outreach through its website and online educational materials
- 2,400 Iowans participated in financial management education programs; 93 percent of participants improved their financial skills, and 86 percent made progress toward financial goals
- The colleges of agriculture and life sciences, and veterinary medicine, helped establish the Iowa Farm Animal Care Coalition to ensure animals receive proper and humane care
- A volunteer income tax program generated more than \$1 million for Iowa communities

Serving young Iowans

- One in five Iowa K-12 youth participated in 4-H programs last year
- Iowa State's Biotechnology Outreach Education Program received the Friend of Science Award from the Iowa Academy of Science for its contributions to science education



Christopher Seeger, associate professor of landscape architecture in the College of Design, earned a 2013 National Planning Achievement Award for Transportation Planning for developing the I-WALK program, which helps communities create Safe Routes to School programs.



The Midwest Grape and Wine Industry Institute, led by **Murli Dharmadhikari**, adjunct associate professor of food science and human nutrition, provides support for one of Iowa's fastest-growing industries. Iowa has 101 wineries, and 300 vineyards, and generates \$300 million in economic impact annually.



Iowa State students, led by professors **Julia Badenhop** and **Tim Keller** from landscape architecture, helped identify landscape-based strategies in the rebuilding of Mapleton, Iowa, devastated by a tornado in 2011. Similar projects have aided residents in Elkader and the Lake Delhi area.