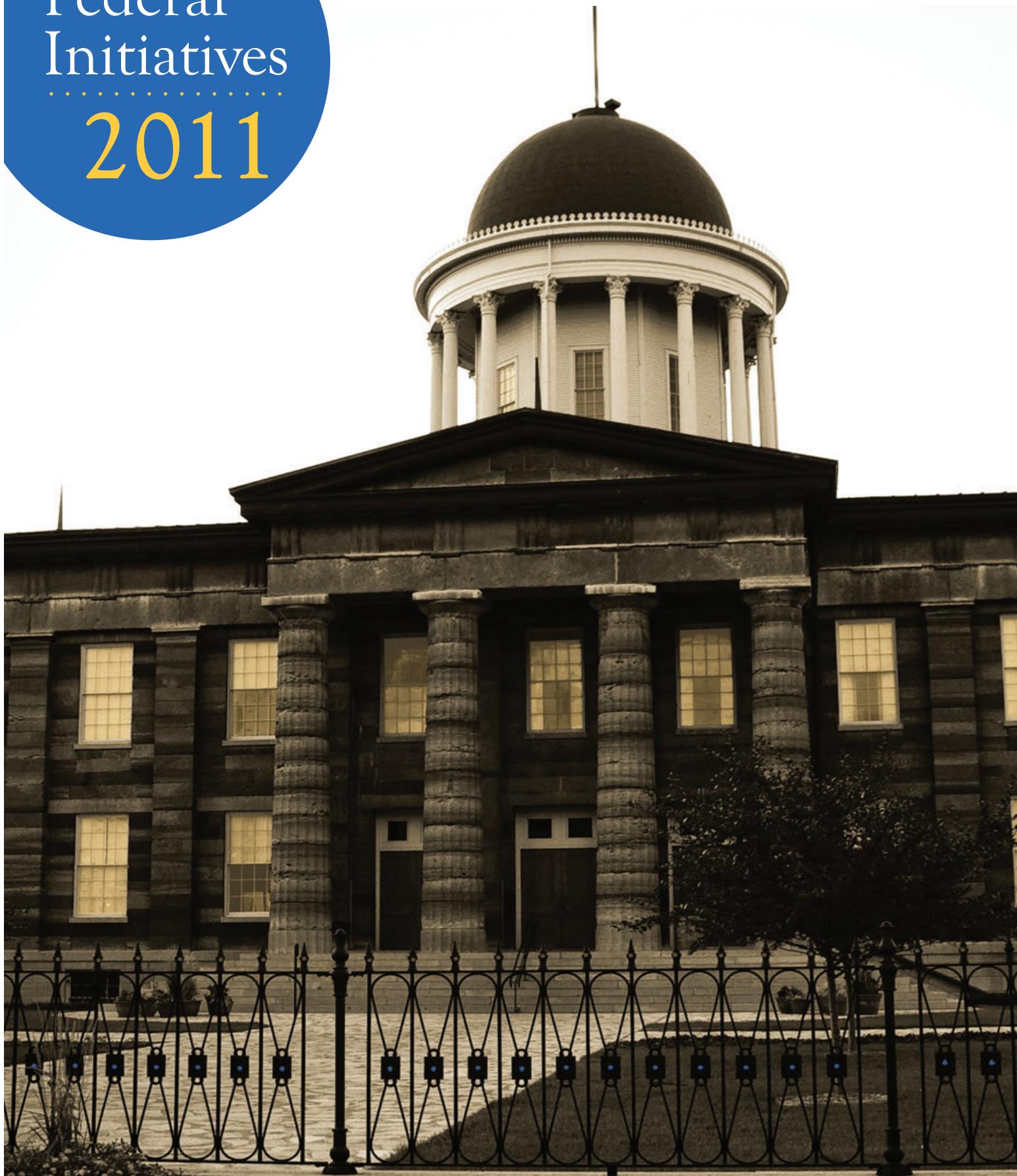


FISCAL YEAR 2011 FEDERAL INITIATIVE PROGRAMS



# Federal Initiatives ..... 2011





ILLINOIS STATE  
UNIVERSITY

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*Office of the President*



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February 16, 2010

Dear Illinois Congressional Delegation:

The staff and faculty are very pleased to share with the Illinois Congressional Delegation our proposed Fiscal Year 2011 Federal Initiative programs.

Illinois State was founded in 1857 as the first public university in Illinois. As an institution, we have a historic commitment to educate persons who will be responsible to the moral and intellectual demands of living and participating in a democratic society.

The University motto is "Gladly we learn and teach." It is our belief that the federal initiatives presented here exemplify this commitment by Illinois State University to make a difference for our society. The initiatives presented to you are diverse and will provide needed funding for projects in the fields of education, economic development, nursing, community capacity building, and other relevant social issues. Funding these projects will assist citizens of all ages and socioeconomic backgrounds and will expand the University's capacity to contribute and develop in the 21st century.

Thank you for taking the time to read and consider these initiatives. Illinois State welcomes input and support from our Congressional Delegation on these initiatives.

Sincerely

A handwritten signature in black ink, appearing to read "C. Al Bowman".

C. Al Bowman, President  
Illinois State University

# *Federal Initiatives for Fiscal Year 2011*

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# *Executive Summary*

Illinois State University is pleased to provide the Illinois Congressional Delegation with eleven exciting projects developed by university faculty and staff. These projects have been endorsed by the president of Illinois State, the provost, and the associate vice president for research.

Many of these federal initiatives are joint efforts with universities in other states, community colleges, corporations, associations, public school districts, nonprofit organizations, and state agencies. They encompass education, business, economic development, nursing, community capacity building, and other relevant issues that concern the citizens of Illinois and the nation.

Illinois State's initiatives are diverse and address many facets of society that will be assisted by funding these projects. Illinois State University appreciates receiving input and support from the Illinois Congressional Delegation on these initiatives.

# Encouraging Diversity and Improving Employment Opportunities for Underrepresented Populations in Nursing

## OVERVIEW

Illinois State University Menmonite College of Nursing (ISU MCN) will develop and implement a model to address the severe shortage of nurses and nursing faculty from diverse, disadvantaged, and underrepresented backgrounds<sup>1</sup>.

## DESCRIPTION

The nursing shortage is predicted to grow. In the short term, the economic environment has forced more nurses back into the workforce and encouraged more students to enter nursing, producing a temporary abatement of the nursing shortage. Unfortunately more than 50% of the increase in nursing workforce is 50 years old or older; as the recession begins to abate the nursing shortage will return with devastating results creating unprecedented nursing vacancies in health care agencies that will face increased demand as the country ages, infectious pandemics occur, and chronic illnesses rise.

Given the current and predicted demographic trends, there is a great need to develop a state wide model designed to assess, track, and enhance pre-collegiate and early collegiate student interest in nursing and nursing education, for those who come from diverse, disadvantaged, and underrepresented backgrounds. Assessing interest and efforts, identifying barriers, and tracking success is crucial to changing the tide in the number of diverse students choosing and completing nursing programs across the state and nation.

ISU will develop a three prong approach to address this problem to include, outreach before college for recruitment and adequate preparation, college infrastructure for support and retention, and leadership development to ensure a pipeline for nursing faculty.

### *Outreach & Recruitment*

Outreach will be made to middle schools and high schools to develop a pipeline of qualified and interested students to create the needed healthcare workforce. It has been demonstrated that students make their decisions early with influence from role models and parents. The earlier the outreach occurs, the better the chance that students will be well prepared and supported to be successful once matriculating into college. The entire nation (including

<sup>1</sup> The Institute of Medicine (IOM) has demonstrated that severe disparities exist for those from diverse backgrounds in large part because there is a shortage of nurses and other health care professionals who come from the cultures of the patients they serve. The IOM also found that students from underrepresented minorities, even when entering health care professions, did not complete the programs at the same rate as similar non-minority students. This increased recidivism is attributed to lack of a supportive infrastructure and mentoring once students matriculate.

ISU MCN nursing students consistently perform higher than most of the nation and graduates are sought for employment immediately after graduation. This success includes high rates of passing the state board exam (95%+) for BSN programs, passing the Family Nurse Practitioner credentialing exams at 100%, and graduation rates that exceed most in the state and the nation.

ISU MCN will build on this success to develop and implement a model that achieves not only recruitment and retention of those from underrepresented backgrounds through the BSN program, but will specifically develop students as leaders to ensure impact in health care systems after graduation including pursuit of graduate degrees. This impact will address the shortage of diverse nurses and nursing faculty in order to mitigate disparities in Illinois and beyond.

The National League for Nursing (NLN), has reported a decrease in nursing students enrolling in nursing schools over the last several years, which is now being magnified by the latest economic downturn (NLN, 2006). African Americans, Hispanics, and American Indians/Native Americans account for over 20% of the U. S. population but RNs from diverse backgrounds account for less than 10% of the nursing workforce (Bureau of Health Professions, 2001).



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Central Illinois) is changing in demographics and we must be ready to prepare, recruit, retain, and provide leadership development to students from diverse backgrounds in order to achieve an adequate health care workforce.

#### *Retention*

Students from diverse backgrounds<sup>2</sup> can be very successful once the appropriate infrastructure of support is in place. Research demonstrates that students cannot only survive but thrive if the basic components are in place including advising, support, and community engagement. ISU MCN's approach to retention will be evidence-based and modeled after best practices that have yielded proven results.

#### *Development*

ISU MCN will not only recruit and retain but develop diverse nursing students to become leaders in health care. The leadership development program will include mentoring, networking, skill building, and preparation for graduate school to enhance both the primary health care system and the nursing faculty workforce in Illinois and beyond.

### OUTCOMES AND BENEFITS

The expected outcomes of proving funding to develop a model for replication to recruit, retain, and develop future nursing leaders from diverse backgrounds include:

- Strategic plan for pipeline development, beginning with middle school
- Infrastructure and programming created at ISU MCN to include mentoring, advising, tutoring, and financial assistance
- Community engagement with current and future ISU MCN nursing students
- Interdisciplinary collaboration to promote health professions across the state
- Leadership Development throughout the BSN curriculum to enhance impact upon graduation and likelihood to enter advanced practice nursing at the graduate level

### ACTION REQUESTED

ISU MCN<sup>3</sup> requests funding to develop and implement a model that addresses the present and future nursing shortage of nurses and nursing faculty from diverse, disadvantaged, and underrepresented backgrounds. The model will be designed to recruit, retain and develop future nursing leaders and nursing faculty. Barriers and successes will be tracked so this model can be replicated in other areas.



<sup>2</sup> “We are in strong agreement that there is a need for an increasingly diverse workforce in order to improve outcomes and decreased health care disparities.”

*Cathy N. Grossi,  
Assistant Vice President  
Illinois Hospital Association*

“Illinois Health Care Association is very supportive of Illinois State University Mennonite College of Nursing’s federal initiative to develop and implement a model to address the severe nursing shortage of nurses and nursing faculty from diverse, disadvantaged, and underrepresented backgrounds.”

*David A. Voepel,  
Executive Director  
Illinois Health Care Association*

<sup>3</sup>

#### **Primary Partners:**

Illinois Nurses Association  
Illinois Hospital Association  
Illinois Health Care Association  
Illinois Center for Nursing  
Illinois Association of Hispanic Nurses  
Illinois Black Nurses Association  
Thomas Metcalf Laboratory School  
University High School  
McLean County District Unit #5

**Cost:**  
\$650,000

# MyEntreNet: Supporting Rural Entrepreneurship

## OVERVIEW

Illinois State University hopes to replicate in Illinois the highly successful MyEntreNet program<sup>1</sup> that supports rural entrepreneurs, originally developed at the University of Northern Iowa (UNI). Rural entrepreneurs are often removed from other entrepreneurs, especially those in the same industry; they are far from the networks, advice, and resources to which urban entrepreneurs have access. Rural entrepreneurs can be supported and benefit from this tried and successful rural economic development model and program and Illinois State University will work with UNI to launch the program in Illinois<sup>2</sup>.

## DESCRIPTION

To begin their engagement in MyEntreNet, entrepreneurs attend a meeting at a central location in their region. Through an intake process, MyEntreNet staff learns what assistance entrepreneurs need with marketing, capital, human resources, health care, or other issues. The information is then shared with service providers and all interested entrepreneurs receive a discount for upcoming training events through relevant offices. The entrepreneurs leave feeling supported and connected.

Then MyEntreNet staff and their programs “touch” each entrepreneur 6 times during the year. This includes training sessions offered in their communities, webinars, regional meetings, and an on-line discussion forum. Consequently, small business owners communicate with other small business owners, the staff of Small Business Development Centers, and the staff of state offices. They have access to economic development professionals, advice from retired entrepreneurs, engaged faculty at universities and community colleges throughout the state, and local economic development officials.

MyEntreNet also provides an avenue for rural businesses to benefit from the growth of broadband access in Illinois. Webinars and on-line discussion forums through MyEntreNet use broadband access to further local economic development. The stabilization of rural economies is central to the stability of the nation as a whole. Rural entrepreneurship underpins local tax bases with locally-grown businesses, provides employment avenues to youth, and offers rural people an alternative to long commutes or migration to the

<sup>1</sup> In FY07 and FY08 combined, a total of 2,969 small business and community clients were served, 473 jobs were created and \$19,392,216 leveraged in commercial investment as a result of MyEntreNet activity in just 14 rural Iowa counties.

<sup>2</sup> “[The Economic Development Council] is proud to partner with and support ISU’s efforts in rural entrepreneurship.”

*Marty Vanags,*  
CEO

*Economic Development Council of the  
Bloomington-Normal Area*

“Being a county wide organization, we are aware that rural businesses within McLean County do not always receive the services and attention as those within urban areas. Providing an accessible, easy to use tool such as ‘MyEntreNet’ to entrepreneurs can only promote success and expansion.”

*Charles M. Moore,*  
CEO

*McLean County Chamber of Commerce*



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cities which leaves communities without an entrepreneurial spirit and diminished capacity.

Entrepreneurial growth is the backbone of the economy. Rural economies have tried to recruit businesses from elsewhere; the result is a zero-sum gain for the economy as a whole. Locally grown and owned businesses are far more stable than absentee-owned companies. MyEntreNet provides the means by which locally-owned, small businesses can thrive.

Start-up funds are needed to replicate the program in Illinois. UNI staff will train ISU staff in the process. ISU staff will work with counties in Central Illinois to assist rural entrepreneurs through this tested and vetted program. In Illinois, MyEntreNet will be housed at the Stevenson Center for Community and Economic Development at Illinois State University. Since 1994, the Center has provided talented community and economic development professionals to communities around the state, nation, and world. Faculty and students affiliated with the Center currently engage in direct outreach to communities through brownfield redevelopment programs, economic impact analyses, needs assessments, GIS services, and grant-writing training.

#### PARTNER ACTIVITIES

MyEntreNet has existed in Iowa for 4 years and is housed in the Regional Business Center at the University of Northern Iowa (UNI). It began with entrepreneurs in 6 counties and now works state-wide. Faculty and staff from the University of Northern Iowa and Illinois State University<sup>3</sup> have conducted planning meetings. A pilot project is already underway in one Illinois county.

#### OUTCOMES AND BENEFITS

- Expansion of a tried, tested, and successful rural economic development program into Central Illinois, a region without such resources.
- Creation and retention of stable jobs in rural Illinois communities.
- Increased investment in rural economies.
- Use of expanded broadband technology to assist small businesses and local economic development.
- Creation, retention, and expansion of locally-owned small businesses in small communities
- Support for a growing economic development program in Iowa.
- Stabilization of rural economies hurt by the current economic climate.

#### ACTION REQUESTED

Illinois State University<sup>4</sup> requests startup funding for this program.

<sup>3</sup> *Frank Beck* is Director of the Stevenson Center for Community and Economic Development at Illinois State University. The Center provides brownfield redevelopment services, economic impact analyses, and graduate student interns for communities throughout Illinois. He researches the effectiveness of local economic development policies in the US and currently has a CSREES grant to research the causes and consequences of school closure in rural communities. He holds a Ph.D. in Sociology from Penn State.

*Maureen Collins-Williams* is the Director of Business Development and Incubation and Director of the Regional Business Center/SBDC at the University of Northern Iowa. In this capacity, she has been instrumental in raising over \$5 million in outside funding to beta test, implement, and evaluate a number of rural/urban entrepreneurship initiatives in Iowa, including a service technology incubator in Waterloo, Iowa; a technology transfer incubator on the UNI campus; and a virtual incubator serving rural entrepreneurs statewide in Iowa (MyEntreNet).

<sup>4</sup>  
**Primary Partners:**  
Regional Business Development Center,  
University of Northern Iowa  
Economic Development Council of the  
Bloomington-Normal Area  
Rural Partners of Illinois  
SBA Small Business Development Centers

**Cost:**  
\$ 500,000

# Public School/University Alliance to Stimulate Student Interest in Career and Technical Education

## OVERVIEW

*The Chicago Public Schools (CPS)<sup>1</sup> and Illinois State University (ISU) are collaborating on a program to encourage CPS students to pursue educational opportunities in five key Career and Technical Education (CTE) areas. These include Advanced Manufacturing, Information Technology, Construction Management, Graphic Communications and Technology Teacher Education.*

## DESCRIPTION

Illinois State University provides degrees in several high demand Career and Technical Education-related areas. This initiative will provide a series of one-week summer camp opportunities for secondary level CPS students. The camps will be conducted in ISU's Department of Technology laboratories, where students will be engaged in a variety of hands-on activities. The goals will be to provide students with an awareness of the substantial career and educational opportunities available to them at the completion of high school.

Illinois State University will extend the resources of its faculty and laboratories to this project. Laboratory facilities include state of the art equipment such as robotics and automated systems<sup>2</sup>, current software applications (CAD, simulations, estimating, planning), rapid prototyping, vision systems, and computer networking. The faculty will develop engaging, hands-on activities that are appropriate for students' age, educational level and background.

The program will also include a component designed for those who influence students...teachers, counselors, and parents. It is vitally important that these individuals be involved in selecting and providing encouragement to the students in order for the program to have sustained impact. The program will also include a "soft skills" development component designed to address personalization, college readiness and violence reduction.

In addition to summer camps, the initiative will also include two components focused on teachers. One will be professional development for CPS' CTE teachers to assist them with laboratory and curriculum development focused on emerging technologies. The second component will focus on initial teacher preparation, where CPS students will be exposed to and encouraged to consider ISU's technology teacher education program. This high quality

<sup>1</sup> Select photos from tour of Chicago High Schools



program prepares teachers to teach a broad range of CTE programs. The goal of this part of the project will be to make CPS students aware of teaching opportunities in career and technical education and encourage them to return to the CPS system to teach following graduation.

## PARTNERSHIP ACTIVITIES

Chicago Public Schools (CPS) and Illinois State University (ISU) have engaged in dialogue and planning activities for this initiative since 2008. ISU has hosted personnel from CPS to discuss the capabilities and potential for hosting high school students in the summer camps. ISU faculty have toured several CPS High Schools and created committees to develop a K-12 summer camp for students and teachers.

## OUTCOMES AND BENEFITS

Activities will feature:

- 9-12 Level Summer Camps (1 Week per Camp)
- Demonstrations, experiments, and hands-on engagement with the various technologies
- Immersion of students in age-appropriate activities with technology
- Creative problem-solving activities
- Exploration of career opportunities in CTE areas including teaching
- Activities and workshops for counselors and teachers
- Real world applications of math and science
- Professional Development for STEM teachers and guidance counselors

## ACTION REQUESTED

The primary partners<sup>3</sup> of this program hope to enhance the “pipeline” of young workers into the advanced technology areas and CTE teaching by stimulating interest at the secondary school level.

<sup>2</sup> Caterpillar Integrated Manufacturing Laboratory



<sup>3</sup>

**Primary Partners:**

Chicago Public Schools  
Department of Technology at Illinois State  
University

**Cost:**

\$1,500,000

# Facilitating Methamphetamine Treatment for Juvenile Arrested from Rural Populations

## OVERVIEW

*Illinois State University hopes to expand an innovative new program addressing the epidemic of methamphetamine use through treatment of arrested juvenile from rural populations.*

## DESCRIPTION

In 2006, the National Survey on Drug Use and Health reported an estimated 731,000 people age 12 or older were current methamphetamine users<sup>1</sup>. Users are more likely to be from rural counties, as noted in a study of incarcerated offenders where 10.6% of urban inmates reported having used amphetamines in the 30 days prior to arrest, as compared to 30.0 % of inmates from the most rural areas<sup>2</sup>. In an Illinois study, 71% of methamphetamine arrests and drug treatment admissions were in rural counties, 5 times that of the state as a whole<sup>3</sup>.

An ambitious and innovative treatment program<sup>4</sup> began in June of 2006 through the Franklin County Juvenile Detention Center (FCJDC) for juveniles arrested on drug-related charges who exhibit signs of drug dependency, with a particular emphasis on those dependent upon methamphetamine. Program participants were originally drawn from 41 counties in the state of Illinois<sup>5</sup>. Recently, additional countries with a serious need such as Vermillion county have been included in the treatment area. Participants are referred to the facility by court order for up to 6 months of residential treatment. Following residential treatment, youth are returned to the community where they receive a continuum of services designed to facilitate continued sobriety. Those services are provided for an additional 6 months. Youth entering the program not only have substance abuse problems, but generally have histories of sexual abuse, family dysfunction, and criminal behavior. In short, these are seriously troubled youth who present a challenge for any treatment program, and who would likely fail in traditional short-term treatment programs. In June of 2008, Illinois State University distinguished professor Ralph Weisheit<sup>6</sup> was brought in to evaluate the program and provide feedback to program staff.

The FCJDC program is unique in 1) the duration of treatment services, 2) the intensity of services provided in the residential setting, 3) the nature of those services, and 4) the focus on a continuum of services in the community. The program's central emphasis is to teach drug-abusing youth to identify drug cravings, learn techniques to reduce or eliminate those cravings, and then

<sup>1</sup> *Substance Abuse and Mental Health Services Administration (SAMHSA) 2007a Results from the 2006 National Survey on Drug Use and Health: National Findings.* Office of Applied Studies, NSDUH Series H-32, DHHS Publication number SMA 07-4293. Rockville, MD.

<sup>2</sup> *Warner, B. and Carl G. Leukefeld 2001* "Rural-urban differences in substance use and treatment utilization among prisoners." *American Journal of Drug and Alcohol Abuse*, 27: 265-280.

<sup>3</sup> *Bauer, Robert W 2003* "Methamphetamine in Illinois: An examination of an emerging drug." *Illinois Criminal Justice Information Authority Research Bulletin*, 1(2): 1-12.

<sup>4</sup> *Steps in the Program*

*Phase 1: Initial inquiry* about services.

*Phase 2: Screening for eligibility* for services either by telephone or face-to-face.

*Phase 3: Intake* for youth who receive court order for treatment. Youth entering the program are assessed on a variety of bio-psycho-social dimensions using the Global Appraisal of Individual Needs (GAIN) instrument.

*Phase 4: Inpatient treatment* for youth in a secure setting (for a maximum of 180 days). Youth attend craving workshops and art and recreation therapy in which they learn to identify and resist drug cravings. Participants spend individual time with a counselor each week. After approximately 3 months in the program, family counseling sessions begin in anticipation of participants' return to the community.

*Phase 5: Aftercare services* are provided for approximately 2 weeks where youth complete outings with counselors to their home community or to a nearby community where they are exposed to environments in which they had previously used drugs, or to environments similar to those in which they had previously used drugs.

*Phase 6: Placement.* Youth are also prepared for release to the community by providing home furloughs through progressive steps of increasing duration. Following each visit, youth must take a urine test, continue to meet treatment objectives, and process each home furlough. Counselors work closely with probation/parole officers to identify services and establish better communication and support for the youth. Counselors assist youth in meeting work or educational goals and in finding a suitable placement when their families do not provide a good environment for sobriety.

*Phase 7: Discharge.* Youth graduate from the program and no longer receive program services.



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successfully apply those techniques. The approach is based on the work of Alex and Janice Stalcup (2006), who developed this approach while working with hundreds of addicts over a course of more than a decade.

**PARTNERSHIP ACTIVITIES**

The program has had 57 individuals to date who have either successfully completed the program or are in the process of completing the program. The Franklin County Juvenile Detention Center and Dr. Weisheit have received inquiries from several states interested in replicating the program.

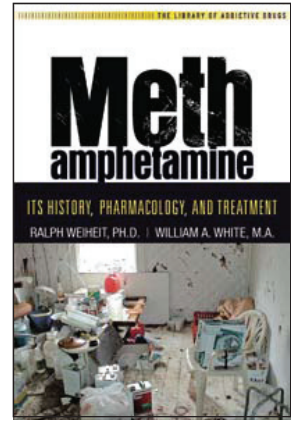
**OUTCOMES AND BENEFITS**

Program outcomes and benefits<sup>7</sup> include:

- The program staff will receive consultation from Dr. Weisheit, a nationally recognized authority on the issue of methamphetamine.
- Training materials will be developed and technical assistance will be provided to programs in other states.
- The program will be enhanced and capacity will be expanded.
- Comprehensive evaluations of long-term outcomes utilizing the substantial collected data will be conducted by Dr. Weisheit.

**ACTION REQUESTED**

The primary partners<sup>8</sup> of this program hope to enhance and expand treatment for juvenile methamphetamine users and request funding of the program.



**Methamphetamine: Its History, Pharmacology, and Treatment** is published by Hazelden and will be available May 2009. Authors Ralph Weisheit and William A. White examine the history of the drug and provide context for understanding today's meth problem. The authors cover the myths and realities of meth, its patterns of use, the latest scientific findings on its effects, the drug's impact on rural communities, and the global implications of meth production.

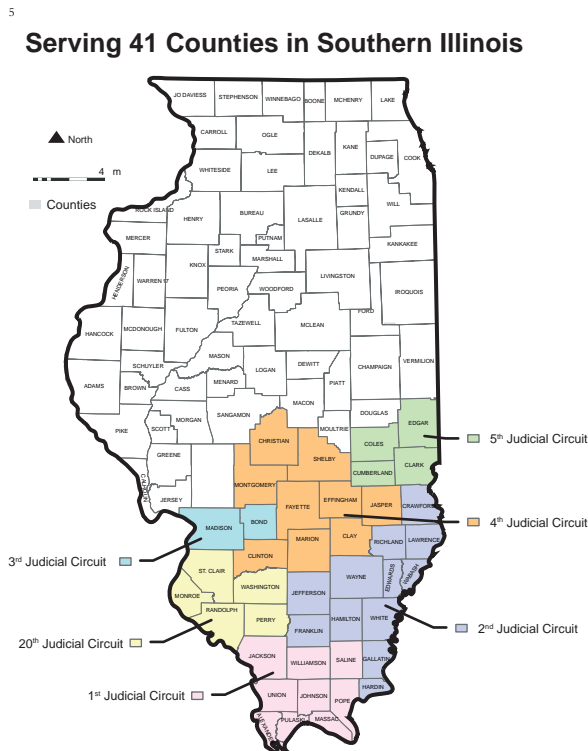
**Ralph Weisheit, Ph.D.**, is a distinguished professor of criminal justice at Illinois State University where he has been teaching and conducting research for over 25 years.

<sup>7</sup>“I am very supportive of a joint project between the Franklin County Juvenile Detention Center and Illinois State University to assist juveniles who have been arrested on drug-related charges...”  
*Joseph A. Miller*  
 Chief Probation Officer/First Division/Second Circuit  
 Crawford, Edwards, Lawrence, Richland Counties

“Compared with other adolescent treatment programs in the United States, the Franklin County program has some of the best if not the best outcome statistics. Prior to the Franklin County program, 95 percent of comparable adolescent detainees graduated to adult prison.”  
*S. Alex Stalcup, M.D.,*  
 Medical Director  
 New Leaf Treatment Center

<sup>8</sup> **Primary Partners**  
 Illinois State University  
 Franklin County Juvenile Detention Center

**Cost:**  
 \$200,000



# Pre-College Recruitment of Underserved Urban Youth by Improving Mid-size City Educational Delivery

## OVERVIEW

Illinois State University (ISU) hopes to establish a long-term partnership effort with the Peoria Public Schools to improve student achievement and school performance, enhancing students' life chances and, eventually, the overall economic health of the region. The project will focus on three key interventions to improve classroom instruction and student learning: 1) Improve principals' and teachers' instructional skills, with a specific focus on reading and mathematics, 2) Establish a continuum of academic and social supports for students, preparing them for college and work, 3) Enhance teaching, learning, and administration through effective use of technology. These three project components will be jointly implemented by school/university teams as a partnership effort, combining faculty and staff expertise with federal, university and district resources. Relationships with the greater Peoria business and civic communities will enhance its impact in the region. This Peoria project will become a model for other mid-size cities in Illinois and the nation.

## DESCRIPTION

America's largest cities receive the lion's share of government and media attention when it comes to urban problems and attempted reforms. However, across the country, more people live in mid-size cities than in big cities<sup>1</sup>. While some mid-size cities are growing quickly, many others struggle with the same challenges faced by larger urban centers: declining populations, increasing concentrations of poverty, and increasingly unequal distribution of wealth between city and suburban areas. Many of these declining or stagnant cities have eroding traditional economic foundations of industry and agriculture-related commerce, and now face economic declines<sup>2</sup>. The economic struggles of these population centers adversely affect large geographic areas that surround them. This multi-year project to enhance student learning will: (1) have assessments based upon common standards; (2) use student data to improve instruction and teacher effectiveness; (3) move towards state longitudinal data systems; and (4) will focus on struggling schools.

Peoria fits this profile with a population of over 114,000. According to census data, the city has experienced no growth in recent years<sup>3</sup>. The demographic profile of the city's school district reflects an urban center pattern. Of the 13,951 students in Peoria Public Schools, a majority are minority and low-income. More

<sup>1</sup> Eichenenthal, D.R. (2005). *Why mid size cities grow*. Presentation to the Chattanooga Community Research Council, September 30. Washington, DC: Brookings Institution Center on Urban and Metropolitan Policy.

<sup>2</sup> (2003). *The mid-size city: Exploring its unique place in urban policy*. Summary of the Rochester Conversation on Mid-Size Cities. Rochester, NY: Office of the Mayor.

<sup>3</sup> (2002). *Demographic change in medium-sized cities: Evidence from the 2000 census*. Washington, DC: Brookings Institution Center on Urban and Metropolitan Policy, in collaboration with the National League of Cities.

<sup>4</sup> Source: Illinois School Report Card, Illinois State Board of Education (ISBE) Annual Financial Profile.

District Low-Income (Free/Reduced Lunch)	70%
Minority Student Percentage	70%
Percent of All Students Meeting State Standards	64%
Percent of 11th graders meeting State Standards	33%

affluent families have migrated to private and suburban schools, leaving lower-income students concentrated in the inner-city public schools. State data show demographic and performance indicators for the Peoria Public Schools<sup>4</sup>.

## GOALS

Improve principals' and teachers' instructional skills, with a specific focus on reading and mathematics<sup>5</sup>:

- Train teachers in research-based instructional models, and align teacher evaluation processes with this model
- K-12 Educational leadership research provided through the Center for the Study of Education Policy at ISU
- Reading expertise provided by the Mary and Jean Borg Center for Reading and Literacy at ISU
- Math expertise provided by the Center for Math, Science, and Technology (CeMAST) at ISU
- Assistive technology expertise provided by the Special Education Assistive Technology (SEAT) Center at ISU

Establish a continuum of academic and social supports for students, preparing them for college and work.

- Alignment of math and reading curriculum with national Common Core standards
- Train post-secondary coaches and begin coaching in 6th grade
- Reading tutoring support provided through the Mary and Jean Borg Center for Reading and Literacy at ISU
- Math tutoring support through CeMAST
- Parent engagement and support processes
- Tie-ins with community and business entities

Enhance teaching, learning and administration through effective use of technology.

- Assistive Technology Project (SEAT Center)<sup>6</sup>
- Classroom learning technologies
- Data analysis and use (teachers and administrators)

## OUTCOMES AND BENEFITS

Key components are:

- Expand existing university pre-college recruitment programs for underserved urban youth to mid-size cities
- Expand the community-university partnership model for recruiting urban youth to college from large-scale cities to mid-size cities

Favorable expected outcomes are:

- Increased recruitment and retention of urban youth to college
- Increased self-efficacy of Illinois State graduates to start professional careers working with urban youth because of better preparation
- Increased urban youth learning on normative referenced assessment instruments because of culturally responsive teaching

## ACTION REQUESTED

Illinois State University and its partners<sup>7</sup> request that their state delegation fund this innovative program for recruiting urban youth to go to college.

<sup>5</sup>“While our district’s students face tough challenges (about 70% qualify for free/reduced lunch), they are capable of learning to high standards with the appropriate support systems in place. Our city leaders stand ready to align with education leaders in the district and at the university to assure that these systems maximize our children’s opportunities in learning and in life.”

*Jim Ardis,*  
Mayor  
City of Peoria, Illinois

## <sup>6</sup> INSTITUTIONAL CAPACITY

The SEAT Center has a \$2 million Endowed Professorship. The Center for the Study of Education Policy is a multi-year Wallace Foundation funded project (IL-SAELP—Illinois State Action for Education Leadership) recipient. The Policy Center is also the recipient of funding from the Wallace and McCormick Tribune Foundations for educational leadership projects. The CeMAST is the recipient of NSF (Robert Noyce) and STEM (Illinois Math and Science Partnership) funding to bring about systemic change in math and science teaching and learning.

<sup>7</sup>

**Primary Partners:**  
Illinois State University  
Peoria Public Schools

**Cost:**  
\$400,000

# Capitalizing on Export Opportunities for Illinois Businesses

## OVERVIEW

*The globalization of markets is creating significant opportunities for U.S. companies. According to the U.S. International Trade Administration, a total of 95 percent of the world's consumers live outside the United States<sup>1</sup>. Illinois' small to medium sized businesses have identified the capacity to expand exports, but need assistance in navigating the planning, marketing and distribution within foreign countries. Potential expanded exports could boost the Gross Domestic Product (GDP)<sup>2</sup>.*

## DESCRIPTION

Illinois State University proposes to assist small to medium sized companies in Illinois in the expansion of exports by providing international planning, marketing, and distribution expertise. The University will expand on an existing "Export Project" that was funded by a U.S. Department of Education (DOE) grant received in 2007. The existing project created a unique collaboration model composed of individuals from five departments within two colleges and Illinois-based businesses that will be utilized for future activities. Faculty<sup>3</sup> with professional international business expertise lead high performance language proficient student teams. These teams not only develop detailed export marketing plans for businesses but also travel abroad and act as agents for these companies by meeting with potential distributors to sell Illinois products and services. Through these experiences, students develop significant international business capabilities and companies have strong representation in key markets that they would not have the time and/or resources to penetrate otherwise.

A strong overseas network of assets is already in place for the "Export Project". The Food Export Association of the Midwest<sup>4</sup> has granted access to their extensive network of overseas market representatives. These representatives are located in more than fifteen markets and have excellent local market knowledge and relationships with retailers. This built-in network allows the teams to quickly leverage local representatives knowledge and contacts. Additionally, The Department of Commerce and Economic Opportunity (DCEO) has provided teams traveling abroad with guaranteed office space located in ten high growth markets such as China, India, Japan, and Mexico.

<sup>1</sup> International Trade Update (May 2006), U.S. Department of Commerce, International Trade Administration, [http://trade.gov/press/publications/newsletters/ita\\_0506/itu\\_0506.pdf](http://trade.gov/press/publications/newsletters/ita_0506/itu_0506.pdf) (December 2007)

<sup>2</sup> "Small business participation varies widely by industry, and following a long-term trend, the small business share of GDP in many of the individual industry sectors is declining" *Economic Consulting Services LLC April 2007; "The Small Business Share of GDP 1998-2004" Kathryn Kobe*

<sup>3</sup> Dr. Iris Varner is originally from Germany and has consulted, taught and researched in the area of intercultural management for over twenty years. She is fluent in English, German, and French.

Dr. Mark Hoelscher has traveled and lectured at French universities. He has managed student consulting teams on site in New Zealand. He speaks English fluently and Spanish at a conversational level.

Dr. Klaus Schmidt is originally from Germany and has consulted around the world with governments and the private sector. He speaks English, German, and Spanish fluently and French conversationally.

Dr. Aslihan Spaulding is a native of Turkey and has been a consultant to the World Bank. She speaks English and Turkish fluently.

<sup>4</sup> "We strongly support the ISU's "Export Project" as an excellent educational tool that can have a direct practical benefit for Illinois food and agricultural producers that are looking to begin or expand their exports. Exporting may appear to be a daunting task for any business. Having the support of motivated and qualified students, with the technical and educational resources of ISU, is a great resource for any firm. We look forward to continuing to support this innovative effort, and to work with those food and agricultural firms that choose to participate." *Tim Hamilton, Executive Director, Food Export - Midwest, Food Export - Northeast*



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Operations objectives and policies will be established to function as a guideline for Illinois small and medium sized business involvement.

## OUTCOMES AND BENEFITS

The outcomes<sup>5</sup> are numerous and are best described as follows:

Illinois Companies - Illinois companies will not only have detailed export marketing plans developed for them, but also have teams of well trained students representing them abroad under the management of faculty with significant professional international business experience. Furthermore, the participating companies will receive ongoing support from the Illinois Small Business Development Center.

Students - Illinois State University students will be exposed to a robust export-oriented curriculum that allows them to develop export plans for companies and test their skills abroad in a real world selling situation.

Faculty - Illinois State University faculty will be given the opportunity to learn new skills by directly participating in the management of the teams abroad, attending export workshops sponsored by the Food Export Association of the Midwest, and by participating in faculty exchanges in numerous overseas markets where Illinois State University has partner schools such as Japan, Spain, Mexico, France and Germany.

Government - The national economy will benefit from the expansion of jobs<sup>6</sup> through increased sales and the increase in taxable revenues in small to medium sized companies.

## ACTION REQUESTED

The primary partners<sup>7</sup> request funding to promote the partnering of student teams with Illinois companies to facilitate their exports and to develop and strengthen student and faculty global knowledge.

<sup>5</sup>“To capture the significant demand for our products in rapidly growing emerging markets such as China, Russia, Brazil, and India, we need access to smart, motivated, and bilingual workers. The proposed Institute of International Business Development...may represent a rich source for these individuals.”

*Ron Hageman,  
CEO  
New Composition Partners*

“Working closely with Illinois State University will assist in training undergraduate and graduate students in advance market research, international negotiating skills and multi-national business understanding, leading to create opportunities for US companies in the international agriculture market.”

*Ramon Georgis, PhD,  
Director, International Business  
Brandt*

“We believe that the Export Project is beneficial to both the academia and central Illinois small businesses.”

*Robert VanderKolk,  
Product Manager  
DICKKEY-John*

“In an effort to support student teams representing Illinois businesses... our offices will provide technical assistance whenever possible.”

*Mary Roberts,  
Managing Director  
Office of Trade and Investment,  
Illinois Department of Commerce and Economic  
Opportunity*

<sup>6</sup>In 2005, Illinois had 290,866 small to medium sized businesses employing 1,087,700 individuals. *U.S. Small Business Administration State Economic Profiles 2006*

<sup>7</sup>

### **Primary Partners:**

Illinois State University  
Illinois Small Business Development Center  
Food Export Association of the Midwest  
McLean Country Chamber of Commerce  
Economic Development Council of Bloomington  
Department of Commerce and Economic Opportunity  
Illinois Department of Agriculture

### **Cost:**

**\$1,250,000**

# Green Collar Jobs for Illinois: Assessing the Economic Impact of Renewable Energy

## OVERVIEW

The Center for Renewable Energy at Illinois State University proposes developing a report that will assist the State of Illinois in forecasting the impact of the renewable energy sector<sup>1</sup> on economic growth and jobs<sup>2</sup> in the state.

## DESCRIPTION

The Center for Renewable Energy at Illinois State University proposes developing a report<sup>3</sup> that will assist the State of Illinois in forecasting the impact of the renewable energy sector on economic growth and jobs in the state. This report, developed for the State of Illinois, will: 1) *Examine renewable energy potential development in wind, solar, biofuels, and biomass sectors for the State of Illinois.* Building upon the success of *Economic Impact: Wind Energy Development in Illinois* (June 2009), the Center for Renewable Energy will coordinate with other universities and renewable energy developers to assess the future development of renewable energy in the state. 2) *Assess the potential for increased manufacturing in Illinois for the renewable fuels industry.* The Center for Renewable Energy will develop a detailed statewide database of manufacturing resources including idled factories, potential new factory locations, workforce skills and current economic development incentives which can be utilized for the Renewable Energy sector. This information will be provided to the large network of wind developers and turbine manufacturers that the Center for Renewable Energy has developed through its leadership on the Illinois Wind Working Group. We will provide additional information to other sectors of the renewable energy sector. The report will furnish information regarding manufacturing opportunities that match state capabilities and be distributed to local economic development councils and regional organizations. The report will forecast the potential to increase economic growth and jobs from new manufacturing opportunities in the renewable energy sector. 3) *Develop a workforce needs assessment with input from the renewable energy sector.* This needs assessment will be used as the basis for a collaborative group of universities and community colleges in Illinois to develop specific programs to address these workforce needs. The plan will develop public policy recommendations that will encourage the development of new

<sup>1</sup> Renewable energy electricity technologies consist of: Hydroelectricity, Biomass, Geothermal, Wind, Photovoltaics, and Solar thermal.

<sup>2</sup> Renewable Energy produced about 7% of total U.S. energy in 2008. U.S. Energy Information Administration, 2009.

The renewable energy and energy efficiency industries generated more than \$1 trillion in revenue, nearly \$160 billion in federal, state, and local tax revenues, and more than 9 million jobs in 2007; 95% of those jobs were in private industry. The renewable energy and energy efficiency industries could create more than 37 million jobs by the year 2030. *Management Information Services, Inc. and American Solar Energy Society, 2009, [http://www.ases.org/images/stories/ASES/pdfs/CO\\_Jobs\\_Rpt\\_Jan2009\\_summary.pdf](http://www.ases.org/images/stories/ASES/pdfs/CO_Jobs_Rpt_Jan2009_summary.pdf)* (January 2010)

Labor leaders argued, the U.S., once the world leader in renewable energy technology, has fallen behind Japan, Germany and Spain. Germany, a country with a land mass the size of Oregon, employs more than 40,000 workers in its wind energy industry; Denmark employs another 20,000. *Job Growth From Investment In Renewable Energy: An Overview <http://reid.senate.gov/issues/upload/Energy-RnwblEnergyJobGrwth.pdf>* (January 2009)

Currently about 2.3 million people worldwide work either directly in renewables or indirectly in supplier industries.<sup>1</sup> Given incomplete data, this is in all likelihood a conservative figure. The wind power industry employs some 300,000 people, the solar photovoltaics (PV) sector accounts for an estimated 170,000 jobs, and the solar thermal industry, at least 624,000.<sup>2</sup> More than 1 million jobs are found in the biomass and biofuels sector.<sup>3</sup> Small-scale hydropower and geothermal energy are far smaller employers. *<http://www.worldwatch.org/node/5821>* (January 2009)

One report by the RAND Corporation and University of Tennessee found that if 25% of all American energy were produced from renewable sources by 2025, we would generate at least 5 million new green jobs. *[http://www.25x25.org/index.php?option=com\\_content&task=view&id=156&Itemid=56](http://www.25x25.org/index.php?option=com_content&task=view&id=156&Itemid=56)* (January 2009)



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economic growth and jobs in Illinois derived from the boom in renewable energy.

### PARTNERSHIP ACTIVITIES

The Center for Renewable Energy<sup>3</sup> at Illinois State University works to meet the growing need for education, outreach and research in the area of renewable energy. The Center has three major functional goals: to enhance of the renewable energy major at Illinois State University; to serve the Illinois renewable energy community by providing information to the public; and to encourage applied research concerning renewable energy at Illinois State University and through collaborations with other universities.

### OUTCOMES AND BENEFITS

Developing this comprehensive report will enable businesses, government agencies and educational organizations develop a strategic approach for enabling the renewable energy sector to thrive in Illinois.

### ACTION REQUESTED

Illinois State University<sup>4</sup> requests funds for this important research.



<sup>3</sup> “ACCIONA Energy is very supportive of The Center for Renewable Energy at Illinois State University that proposes developing a report that will assist the State of Illinois in forecasting the impact of the renewable energy sector on economic growth and jobs in the state.”

*Peter Duprey,  
CEO  
ACCIONA Energy North America*

“The Center for Renewable Energy at Illinois State University proposes developing monographs and reports in wind, solar, biomass and biofuel sectors of the nation. This continual forecasting by the Center will assess and project job creation in manufacturing, education, finance and service sector for green collar jobs.”

*William Whitlock,  
Director of Development,  
Horizon Wind Energy*

“Currently, there is not a comprehensive and systematic analysis of the need for green collar jobs in the United States. the proposed project by The Center for Renewable Energy at Illinois State University will fill this need for Illinois and serve as a model for other states.”

*Stanley (Jay) Solomon, Jr.  
University of Illinois Extension*

<sup>4</sup>  
**Primary Partners:**  
Illinois State University

**Cost:**  
\$500,000

# Improving K-12 STEM Education for a Competitive Future Workforce

## OVERVIEW

*In order to have a more competitive future workforce of self-reliant problem solvers, innovators, and inventors, K-12 curriculum improvement is needed<sup>1</sup> in the areas of Science, Technology, Engineering, and Math (STEM). Illinois State University is in an excellent position to advance STEM competencies through its Center for Mathematics, Science and Technology (CeMaST), which has a long history of partnering with Illinois school districts statewide, and providing professional development for Illinois' teachers.*

## DESCRIPTION

Illinois State University (ISU) is the oldest and largest producer of teacher educators in Illinois. Over the past three years, the Center for Mathematics, Science and Technology at Illinois State University has initiated four new graduate degree programs for teachers of mathematics, science and technology in partnership with Peoria and Springfield Public Schools. The University would like to expand Engineering Education integrated with Mathematics, Science, and Technology so that CeMaST can truly serve the STEM agenda for the state and Midwest region.

With CeMaST at the forefront, Illinois can join neighboring states in bringing engineering to schools and highlight work through the Illinois State University *High School Research Symposium*, the *Illinois Summer Research Academy*, and implementing the *Project Lead the Way* engineering curriculum in Illinois. These efforts can lead to students learning the skills necessary for integrated STEM jobs<sup>2</sup> in a new and environmentally sustainable green economy.

Despite growing interest in engineering education<sup>3</sup>, significant challenges will have to be addressed before engineering is accepted as an integral part of the K–12 curriculum. The primary challenges are: 1) to identify a slot in the curriculum to house engineering; 2) to identify a body of content; 3) to convince policy makers, school administrators, and parents of the importance of engineering education; and 4) to prepare teachers to effectively convey engineering content and concepts. CeMaST has a role in several of those challenges, including the advocating for engineering education as well as researching and implementing teacher professional development related to engineering education.

CeMaST sees the inclusion of engineering as a key component in meaningful STEM integration.

<sup>1</sup> Eighth and twelfth graders do not do well by international standards in acquiring mathematics and science knowledge of which they have been exposed.

National Assessment of Education Progress indicates persistent math and science achievement gaps between students relative to their race/ethnicity, gender, and socioeconomic status.

National Center for Education Statistics, *Trends in International Mathematics and Science Study* (Boston, MA: International Center for Education, 2003)

## <sup>2</sup> STEM Occupations

Natural Science Occupations (Life Scientists, Physical Scientists, Natural Science Technicians)

Technology Occupations (Computer Specialists)

Engineering Occupations (Engineers, Drafters, Engineering and Mapping Technicians)

Mathematical Science Occupations

<sup>3</sup> Custer and Daugherty (2009)



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However, the integration of engineering concepts into other content areas is not the end goal. We believe that in the long term, CeMaST<sup>4</sup> has a role in the development of an infrastructure that supports engineering as a content area for Illinois K-12 schools. A long term activity would be to lead the charge in developing the networks and systems needed to produce and license engineering education teachers as well as to develop courses that engineering educators would teach in our schools. Creating a new discipline in an already crowded curriculum is not an easily accomplished task; however, it is one that we believe is important enough to the future of Illinois students that we should invest the time and resources to make it a reality.

<sup>4</sup> “Our society cannot progress without the continued study and development of science, technology, engineering, and mathematics.... the EDC strongly supports ISU and its Center for Mathematics, Science, and Technology.”

*Martin K. Vanags,*  
CEO

*Economic Development Council of the  
Bloomington-Normal Area*

## PARTNERSHIP ACTIVITIES

- Identify 25 exemplary career-changing teachers, their students and courses across the State of Illinois who have begun to implement Project Lead the Way curricula.
- Develop integrated engineering course sequences for current mathematics, science and technology teachers.
- Develop and implement professional development to aid 150 teachers in infusing engineering education concepts into K-12 math, science, and technology courses.
- Lead a new certification and endorsement in secondary engineering education.

## OUTCOMES AND BENEFITS

Key components are:

- Expand Engineering concepts into existing pre-college Mathematics, Science, and Technology programs.
- Create Engineering education programs to create a model of integrated STEM curriculum and professional development.

Favorable outcomes from this program are:

- Increased recruitment of students into STEM courses.
- Increased participation of youth to pursue STEM careers.
- Increased efficacy of Illinois State graduates and teachers to work in STEM teaching positions.
- Increased student learning on ISBE normative referenced STEM assessment instruments.

<sup>5</sup>

### **Primary Partners:**

Illinois State University  
Chicago Public Schools  
Peoria Public Schools  
Springfield Public Schools

## ACTION REQUESTED

Illinois State University and its partners<sup>5</sup> request that their state delegation fund this innovative program for helping urban students learn engineering concepts and career orientation.

**Cost:**  
\$350,000

# A National Model for Renewable Energy and Water Quality Improvement: Phase III

A Rural/Urban Partnership For Energy And Jobs Creation Through Anaerobic Fermentation

## OVERVIEW

*An Illinois State University research team has developed a highly successful research program that addresses: issues of waste pollution common to Illinois (US) rural and urban communities; renewable energy development; and, creation of workforce opportunities.*

## DESCRIPTION

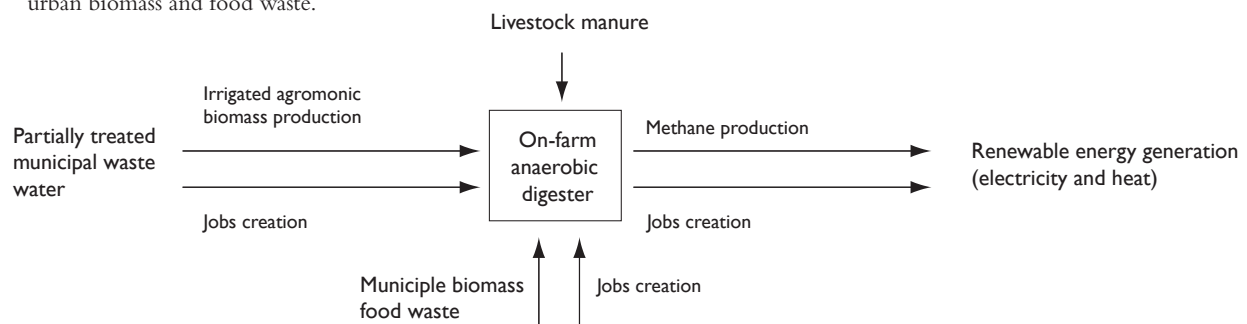
This innovative program has already developed (through previous funding) a rural community waste water treatment/ utilization process that produces agronomic biomass (switchgrass) that can be used in conjunction with livestock manure in an anaerobic methane digester to increase renewable energy (electricity and heat) production<sup>1</sup>. Expanding this program to include urban biomass (landscape waste consisting of leaves and grass clippings) and municipal food waste will create a national model that improves environmental quality, produces renewable energy resources and creates new jobs<sup>2</sup>. Continuation of this viable program will accomplish the following tasks:

1. demonstrate how rural municipalities can utilize partially treated waste water to produce agronomic biomass and prevent surface water pollution (point source pollution – PS).
2. determine the energy production in an anaerobic digester using livestock manure and biomass as feedstocks.
3. redirect land application of livestock manure to green energy production decreasing manures potential for environmental pollution (non-point source pollution – NPS).
4. provide a sustainable use for municipal biomass (landscape waste) and food waste in the production of renewable energy (methane and electricity).
5. create workforce opportunities through the construction of anaerobic digesters, operation of renewable energy generators, and the transportation of agronomic and urban biomass and food waste.

<sup>1</sup> Agronomic biomass energy production has a unique advantage when compared to solar and wind energy in that the energy source is storable and is more reliable. The production of agronomic biomass for cellulosic ethanol production has the potential to become an alternative farm crop through the sale of biomass as well as increasing carbon sequestration, which in turn generates carbon credit income. However, agronomic biomass production for ethanol generation is subject to the “chicken and egg” phenomenon. Large scale biomass production will not be developed until there is a market for biomass. Likewise, a market for biomass will not be developed until sufficient biomass is produced to meet the demand.

<sup>2</sup> Municipal biomass (landscape waste such as leaves and grass) disposal has become an increasing problem for urban committees since its disposal in landfills was banned. Up to 12.0% of the material disposed in a landfill is food waste.

<sup>3</sup> Methane digesters have been proven to be effective systems for treating livestock manure to reduce PS and NPS pollution and as a technology for producing renewable energy (i.e., methane gas that can be used to generate electricity). Research demonstrates that livestock manure can be supplemented with biomass (switchgrass, leaves, etc.) and food waste at rates equivalent to 2 – 20% of the volume of manure, resulting in potential efficiency improvements of 100-400%



The project will generate renewable energy and create job opportunities through a coordinated approach of utilizing rural municipal waste water to produce agronomic biomass that will be blended with livestock manure, municipal biomass and food waste



in an anaerobic digester<sup>3</sup> to produce methane gas, that will be used to generate green electricity.

The outcome from this project will yield a model<sup>4</sup> for improving the nation's ground and surface water quality and for developing a sustainable alternative for utilizing food and landscape waste. This system's approach will demonstrate how reducing non-point source and point source water pollution can increase agronomic biomass production, create a sustainable market for municipal biomass and food waste, and generate renewable energy in the form of heat, methane gas and electricity.

## OUTCOMES AND BENEFITS

This project will develop a holistic model for purifying wastewater, growing biomass (switchgrass), utilizing livestock, food and landscape waste, and producing renewable energy. An anaerobic digester will be constructed on the ISU-Farm. Assistance will be (has been) provided to a local municipality without a sanitation department to develop a waste water treatment system that couples settling lagoons with irrigation to grow agronomic biomass<sup>5</sup>. The municipal biomass and food waste will be combined with livestock manure as feedstock for an anaerobic digester. The methane produced will be used to generate electricity that can be utilized for on-farm use and in a power grid by an electrical company.

This systems-based model approach will:

- produce a renewable energy source that helps reduce dependence on foreign oil.
- establish/demonstrate both an intermittent and long term market for agronomic biomass.
- develop/demonstrate a sustainable market for municipal biomass and food waste.
- reduce both non-point source and point source pollution of a watershed.
- create/demonstrate green work force opportunities.

## ACTION REQUESTED

The primary partners<sup>6</sup> will design, develop, operate, maintain and monitor a systems approach for generating renewable energy using an anaerobic digester fed with livestock manure, food waste and plant biomass (both agronomic and municipal) while creating jobs within the green industry under the oversight of Illinois State University. Completion of this system will provide a model that can be disseminated and propagated nationally to demonstrate the compatibility of the rural-urban interface for improving the environment, creating workforce opportunities and decreasing US dependence on foreign oil. Phase I and II have addressed tasks 1 and 2. Additional funding is required to accomplish tasks 3, 4 and 5.

<sup>4</sup>“Illinois Beef Association is highly supportive of [this] project which takes livestock manure – a renewable nutrient – combined with biomass in an anaerobic methane digester to increase renewable energy production.”

*Maralee M. Johnson,  
Executive Vice President  
Illinois Beef Association*

“The Illinois Pork Producers Association believes that innovative nature of this program will help support the needs of the livestock industry and promotes the renewable efforts being made by our industry and across the country.”

*Jim Kaischuk,  
Executive Director  
Illinois Pork Producers Association*

“The idea that the land application component of our system can be used to develop a model for producing renewable energy and improving water quality is appealing...The City endorses their proposed project and is willing to participate as a partner.”

*John Mohr,  
Mayor  
City of Lexington*

<sup>5</sup> Many small communities throughout rural America lack or have inadequate waste water sanitation departments, primarily because they have limited financial resources to appropriately treat water prior to discharge. This contributes to surface water pollution and other health and safety concerns. In the absence of sanitation departments, individual homes and businesses utilize individual septic tanks and leach fields, which contribute to non-point source water pollution. Some municipalities utilize a two or three stage settling lagoon system prior to discharging waste effluent into the nearest stream (point source pollution). A more effective system for filtering waste effluent to prevent NPS and PS pollution is to irrigate the effluent as a soil amendment for growing biomass (e.g., switchgrass, etc.).

<sup>6</sup>

**Primary Partners:**  
Illinois State University  
Cities of Bloomington/Normal  
Village of Lexington  
Mackinaw River Partnership

**Cost:**  
\$1,200,000

# *Reducing Greenhouse Emissions and Landfill Utilization through Community-Scale Food Waste Composting*

## OVERVIEW

*Illinois State University plans to develop a community scale, economically sustainable model program for composting of food waste generated by the community institutions and businesses.*

## DESCRIPTION

The number of landfills in the US has decreased by 84% over the last 16 years and is continuing to decline while the US population continues to increase.<sup>1</sup> Because of this, existing landfills will be receiving an increasing amount of waste, potentially expediting closure dates. According to a recently released study commissioned by the Illinois Department of Commerce and Economic Opportunity, food scraps make up the largest percentage by weight of material going to Illinois landfills. This same report found that Illinois generates 19% more waste per capita than the national average.<sup>2</sup> Commercial scale food scrap composting presents a significant opportunity to address these findings.

The Illinois State University Farm, an EPA permitted facility, currently composts more than 10,000 cubic yards of material annually. Through traditional wind row operations, the farm composts livestock manure, yard waste from the Town of Normal and a portion of the University's food. During the academic year, the University composts approximately 4,200 lbs of food waste per week. There is considerable interest from other large entities within the community to compost their food waste as well. However, the current system at University Farm cannot handle the amount of food waste generated at other businesses and institutions.

The solution, as proposed herein, is the establishment of a commercial scale composting system run by Illinois State University. If just five of the larger institutions and businesses in the community were able to compost their food waste, an estimated 2 tons of food waste per day or 508 tons per year could be diverted from the landfill. This estimate would more than double if food waste is collected from restaurants, grocery stores, hospitals, nursing homes and other area organizations. In order to have sufficient capacity to process food waste from these and other locations, the program would require commercial scale equipment and an under-roof, over concrete structure to facilitate a year around operation regardless of weather conditions.

McLean County is home to 165,000 residents, several leaders in corporate and industrial business, four institutions of higher

<sup>1</sup> **Clean Air Council.** "Waste Facts and Figures". 15 December 2009. <http://www.cleanair.org/Waste/wasteFacts.html>

<sup>2</sup> "Illinois Commodity/Waste Generation and Characterization Study." **Illinois Department of Commerce and Economic Opportunity**, May 22, 2009.



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education, two hospitals and two school districts. It is an opportune location to launch such a program. However, given that tipping fees in the area are extremely low the business community has shown no interest in entering the commercial composting industry. Fortunately, Illinois State University has the expertise and a proven track record in composting to expand its operations. In establishing this program, the University will design a sustainable and economically viable model that can be replicated in other communities throughout Illinois and the Midwest.

## PARTNERSHIP ACTIVITIES

In addition to the need for processing capacity, collection and delivery of food waste presents an additional opportunity for economic growth<sup>3</sup>. The entities involved would have to establish a separate organic waste stream that would be transported to Illinois State University for processing. This would provide a local waste hauler/recycler an opportunity for a new revenue stream and additional job creation.

In addition to waste reduction for area businesses and institutions, a community composting program would be an ideal educational opportunity for community members and area schools. It would provide research opportunities for faculty and students and is designed in such a way as to be replicable by other communities.

## OUTCOMES AND BENEFITS

- Divert at least 2250 tons of food waste from being landfill annually would save approximately 3000 cubic yards of space in the landfill each year.
- Food waste in a landfill contributes to the generation of methane gas, a potent greenhouse gas. This project would save the equivalent of about 1,845 metric tons of carbon dioxide from being emitted into the atmosphere per year.
- Most recent IEPA estimates suggest that there is a capacity of six years remaining at the McLean County Landfill. Increasing the amount of material diverted from the waste stream will extend the life of the landfill beyond its six year capacity.
- Composting of food waste can be beneficial to building owners/operators when seeking LEED certification for a building.<sup>4</sup> Composting can contribute to the materials and resources section of LEED for Existing Buildings and may count towards an innovation credit under LEED for New Construction.
- This program will create employment opportunities for private industry in the hauling of food waste and at least one position at Illinois State University to operate the equipment. Funding for the Illinois State position would be generated from tipping fees. Early models would indicate a budget neutral cost to participants.

## ACTION REQUESTED

Illinois State University and its partners<sup>5</sup> request funds to purchase and install the appropriate equipment to support a community composting operation.

<sup>3</sup>“McLean County enthusiastically supports the food composting project [and] would be pleased to divert its food waste streams from the Jail, Nursing Home and Juvenile Detention Center to the Illinois State University site, resulting in significant savings for our taxpayers.”

*Walter F. Lindberg  
McLean County Administrator*

<sup>4</sup>LEED stands for Leadership in Energy and Environmental Design. It is a widely recognized green building certification created by the United States Green Building Council. For more information visit: [www.usgbc.org](http://www.usgbc.org)

<sup>5</sup>

### **Primary Partners:**

Illinois State University  
Town of Normal  
McLean County  
Illinois Wesleyan University  
Economic Development Center of  
the Bloomington-Normal Area

**Cost:**  
\$200,000

# *A Model of Community Partnership to Promote Health and Wellness in Families*

## OVERVIEW

*Illinois State University has established a strong community coalition<sup>1</sup> with a diverse group of community agencies and healthcare providers. We want to enhance current efforts by developing and implementing a county-wide model that will support families to address critical health problems. This model, emphasizing good nutrition and increased physical activity, will be developed in McLean County, Illinois, with the ability to disseminate statewide.*

## DESCRIPTION

A critical health issue facing families is the changes in nutrition and physical activity that has resulted in an explosion of overweight and obese children and adults. According to a report<sup>2</sup> by Trust for America's Health (TFAH) and the Robert Wood Johnson Foundation, Illinois has the 27th highest rate of obesity in adults (25.9%) and the 10th highest of overweight youth (34.9%). Obesity is a major factor in over 20 chronic diseases including Type 2 diabetes, heart disease and several forms of cancer. In addition, obesity-related health care costs approximately 117 billion annually. Children who are obese face a wide range of health problems and have their school performance decline as a result. The Executive Director of the TFAH stated, "How are we going to compete with the rest of the world if our economy and workforce are weighed down by bad health?"

The McLean County Wellness was formed in fall 2008 as an effort to provide a coordinated, evidence-based approach to health issues of families, especially lack of physical activity and inadequate nutrition that are the primary factors leading to overweight and obesity. The work of the coalition culminated in a summit attended by 50 healthcare and community agency providers, as well as school personnel who worked to develop innovative strategies to address these health issues from a community-wide perspective. Funds are needed to fully implement this comprehensive approach in which numerous and diverse providers will strategize, implement, and evaluate to establish a county-wide model<sup>3</sup>.

<sup>1</sup>  
Advocate Bromenn Medical Center  
Big Brothers Big Sisters of Central Illinois  
Bloomington Parks, Recreation and Cultural Arts  
Bloomington Public Schools, District 87  
Children's Discovery Museum  
City of Bloomington, IL  
Heartland Head Start  
Illinois State University  
McLean County District Unit No. 5, Normal, IL  
McLean County Health Department  
OSF St. Joseph Medical Center  
Parks and Recreation Department, Town of Normal, IL  
United Way of McLean County

<sup>2</sup> Trust for America's Health and the Robert Wood Johnson Foundation (July 2009), *F as in Fat 2009: How Obesity Policies are Failing in America*, <http://healthyamericans.org/reports/obesity2009/> (January 2010)

<sup>3</sup> "McLean County Unit Number 5 is very supportive of a Model of Community Partnership to Promote Health and Wellness in Families."  
Gary C. Niehaus,  
Superintendent of School  
McLean County Unit 5

"According to the National Initiative for Children's Quality Healthcare, Illinois ranks 40th out of 50 states with 34.9% of children considered overweight or obese. Clearly, a county-wide approach must be implemented very soon to reverse this critical health issue facing families."  
Walt Howe,  
Director  
McLean County Health Department

"Heartland Head Start is very supportive of a Model of Community Partnership to Promote Health and Wellness in Families."  
Deborah Ditchen,  
Executive Director  
Heartland Head Start

"The Bloomington-Normal YMCA is very supportive...[and] requests that this program be funded in FY 2010."  
B.J. Wilken,  
Executive Director/CEO  
Bloomington-Normal YMCA



**ILLINOIS STATE UNIVERSITY**  
*Illinois' first public university*

## OUTCOMES AND BENEFITS

- Expand on an existing data collection project being conducted at Illinois State University in the public schools to document obesity and nutrition levels for the city and region.
- Plan for and conduct a second wellness summit designed to coalesce a community-based model, including specific strategies to address childhood obesity and wellness issues.
- Design and implement data-based and targeted community-wide interventions, to impact the local community and serve as a model that can be scaled up to similar communities around the region and nation.
- Planning short term and long term strategies that will focus attention on reducing risk factors associated with overweight and obese children and adults.
- Collaborating with preschool, elementary, middle, and high schools in McLean County to support programs that address physical activity and nutrition.
- Organizing professional development programs for healthcare, school, childcare and community agency personnel.
- Partnering with media (TV, radio and newspaper) to raise awareness around health issues of families in McLean County.

## ACTION REQUESTED

Illinois State University and its partners<sup>4</sup> request that their state delegation fund this collaborative model to provide a comprehensive sustainable model to help families face critical health problems.

“As you decide upon funding priorities in the upcoming year, we respectfully request that this program be given your full consideration.”

*Chris Koos,  
Mayor  
Town of Normal*

<sup>4</sup>

### **Primary Partners:**

Advocate Bromenn Medical Center  
Big Brothers Big Sisters of Central Illinois  
Bloomington Parks, Recreation and Cultural Arts  
Bloomington Public Schools, District 87  
Children's Discovery Museum  
City of Bloomington, IL  
Heartland Head Start  
Illinois State University  
McLean County District Unit No. 5, Normal, IL  
McLean County Health Department  
OSF St. Joseph Medical Center  
Parks and Recreation Department, Town of Normal, IL  
United Way of McLean County

**Cost:**  
\$500,000

