Federal Initiatives
March 2, 2011

Dear Illinois Congressional Delegation:

The staff and faculty are very pleased to share with the Illinois Congressional Delegation a set of projects for which we will be seeking funding during Fiscal Year 2012.

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 as we seek competitive funding from the federal agencies for these projects and initiatives.

Sincerely

C. Al Bowman, President
Illinois State University
# Federal Initiatives for Fiscal Year 2012

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Executive Summary

Illinois State University is pleased to provide the Illinois Congressional Delegation with twelve exciting projects developed by university faculty and staff. These projects have been endorsed by President Bowman, the Provost, and the Associate Vice President for Research.

Many of these projects represent collaborative efforts between faculty from various parts of the university as well as with agencies, public school districts, and community partners. 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 Mennonite College of Nursing (ISU-MCN) will develop and implement a model to recruit students from diverse backgrounds. Diversification of the pipeline is needed to address the severe shortage of nurses and nursing faculty. The Institute of Medicine (IOM, 2001) notes that severe disparities exist for those from diverse backgrounds, in large part because there is a shortage of health care professionals who represent the cultures of patients who need health care.

DESCRIPTION

ISU-MCN students consistently perform higher than nursing graduates across the nation, with graduates in high demand for employment immediately after graduation. Key indicators of success include high rates of passing the state board exams and graduation rates exceeding those across the nation. ISU-MCN will build on this success by recruiting and retaining students and faculty from diverse backgrounds as well as developing them as leaders. The National League for Nursing (NLN) 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 US population but RNs from diverse backgrounds account for less than 10% of the nursing workforce (Bureau of Health Professions). It is imperative to develop and implement a model to diversify the nursing workforce.

The nursing shortage is predicted to grow as the recession subsides and as the aging nursing workforce retires. The most recent IOM study released in November, 2010 identified that the future of quality health care rests on the future of nursing (Future of Nursing Initiative, 2010), including increasing the percentage of BSN prepared nurses and doubling the number of nurses with doctorates by the year 2020. Given the current and predicted demographic trends, there is a great need to develop state wide models to assess, track, and enhance student interest in nursing and nursing education...particularly for those who come from disadvantaged and diverse backgrounds. ISU will develop a three prong pipeline approach to address this problem including pre-college outreach for successful preparation, college infrastructure for support and retention, and leadership development to ensure a pipeline for nursing faculty, nursing leaders, and nurse practitioners.

1 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 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 IL and beyond.
**Outreach & Recruitment**

Outreach will be made to middle and high schools to develop a pipeline of qualified interested students. Students make their career decisions early, so the earlier the outreach occurs, the better the chance that they will be attracted into nursing. With changing demographics, 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 can be successful once the appropriate infrastructure of support is in place. Research demonstrates that students thrive if basic components are provided including advising, support, and community engagement.

**Development**

ISU-MCN’s model will also focus on developing health care leaders. 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 from the recruitment of future nursing leaders from diverse backgrounds include:

1. Strategic planning for pipeline development, beginning with middle school.
2. Infrastructure and programming created at ISU MCN including mentoring, advising, tutoring, and financial assistance for diverse students.
3. Community engagement with current and future ISU MCN nursing students and others.
4. Interdisciplinary collaboration and partnerships with state wide agencies (CIRCLE) to promote health professions across the state.
5. 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 will be seeking competitive grant funding from federal agencies to develop and implement a model that addresses the present and future shortage of nurses, nurse practitioners, 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 geographic areas.

**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
- Metcalfe School
- University High School
- Bloomington Normal District #5
- Central Illinois Collaborative Regional Effort (CIRCLE)

**Cost:**
$650,000
Underrepresented Student Retention Support

OVERVIEW

Illinois State University seeks funding to bring to scale and institutionalize into a model our successful retention programs for at-risk students. Not only will enhanced programming benefit our students, but our data-driven approach to assessment will inform best practices on a regional and national scale.

DESCRIPTION

Colleges and universities must increase the retention and graduation rates of talented students from traditionally underrepresented groups. Illinois State University is submitting an appropriation request to support student retention initiatives that have shown strong promise for success. In fall 2010, the first-to-second year retention rate for Black/Non-Hispanic students was 80.5% and 82.3% for Hispanic students: very nearly the institutional average. Graduation rates for these groups also place us as a statewide leader among public institutions. However, the six-year graduation rate continues to lag behind the institutional average and thus requires institutional action.

While initial indicators are that our student-oriented, data-driven approach to retention is yielding very positive results, it is not yet at a scale to meet the need. Expanding capacity, programming, and assessment of the specific types of interventions that are most effective will confirm best practices that can serve as a model for other universities.

Illinois State University has designed a range of programs to intervene forcefully and provide support at key points throughout students’ academic careers:

• *Success 101*, a two-credit course, provides support to 120 academically at-risk, predominantly minority freshmen in their first semester. Retention of participating students is now approaching the institutional average, but the program is not yet to scale.

• *Succeed in Spring* provides a continuation of the out-of-class support programs from Success 101, including weekly academic coaching and study skill assistance as well as mentoring on the non-classroom factors that contribute to retention such as community engagement, career development and goal setting.

• *Project Success* is a required academic support program for students on academic probation, serving approximately 1,300 students each academic year. Since the program’s inception in fall 2005, the number of students dismissed for academic

In fall 2010, the first-to-second year retention rate for Black/Non-Hispanic students was 80.5% and 82.3% for Hispanic students: very nearly the institutional average. Graduation rates for these groups also place us as a statewide leader among public institutions.

Demographic data clearly indicate the increasing diversity of the college-age population, a diversity that will be measured not only by race and ethnicity, but also by socio-economic status, cultural background, first-generation college-going status, and other factors that will necessitate a wide variety of responses in our strategies for recruitment and, particularly, student retention through graduation.
reasons has declined to a record low dismissal rate for fall 2010.

- **LinC** is a one-credit, freshman seminar course serving 500 students. It is designed to help students transition to college by helping them identify majors and careers and introducing them to opportunities for campus and community involvement. The program is a part of the Political Engagement Project, a component of the American Democracy Project.

- **Writing and Content Tutoring** provides weekly tutor-facilitated study groups targeting general education courses with high failure rates. Each semester approximately 350 students participate in content tutoring sessions and over 600 students attend one-on-one writing appointments.

- The **MASAI** program (Mentoring, Academics, Scholarship & Achievement Initiative) pairs first year students with upper-class peer mentors. **MASAI** serves 20 to 25 at-risk students.

- **The Transfer Student Seminar** is a full-semester program designed to orient new transfer students to the University, help them meet other transfer students, get involved, and learn important policies, all in an online format.

The effectiveness of these varied retention programs has been strengthened through the creation of the Julia N. Visor Academic Center – a centralized academic service unit located in a residence hall and dedicated to academic support programs.

**OUTCOMES & BENEFITS**

Funding from this initiative will enable the University to bring to scale, assess, and institutionalize our model for minority student retention. We will:

- Increase the capacity of **Success 101**, **Succeed in Spring**, and **LinC** and augment the faculty and student mentorship aspects of the programs

- Enhance tutoring services including providing reading assistance, supplemental instruction, and tutoring in at-risk courses

- Expand mentoring services for at-risk students

- Provide funding to assist minority and low-income students with purchasing textbooks

- Fund data collection on program effectiveness and disseminate assessment results

- Explore the physical expansion of academic support services to other locations convenient to students such as the Student Center or an additional residence hall

**ACTION REQUESTED**

Illinois State University will be seeking competitive grant funding from federal agencies including FIPSE to fund this project, to develop a sustainable model for retaining and graduating minority students.
Center for Emerging Entrepreneurs – A Business Incubator for McLean County

OVERVIEW

Illinois State University and the Economic Development Council of the Bloomington-Normal Area have been collaborating on the development of a business incubator for small to medium sized businesses that will assist regional business development and create opportunities for new jobs in Illinois.

DESCRIPTION

Illinois State University, in conjunction with community leaders in the Bloomington-Normal area, has identified the development and establishment of a business incubator as a key strategy to assist local business to grow and prosper. Over the past several years, ISU and the Bloomington-Normal Economic Development Council (EDC) have collaborated on the initial phases of developing this key resource for the community. Based on recommendations from a comprehensive needs analysis and strong support from the University and local business leaders, the Center for Emerging Entrepreneurs (CEE) is currently being launched on a proof of concept basis.

GOALS

The goals of the CEE are to:

- Facilitate and develop an entrepreneurial culture within the Bloomington-Normal community.
- Facilitate communication and collaboration among small business support and service providers within the community including local universities and colleges, the EDC, the Small Business Development Center, SCORE, etc.
- Grow and provide support to companies that will impact economic development across the area and region.
- Facilitate synergy between ISU faculty, businesses, inventors, and entrepreneurs to provide technical assistance and launch business ventures.
- Diversify the community’s business culture beyond the bread and butter agricultural and insurance industries.

Significant progress has been made during the current proof of concept phase. The CEE, through a series of seminars and individual consultations, has begun to identify a clientele that is actively interested in incubation services. A number of community business leaders and professional service providers have agreed to provide early stage mentoring services to CEE clients. Marketing resources have been developed to promote and interpret the

Business incubators provide opportunities for small businesses to have access to capital, office space, training and seminar education courses, and utilizing personnel as they begin their start-up or maturation process.

Business incubators have been very successful in spurring job creation. The National Business Incubator Association estimates that 500,000 jobs have been created by their clients since 1980. Business incubators also assist these small enterprises to succeed. Members of the National Business Incubator Association report an 87% success rate for their clients.
services of the CEE. Through the leadership of ISU and the EDC, agencies and organizations are working to clarify the unique and important roles that each is contributing to promote small business development within the community. This groundwork will culminate in the formal launch of the CEE in February 2011.

Funding is being requested to propel the incubator into the next major phase of development, which will consist of moving the CEE from a non-facility based proof of concept to a facility-based entity. Research on a national scale indicates the critical importance of providing ways for emerging entrepreneurs to be in close physical proximity to one another. The benefits associated with sharing ideas, strategies, and lessons learned are well documented and clearly understood. Additional Federal funding combined with community resources are needed to launch the CEE into this next level of sustained, facility-based future growth.

OUTCOMES & BENEFITS
The Center for Emerging Entrepreneurs has grown from a close collaboration between the community’s educational and business communities. Every effort has been made to facilitate positive collaboration among key partners and to develop a foundation that will expand small business growth within the community. Key outcomes of the project will include:

- Movement to a facility-based incubator within the next 1-2 years.
- The identification and development of key niche areas including renewable energy, advanced manufacturing, nanotechnology, and biomass production.
- Expansion of the economic development base within the community.
- Coordination of entrepreneurship opportunities and resources within the community.
- Increasing the numbers and diversity of jobs within the region.

ACTION REQUESTED
Illinois State University and the Economic Development Council will be seeking competitive grant funding from the Small Business Administration for the facility-based phase of the Center for Emerging Entrepreneurs.

According to the National Business Incubation Association (NBIA), academic institutions are the most prevalent sponsors of commercial enterprises that have research components. Other types of sponsors are economic development corporations, government entities and nonprofit organizations.

Primary Partners:
The Economic Development Council
Illinois State University
Town of Normal
City of Bloomington
Small Business Development Center
Heartland Community College
SCORE
Illinois Manufacturing Extension Center (IMEC)
Chamber of Commerce

Funding Requested:
$500,000
Reducing Greenhouse Emissions and Landfill Utilization through Community-Scale Food Waste Composting

OVERVIEW

Illinois State University is developing a community scale 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. As a result, 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. Commercial scale food scrap composting presents a significant opportunity to address these findings.

The Illinois State University Farm (an EPA permitted facility) currently comports more than 10,000 cubic yards of material annually. Through traditional wind row operations, the farm comports livestock manure, yard waste from the Town of Normal and a portion of the University’s food. During the academic year, the University comports approximately 4,200 lbs of food waste per week from two of its three dining centers. 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.

One viable solution to the problem is to establish a commercial scale composting system run by Illinois State University. To test the viability of the project, the University recently conducted a four day test of food scrap collection from one supermarket, one nursing home and one campus dining center. In just four days, 2.5 tons of food scraps were collected. Based on this test and the waste audit results of several community entities, the project will be able to divert a minimum of 2,250 tons of food scraps from the landfill. In order to have sufficient capacity to process food waste from these and other locations, the program requires 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 education and hundreds of non-profits. A locally based composting project is in line with many of these community goals, goals that are stated in both the Clean Air Council and the Illinois Commodity/Waste Generation and Characterization Study reports.


education, two hospitals and two school districts, which makes it an ideal location for launching 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 with composting to expand its operations. In establishing this program, the University will design a 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. The entities involved will have to establish a separate organic waste stream that would be transported to Illinois State University for processing. This will 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 will also provide research opportunities for faculty and students. Most important, the project will establish a model that can be replicated by other communities.

OUTCOMES & BENEFITS

- Divert at least 2,250 tons of food waste from being landfill annually would save approximately 3,000 cubic yards of space in the landfill each year.
- Save the equivalent of about 1,688 metric tons of carbon dioxide from being emitted into the atmosphere per year. Food waste in a landfill contributes to the generation of methane gas, a potent greenhouse gas.
- Increase the amount of material diverted from the waste stream, which will extend the life of the landfill beyond its five year capacity. Most recent IEPA estimates suggest that there is a capacity of five years remaining at the McLean County Landfill.
- Contribute to the materials and resources section of LEED for Existing Buildings, which may count towards an innovation credit under LEED for New Construction. Composting of food waste can be beneficial to building owners/operators when seeking LEED certification for a building.¹
- 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 indicate a budget neutral cost to participants.

¹ 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

²Based on the EPA's estimate of a 0.75 emissions factor for food scraps.

Primary Partners:
- Illinois State University
- Town of Normal
- McLean County
- Illinois Wesylan University
- Economic Development Council of Bloomington-Normal
- Midwest Fiber

Cost:
$500,000
A Model of Community Partnership to Promote Health and Wellness in Families

OVERVIEW

Illinois State University has established a strong community coalition including a diverse group of community agencies and healthcare providers. This initiative will enhance current efforts by implementing a county-wide model focused on nutrition, physical activity, tobacco cessation, and chronic disease prevention.

DESCRIPTION

Changes in nutrition and physical activity patterns have resulted in an epidemic of overweight and obese children and adults. According to a report 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. Children who are obese face a wide range of health problems and their school performance declines 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 Coalition was formed in the fall of 2008 to provide a coordinated, evidence-based approach to health issues of families, particularly focused on lack of physical activity and poor nutrition. We have conducted two summits attended by healthcare, school, and community agency professionals, which focused on developing innovative strategies to address nutrition, physical activity, tobacco cessation, and chronic disease prevention from a community-wide perspective.

In 2010, the YMCA of Bloomington, IL (a coalition member) received an ACHIEVE (Action Communities for Health, Innovation and EnVironmental ChangE) grant, which has served to focus the coalition’s work on a variety of policy, systems and environmental change issues. Funds are needed to implement this plan and establish a model that can be modified for use in other communities statewide.

OUTCOMES AND BENEFITS

The model is focused on implementing and assessing the impact of systems changes in several critical sectors including schools (preK-12), workplaces, healthcare, local governments, and other venues. The coalition will work to alter programs, services, and environments to support and enable the adoption of healthy behavior by individuals and families. This is accomplished by

“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

“A recent study published in the journal Population Health Metrics projects that unless current trends are altered, by the year 2050, 1 in 3 adults will be diabetic, up from 1 in 10 today. In addition, obesity-related health care costs approximately 117 billion dollars annually.”


“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

“A recent study published in the journal Population Health Metrics projects that unless current trends are altered, by the year 2050, 1 in 3 adults will be diabetic, up from 1 in 10 today. In addition, obesity-related health care costs approximately 117 billion dollars annually.”

“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
reviewing existing conditions, involving key stakeholders in implementing proactive solutions, and assessing the effectiveness of those efforts. Coalition members have identified several important priorities including:

- Partnering with media to implement a countywide social marketing campaign to promote healthy nutrition (e.g., increased fruit, vegetable, and water consumption) and increased physical activity.
- Enhancing environments such as trails and roadways throughout the county to support human-powered physical activity and commuting.
- Increasing access to school gyms and other recreational facilities to more county residents.
- Providing financial support for residents of lower socioeconomic means to enable their access to commercial fitness centers.
- Working with restaurants to promote healthy menu options. Expanding physical education curricula that emphasize enjoyable, life-long exercise, game, and sport participation.
- Initiating more comprehensive health screening programs in schools.
- Offering free or reduced cost health, nutrition, and smoking cessation classes.
- Encouraging the adoption of smoke-free campuses and spaces throughout the county.
- Developing summer healthy nutrition and physical activity incentive programs for children and parents.
- Testing the effectiveness of “exergaming” in school and non-school settings.
- Promoting policies that encourage healthy meals and snacking in schools and workplaces.
- Organizing professional development programs for healthcare, school, childcare, and community personnel.
- Developing workplace wellness programs with small and medium sized employers with no or limited services.
- Advocating for the adoption of healthy workplace policies and environments among employers throughout the county.
- Encouraging farm-to-fork by raising awareness of benefits and working with local food network and Office of Sustainability on campus.

ACTION REQUESTED

Illinois State University and its partners will be seeking competitive grant funding from Health and Human Services and the Dept. of Education to fund this collaborative model to help families face critical health problems.

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
Improving Treatment Opportunities for Central Illinois Families who have Children with Autism Spectrum Disorder

OVERVIEW

Autism Spectrum Disorder (ASD) affects over 1% of the nation’s children. Three colleges within Illinois State University (ISU), the College of Fine Arts, the College of Education and the College of Arts and Sciences are collaborating to develop a model treatment program to promote the success of children with ASD and their families. Working with community leaders, researchers, educators, clinicians, parents and care-givers, this will result in a model framework which can be replicated nationwide.

BACKGROUND

ASD is a disorder that appears in children before age 3 affecting their development of communication and socialization skills. ASD occurs in all racial, ethnic, and socioeconomic groups at a cost surpassing $9 million dollars annually. Treatment for ASD is varied and often depends on how it is manifested in each individual and the access of families to a variety of services. While the definitive cause of ASD is unclear, prognosis for children diagnosed with ASD is greatly enhanced when therapeutic and educational services are offered at an early age.

DESCRIPTION

Central Illinois families who have children with ASD lack a single site where they can access coordinated services. This model will bring together researchers, educators and clinicians to share evidence-based best practices with colleagues in other disciplines or at other institutions in the community or region. Communication systems and behavioral interventions specific to children with autism will be shared from a cross-disciplinary point of view and provide a forum for families and professionals to work together.

This model will use the arts to provide additional resources to children with ASD offering a means to self-expression, communication, and independence. The arts provide a nonverbal way to communicate and are particularly effective in working with children with autism. Children with ASD can benefit from effective adapted strategies from the arts as a vehicle for communication and social interactions as drivers not just of social development but also of cognitive development.

ISU and its partners will establish a treatment center with coordinated services in education, speech and language, counseling and the arts, reflecting the diverse needs of children living with ASD and their families. The intersections of each of these departments of special education, communications, sciences and disorders, and psychology along with the college of fine arts, graduates over 500 undergraduate students and nearly 100 graduate students each year that could participate in the Autism Certificate Program at ISU thereby positively affecting the next generation of children and families with ASD.

The Departments of Special Education, Communications, Sciences and Disorders, and Psychology along with the College of Fine Arts, graduates over 500 undergraduate students and nearly 100 graduate students each year that could participate in the Autism Certificate Program at ISU thereby positively affecting the next generation of children and families with ASD.

“I have heard from many Illinois families who face numerous obstacles as they try to help a family member who suffers from autism. I introduced the Autism Treatment Acceleration Act (S. 819) to authorize federal funding for services, treatment, support, and research on autism spectrum disorders. This bill offers a comprehensive approach to improve the quality of life for many individuals with autism spectrum disorders and their families.” (Richard J. Durbin, United States Senator)

In the state of Illinois alone, with nearly 26,000 families affected by autism, numbers of children with ASD has risen from 9,455 in 2006 to a projected 28,000 by 2010. (Centers for Disease Control and Prevention (CDC), most current statistics)

Families scramble from one service to the next and typically find access to other services by word-of-mouth through parents of other children with autism. Parental involvement is paramount to an effective treatment plan enabling therapy and classroom learning to be extended to the home.

“...”
therapeutic strategies will be investigated with the goal of helping children understand social and emotional experiences from multiple perspectives while meeting the needs of the community.

OUTCOMES & BENEFITS
The expected outcomes of the ASD treatment center include:

- Design and implement a family resource support system to include a web-based component providing a clearinghouse of reliable resources, discussion facilitation, resource sharing as well as a family clinic to provide specific recommendations to families and multi-disciplinary assessments of their individual child.
- Seek professional affiliation with the VSA (formerly known as Very Special Arts) organization sharing best practices and strategies for children with ASD to learn through, participate in, and enjoy the arts.
- Organize an ASD public education and awareness campaign to increase community awareness and support.
- Plan for and conduct an ASD Multi-disciplinary Community Model Treatment 3-day conference/forum for collaborating organizations, families with children with ASD, and public and private school districts throughout central Illinois.
- Develop evidence-based, effective autism services designed to offer multi-disciplinary, well coordinated and comprehensive strategies for children diagnosed with ASD.
- Organize a series of professional development sessions for teachers, teacher-aids, bus-aids, child-care providers, and pre-professionals addressing the diverse concerns in serving the needs of children with ASD and their families.
- Advance teacher training initiatives by creating an Autism Certificate Program at ISU recognizing specialized training for pre-service teachers across a number of disciplines/domains.
- Establish an autism treatment center impacting more than 16,000 families a year in central Illinois offering a multi-disciplinary, comprehensive approach to improving the quality of life children with autism spectrum disorders and their families.

ACTION REQUESTED
Illinois State University’s College of Fine Arts, College of Education, and College of Arts and Sciences will be pursuing competitive grant funding from federal agencies to support the development of the ASD Multi-disciplinary Community Model Treatment Program and implement it at the Autism Treatment Center. The Center will provide these important services and contribute to the development and well-being of children with ASD, their families, caregivers, and teachers (both current and future).

Using creative drama and visual communication tools aid a child's understanding and ability to communicate.

The child who cannot communicate effectively through words can find a voice in expressing themselves through dance or painting. Children who have deficits in speech and language are able to participate fully and find success in expressing themselves through the arts.

The annual cost of treating and supporting individuals with autism spectrum disorders in the United States can be as high as $90 billion. In 10 years, the annual cost could be as high as $200 to $400 billion. Ninety percent of these costs are for adult services. As the incidence of autism continues to rise, the stress on the adult service system will greatly increase. (www.art-therapy.us)

Primary Partners:
Autism Society of America, Central Illinois Chapter
Autism Society of McLean County
Department of Human Services
Easter Seals Peoria-Bloomington, Illinois
Hammit School of the Baby Fold
Heartland Head Start
Illinois Association for Music Therapy
Illinois State University
MARCFIRST/SPICE
McLean County Health Department
McLean County Public School Districts Unit 5 and District 87
Music Connections Foundation
National Organization for Music Education
Special Olympics
The Autism Program - Illinois State University (ISU) Affiliate Site
The Autism Program of Illinois
Thomas Metcalf Laboratory School/Fairchild Hall
Tri-County Special Education Association

Cost:
$750,000
Elementary Education Collaboration (EEC) for Central Illinois Urban Communities

OVERVIEW
The Illinois State University Elementary Education Collaboration (EEC) is a proposed project developed among these partners to improve the long-term effectiveness of Elementary Education services, specifically in the area of elementary literacy.

DESCRIPTION
Illinois State University has enjoyed long partnerships with the school districts in Peoria, Springfield and Decatur, Illinois. Educational leaders in these small, urban Central Illinois communities face similar challenges when they seek to increase students’ achievement in reading. Reading ability is a key predictor of academic achievement, and early childhood education is an important factor in assuring that every child acquires the reading knowledge and skills necessary to make adequate academic progress.

The project is designed to serve high need demographic areas by providing opportunities for teacher candidates to obtain Baccalaureate degrees in Elementary Education and Master’s degrees in Elementary Literacy. The EEC will establish a partnership between Elementary Educators in the Department of Curriculum & Instruction at Illinois State University and local community colleges in Peoria, Springfield and Decatur. The project will target teacher candidates and inservice teachers who would benefit from access to literacy programs to support these educators in attaining degrees and enhancing their skills throughout their professional careers in the area of literacy and reading instruction.

RATIONALE
In partnership with regional offices of education and local community colleges, the faculty at Illinois State University (ISU) proposes a new collaborative project to improve the quality and increase the numbers of Elementary literacy experts in the state of Illinois. Illinois State University Elementary Education Collaboration establishes new linkages between the community colleges and Illinois State University. Our focus in developing this partnership is to provide high-quality Elementary Education teachers to meet the demands in high needs areas of Peoria, Springfield and Decatur, Illinois.

Through this project, teachers will earn a Baccalaureate degree or Master’s degree with an emphasis on elementary education and literacy. Currently, paraprofessionals work in elementary schools, while struggling to find ways to go back to school to complete their Baccalaureate degrees or to pursue advanced degrees in

GOALS & OBJECTIVES OF EEC
1. Recruit and mentor educators in Elementary Education.
2. Offer academic coursework, both face-to-face and online, on-site clinical experiences and other support mechanisms to assist participants in degree attainment.
3. To create, develop, and offer curriculum that will assist educators in enhancing the literacy and numeracy skills of young children.
literacy instruction (a high need area in elementary schools). The EEC will provide both funding and nontraditional course offerings (online and on nights/weekends) to accommodate the needs of nontraditional students. In addition, students will be able to take a number of courses during the summer when most professional educators may not be working.

BASIC FUNCTIONS
1. Offer academic coursework and various professional training models to support pre-service and in-service Elementary Education teachers for academic success.
2. Develop curricula that will assist teachers to enhance literacy and numeracy diagnostics, intervention and instruction.
3. Provide tuition support to pre-service paraprofessionals in elementary education as they seek to complete their degree programs, and assist inservice elementary education teachers in completing their Master’s degrees with an emphasis in literacy.

SUMMARY OF BENEFITS TO PARTNERS
The benefits to all partners and stakeholders include but are not limited to the following:
- Provide a consistent increase in the number of qualified teachers, literacy coaches or other teachers with literacy endorsements to meet the needs of the surrounding central Illinois communities.
- Provide financial and academic support to meet the needs of area education agencies and schools.
- Partners will see each other as valuable resources to provide long-term professional development in Literacy Education.
- Ensure that teachers and paraprofessionals have alternative ways to gain college credit (e.g., evenings, weekends, summer and online course options.
- Accommodate non-traditional coursework schedules to counteract the stresses of working, families, and jobs.
- Increased and shared theoretical and practical knowledge relevant to English Language Learners, literacy and numeracy, and school success and other issues of cultural and linguistic diversity.
- Improved classroom practice in classrooms.
- Improved content for curriculum development and pedagogy for faculty.

ACTION REQUESTED
Illinois State University and its community college and school district partners will be pursuing competitive grant funding from the Department of Education to support our efforts to recruit and prepare teachers for literacy instruction.
The Illinois STEM Initiative: Engineering Pipeline in Illinois schools

OVERVIEW

Illinois State University has an excellent Center for Mathematics, Science and Technology (CeMaST) with a long history of integrated STEM curriculum development and professional development for secondary school teachers. We have partnerships with schools and districts across the state of Illinois to promote science technology and mathematics knowledge among teachers and their students. Illinois State University will enhance the Engineering curriculum and develop a pipeline from engineering student to engineering professional in Illinois so that CeMaST can bring engineering education into Illinois through integrated STEM.

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 provided courses 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 in a new and environmentally sustainable green economy.

Custer and Daugherty (2009) identified that “despite this growing interest [in engineering education], significant challenges will have to be addressed before engineering is accepted as an integral part of the K–12 curriculum. The primary challenges are: to identify a slot in the curriculum to house engineering; to identify a body of content; to convince policy makers, school administrators, and parents of the importance of engineering education; and to prepare teachers to effectively convey engineering content and concepts” (p. 18). CeMaST has a role in several of those challenges, including 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. However, the integration of engineering concepts into other content areas is not the end goal. We believe that in the long term, CeMaST has a role in the development of an infrastructure that supports engineering as a content area for Illinois K-12 schools and a pipeline for engineers in Illinois. 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.

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 leading to a new certification and endorsement in secondary engineering education.

OUTCOMES & BENEFITS
- Increased recruitment of students into STEM courses.
- Increased participation of youth to pursue Engineering 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.

ACTION REQUESTED
Illinois State University and its partners are seeking competitive grant funding from the National Science Foundation and the Department of Education to fund help students learn engineering concepts and career orientation.

Primary Partners:
Illinois State University
Chicago Public Schools
Peoria Public Schools
Rockford Public Schools
Springfield Public Schools

Cost:
$300,000
Public School/University Alliance to Stimulate Student Interest in Career and Technical Education

OVERVIEW

The Chicago Public Schools and Illinois State University 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 (ISU) 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, 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 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 of this initiative are seeking competitive grant funding from the National Science Foundation’s Advanced Technological Education program for this project designed to enhance the “pipeline” of young workers into the advanced technology areas and CTE teaching.

Primary Partners:
Chicago Public Schools
Department of Technology at Illinois State University

Cost:
$1,500,000
Web -Mapping For Hazard Preparedness In Illinois

OVERVIEW
The Institute for Geospatial Analysis and Mapping (GEOMAP) will use state-of-the-art geospatial and mapping technologies to enhance understanding, preparedness, and response to the challenges confronting Illinois from various hazards and threats.

DESCRIPTION
Maps and geospatial data serve a critical role during the planning, mitigation, response, and recovery stages for hazards and threats of many types. For example, the earthquake in Haiti demonstrated the tremendous value of web-enabled mapping infrastructures for identifying locations of victims, reporting hazard locations to the public, and estimating populations at risk in a time-sensitive manner. The dissemination of maps and geospatial datasets requires coordination between multiple partners. Recent developments in server-oriented architecture (SOA) technologies have revolutionized the manner in which on-demand maps and geospatial data can be delivered via the web. These developments hold great promise in the realm of hazard mitigation and response.

We propose to develop a web-enabled GIS mapping application that may serve as a centralized atlas and repository of critical hazard maps and geospatial data for the state.

SCENARIOS DEMONSTRATING THE CRITICAL NEED FOR THE PROJECT
The following hypothetical scenarios demonstrate the critical role for the proposed system within the state:

Scenario A: Local governments in four adjacent counties wish to conduct a training exercise to examine the impacts of a hypothetical terrorist attack across county boundaries. Web-mapping applications will be used to analyze potential risks and identify the location of the nearest emergency facilities.

Scenario B: A major flood occurs along one of the major river systems in the state. Time-sensitive satellite imagery will be uploaded to the web mapping application to provide critical updates about the extent of the flooding to other agencies and the general public.

Scenario C: A tornado strikes a rural community. Damage from the tornado may be reported by community officials or the
general public, which then will be mapped via the web-mapping application, detailing the damage at each location. As disaster teams arrive at the scene, GPS data will improve situational awareness and response.

SIGNIFICANCE OF PROJECT

- **Access to hazard maps and geospatial datasets in a timely manner** by planners, decision-makers, educators, emergency responders, and the general public remains a significant challenge. The project will improve the state’s preparedness for future hazards and threats.
- **Recent technological developments** in web 2.0 technologies, crowd-sourcing, social networking, web-mapping services, cloud computing, wireless network access, and mobile devices provide great potential for **improving collaboration and sharing of hazards maps and geospatial datasets.**
- **Rural counties** would benefit from **increased access to key maps and datasets and spatial analysis capabilities** for exploring potential impacts of hazards in their region of the state.

OUTCOMES

The Institute will develop a web-enabled GIS mapping application, based on the latest developments in web-mapping technology, that will serve as a centralized repository of critical hazard maps and geospatial data. The web-enabled GIS application will feature the following functionality and characteristics:

- **Mapping capabilities** that display hazard events in conjunction with other key datasets (e.g., aerial imagery, population, etc.) in an interactive, digital atlas format
- **Analytical tools** for “what if” scenarios and estimating the spatial extent of hazard vulnerability and impacts
- **Collaborative features** that encourage agencies and organizations to contribute their data in an efficient manner
- **Updated frequently** to allow timely sharing of data as soon as they are collected during hazard events
- **Easily accessible** to anyone via the web, including field personnel via mobile devices (e.g., smart phones, laptops, etc.)

Once developed by GEOMAP, the web-enabled mapping framework will be available to be administered and maintained by other state agencies.

ACTION REQUESTED

The Institute for Geospatial Analysis and Mapping (GEOMAP) at Illinois State University is pursuing competitive grant funding from federal agencies to fund this project to develop the web-enabled GIS mapping application to prepare for the State’s future environmental and social challenges from hazards and threats.

“Technological hazards are those that are caused by tools, machines and substances that we use in our everyday lives. The major technological hazards that Illinois faces are hazardous materials (e.g., hazardous substances, petroleum, natural gas, synthetic gas, and acutely toxic chemicals). The term Extremely Hazardous Substance (EHS) is used in Title III of the Superfund Amendments and Reauthorization Act of 1986 to refer to those chemicals that could cause serious health effects following short-term exposure from accidental releases. Illinois has more than 7,000 fixed facility locations that report the presence of an EHS in federally mandated threshold amounts.”

Source: http://www.state.il.us/iema/planning/HazardInfo.asp#Tech

“What did the drought cost Illinois’ farmers? In mid-August, the head of the Illinois Farm Bureau estimated that the loss to farmers would be $2 billion, as measured from 2004 incomes when yields set all-time record highs (Shipman, 2005a). Loss estimates issued later were less, with crop experts claiming losses slightly would exceed $1 billion (Biemer, 2005). The USDA stated on September 20 that the drought loss in Illinois would be $1.3 billion (The News-Gazette, September 21, 2005).”

Source: http://www.isws.illinois.edu/pubdoc/IEM/ISWSIEM2006-03.pdf

Satellite image of flooding along the Mississippi River between Illinois and Missouri, June 2008.

**Cost:**

$750,000
**MyEntreNet: Supporting Rural Entrepreneurship**

**OVERVIEW**

For the benefit of rural communities, Illinois State University will replicate the highly successful MyEntreNet program, originally developed at the University of Northern Iowa (UNI), designed to support rural entrepreneurs. Rural entrepreneurs are often disconnected 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 successful rural economic development model program. Illinois State University will work with UNI to launch the program in Illinois.

**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 then entrepreneurs receive a discount for upcoming training events. The entrepreneurs leave feeling supported and connected.

MyEntreNet staff and their programs “touch” each entrepreneur 6 times throughout 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.

With the expansion broadband technology through the Central Illinois Rural Broadband Network and the new Center for Emerging Entrepreneurs, MyEntreNet will better serve rural businesses as they grow in Illinois. Webinars and on-line discussion forums through MyEntreNet use broadband access to further local economic development. 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 cities which leaves communities without an entrepreneurial spirit and diminished capacity. In short, the stabilization of rural economies is central to the stability of the nation as a whole.
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 their state 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 ISU. 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 5 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 ISU have conducted planning meetings. The new Center for Emerging Entrepreneurs will use MyEntreNet to provide online services to growing businesses. The Central Illinois Regional Broadband Network will physically connect public buildings, hospitals, and libraries in 17 Central Illinois communities with high-speed internet access. This infrastructure will allow rural entrepreneurs to more effectively use MyEntreNet services.

OUTCOMES & BENEFITS
- Expansion of a tried, tested, and successful rural economic development program into Illinois, a state 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
- Stabilization of rural economies hurt by the current economic climate
- Support for a growing economic development program in Iowa

ACTION REQUESTED
Illinois State University is pursuing competitive grant funding from the SBA and Dept. of Agriculture for this project.
Wind for Schools in Illinois

OVERVIEW

The Center for Renewable Energy at Illinois State University will create and implement a Wind for Schools program for the state of Illinois. The Center for Renewable Energy will partner with K-12 schools throughout the state to support the implementation of wind energy-related curriculum in the areas of science, math, and technology (STEM learning). The Center will also provide technical support for the schools in the areas of wind resource measurement, data analysis, and ultimately the installation of wind turbines at participating K-12 schools throughout Illinois.

DESCRIPTION

Illinois is a leader in commercial wind farm development. Illinois led all other states in the U.S. for wind capacity brought online in the first three quarters of 2010, and the two largest wind projects brought online in the same time period were both located in Illinois. Despite the growth of commercial wind development across the state, wind energy education in Illinois is lacking. Misunderstandings about power, energy, electricity and wind energy in particular are abundant. Nevertheless, it is our experience that students are extremely motivated to learn about these very concepts. They recognize that energy-related issues will play a large role in their lives and are eager to learn about how they can impact the world around them. By utilizing a hands-on approach wherein students learn about energy issues, collect real-world wind data, analyze the data using scientific methods, install a wind turbine at their own school and continually monitor its performance, we can inspire the next generation of leaders, engineers and scientists that will be necessary for the country’s energy future.

To create and implement the Wind for Schools program, the Center for Renewable Energy at Illinois State University will partner with the Illinois Institute for Rural Affairs at Western Illinois University, the Illinois Clean Energy Community Foundation, the Illinois Department of Commerce and Economic Opportunity, the Illinois Energy Office, the National Renewable Energy Laboratory and the U.S. Department of Energy’s Wind Powering America program. By leveraging the knowledge and core competencies of each institution, the Center will assist schools with the implementation of innovative, age-specific energy curriculum that will challenge and engage students.

The approach of the Illinois Wind for Schools program will be to provide resources and generate excitement about wind energy.
across the widest possible population of K-12 schools while selecting strategic partner schools with whom to work intensively. Annual curriculum workshops will be held for all Illinois schools interested in wind energy curriculum implementation. The partner schools will receive intensive on-site wind energy curriculum workshops as well as technical assistance to enable them to rapidly implement curriculum and establish an on-site wind resource assessment program. The Center for Renewable Energy will install meteorological towers at the partner schools in order to measure the on-site wind resource, and then help the schools apply the data both in the curriculum and in wind turbine project planning. At the end of the resource assessment phase, the Center will assist the schools in the construction of a small wind turbine on school grounds, and the students will thereafter be responsible for studying and monitoring the turbine’s performance.

The Wind for Schools project will raise awareness and improve understanding of wind technology by engaging students, parents, teachers, administrators and the community. The wind turbine facilitates exciting, hands-on educational opportunities, especially in the areas of science, math and technology. In addition, a wind turbine located at a school provides students and teachers with a physical example of how communities can take part in directing the economic and environmental future of the nation.

OUTCOMES

• Wind energy curriculum development
• Annual curriculum workshops for STEM teachers
• Installation of meteorological towers and small wind turbines at schools
• Engagement of students with hands on experiences with turbines and wind data monitoring
• Community and parental involvement and engagement
• STEM related applications

ACTION REQUESTED

Illinois State University will be pursuing competitive grant funding from the Departments of Energy and Education to fund this project to launch a model, pilot project focused on wind energy in the schools across Illinois.

Primary Partners:

Illinois State University
Western Illinois University
Illinois Clean Energy Community Foundation
Illinois Department of Commerce and Economic Opportunity
Illinois Energy Office
National Renewable Energy Laboratory
U.S. Department of Energy Wind Powering America program

Cost:
$500,000