STATE OF ILLINOIS

ILLINOIS INNOVATION TALENT

2011-2012 ACADEMIC YEAR

REQUEST FOR APPLICATIONS

ILLINOIS DEPARTMENT OF COMMERCE AND ECONOMIC OPPORTUNITY

ILLINOIS STATE BOARD OF EDUCATION

ILLINOIS DEPARTMENT OF TRANSPORTATION

Pat Quinn, Governor of State of Illinois
Warren Ribley, Director of Illinois Department of Commerce and Economic Opportunity
Chris Koch, Superintendent of Illinois State Board of Education
Ann L. Schneider, Secretary of Illinois Department of Transportation
PROGRAM DESCRIPTION

2011-2012 Illinois Innovation Talent

The Illinois Department of Commerce and Economic Opportunity, the Illinois State Board of Education and the Illinois Department of Transportation hereby issue a Request for Application from schools interested in participating in the 2011-2012 Illinois Innovation Talent (ILIT) program.

*Awards made in response to this RFA will be contingent upon the availability of state funds and federal funds appropriated and released only for the purposes authorized by this Law. Per the Stevens Amendment 37.5% of these funds are funded with 21st CCLC federal funds.*

Program Goal and Background

The goal of the ILIT program is to demonstrate how industry-sponsored problems can exemplify the Race to the Top STEM Learning Exchange functions at the middle and high school level where interdisciplinary teams of students collaborate on real-world problem-based learning (PBL) challenges designed to improve student achievement and increase college and career readiness.

Recognizing the need for students to become globally competitive, a public-private partnership formed in 2008 to design an initiative to promote innovation-centered education and increase student achievement in science, technology, engineering, and mathematics. This initiative connected schools with industry, government and community partners to critically examine and solve complex real-world problems as part of a work-based learning experience involving teams of students. ILIT demonstrates one of the work-based learning functions of the STEM Learning Exchanges as described in the State of Illinois' Race to the Top proposal.

Stipend and Support

Participating teams will receive a $5,000 stipend to cover project-related costs. For more information on allowable expenses see the budget description on page 5.

In addition, schools will receive professional development training on problem-based learning and technical assistance from the Illinois Mathematics and Science Academy (IMSA).

Timeline

January 5, 2012 .................Informational Webinar (voluntary) 3:30-4:00 p.m. (see p. 3 for more details)
January 20, 2012..............Applications are due.
January 31, 2012..............Applicants notified of their selection.
February 10, 2012.............Participants attend professional development day at IMSA for problem-based learning training, meet challenge sponsors, and develop implementation plan.
February TBD, 2012...........Participants attend professional development day at IMSA or at sponsor’s facility to collaborate with sponsor and finalize implementation plan.
February - April 2012...........Participants implement challenges, collaborate with sponsors, and receive on-site training from IMSA.
May 2012..........................Participants present their findings to their challenge sponsor and attend a project-sharing event to be organized by IMSA.
The list below represents the challenge sponsors and statements that applicants are to select from. Up to five applicants will be selected for each challenge. Those challenges marked with an “*” require that eligible applicants be 21st Century Community Learning Centers which have received funding in FY08-FY12. All other challenges require applicants to be either a middle school or high school.

**Information Webinar:** A webinar will be hosted by The Illinois Department of Commerce and Economic Opportunity, the Illinois State Board of Education Innovation and Improvement, and the Illinois Department of Transportation on Thursday, January 5, 2012 at 3:30 – 4:00 p.m. to describe and explain the information necessary for submission of the proposal to the Illinois Innovation Talent (ILIT) Request for Proposal. Applicants eligible to apply are those who are serving middle and high school students and are schools or FY 08 - FY 12 21st Century Community Learning Centers. Applications are due January 20, 2012. Register at [http://www.isbe.net/grants/html/webinar.htm](http://www.isbe.net/grants/html/webinar.htm) -- you will then receive an auto email with additional information for connecting to the webinar.

* Challenge 1: Abbott - Neuroimaging as a Tool to Advance the Treatment of Alzheimer’s Disease. Alzheimer’s disease is a neurodegenerative disorder characterized by cognitive decline and the presence of plaques and neurofibrillary tangles in the brain. Neuroimaging techniques such as positron emission tomography (PET) and magnetic resonance imaging (MRI) have been successfully used in the clinic to diagnose Alzheimer’s disease based upon either plaque load or structural atrophy of brain regions involved in cognition. Scientists at Abbott are interested in comparing the sensitivity and specificity of PET and MRI for accurate diagnosis of Alzheimer’s disease and their predictive value for cognitive improvement in a clinical trial.

* Challenge 2: Illinois State University Center for Renewable Energy and Western Illinois University Illinois Institute for Rural Affairs - Renewable Energy Challenge. Students will explore how to integrate renewable energy alternatives, including wind and solar power applications, to support their school and/or community infrastructure. As Illinois continues to develop clean, renewable, and reliable energy solutions to support sustainable living, students are challenged to develop product designs, implementation strategies, and community outreach activities.

* Challenge 3: Metropolitan Chicago Healthcare Council (MCHC) - Preventing Prescription Poisoning. Each year the Illinois Poison Center at MCHC handles over 90,000 calls regarding possible poisoning across the state. Over the course of time, IPC has seen illness and death from prescription drug overdoses reach epidemic levels, especially those involving the abuse or misuse of opioid pain medications. Increasing awareness and providing education on this issue is a vital step in combating this disturbing trend. These messages should target people above age 12, and should resonate despite a culture that views medicine as universally safe and less dangerous than illegal street drugs.

**Challenge 4: Illinois Department of Transportation (IDOT) - Freeway Interchange Innovations.** IDOT seeks innovative designs for future freeway interchanges to address the recommendations by the American Society of Civil Engineers (ASCE) Illinois Section in its 2010 Illinois Local Report Card. ASCE called for “innovative thinking and solutions from all sectors”
and recommended that IDOT “repair, improve and expand the Illinois surface transportation system and implement strategies to decrease the highway congestion to relieve the congestion costs for travelers and aid economic development.” Solutions should incorporate environmentally friendly components that would also support transportation growth, including possible changes to laws and regulations.

**Challenge 5: Illinois Department of Transportation and URS Corporation - Sustainable Bridge Design.** IDOT seeks innovative bridge designs to address the recommendations by the American Society of Civil Engineers (ASCE) Illinois Section in its 2010 Illinois Local Report Card. ASCE recommended that IDOT “build better bridges with sustainable concepts for service lives beyond 100 years and adopt new technologies to extend the life and performance of bridge components.” Solutions should incorporate environmentally friendly components that would also support transportation growth, including possible changes to laws and regulations.

**Challenge 6: Center Point Properties - Creating More Efficient Supply Chains.** Center Point Properties seeks design and model examples of ways to improve supply chain efficiency for shipping goods locally, regionally, nationally and internationally. Center Point was the first large scale industrial developer to successfully develop co-located or integrated industrial distribution centers adjacent to intermodal rail facilities. Reducing the road miles that products need to be moved and increasing the efficiency of the methods for moving these products can result in cost savings for IDOT, companies and consumers and environmental benefits for everyone.

**Challenge 7: University of Illinois - Illinois Food System Design.** The University of Illinois Local Foods Project seeks a food system design (production, preservation, and storage) to reduce the obstacles for meeting consumer demand for more locally produced food. Currently over 90 percent of the food consumed by Illinois residents is imported from other states and countries, even though Illinois farmland is some of the most productive in the world. To use greenhouses and hoop houses that extend the growing season, Illinois food producers need cost-effective sources of heat without additional impact on the carbon footprint. To extend the year-round availability of locally grown foods, innovative methods for food storage and preservation need to be explored to maintain food quality and taste.

**Challenge 8: Bison Gear - A Working Mechanism Utilizing ServoNOW.** Bison Gear & Engineering is challenging students to design and make a mechanism that will interface with the ServoNow driver and demonstrate the capabilities of Bison’s ServoNOW integrated servo motor and control system. ServoNOW is ideal for repetitive, single axis linear motion control applications such as a robotic arm, a conveyor with a sorter/diverter, and an automatic door or gate application.

**Challenge 9 by Invitation Only: Baxter - Preventing Hospital-Acquired Infections.** Many of Baxter’s products are used to treat chronic diseases in critical care settings. Hospital-acquired infections account for 100,000 deaths worldwide and a cost of $35 billion annually in the U.S. Baxter is seeking innovative ideas for avoiding preventable hospital-acquired infections and improving the quality of health care for patients by reducing complications and simplifying treatments/devices via new innovations and technologies. Note: Applicants for this challenge are by invitation only; if you have questions about eligibility please contact Jason.Tyszko@Illinois.gov.
APPLICATION REVIEW AND IMPLEMENTATION PLAN DEVELOPMENT

Step 1: Complete the Application - Due Date: January 20, 2012

Up to 40 teams will be selected based on the evaluation criteria listed in the application (p. 6). An interagency review panel will provide funding recommendations to the Director of DCEO, Secretary of IDOT, and the Superintendent of ISBE. Funding agencies reserve the right to negotiate with any applicant. Teams will be notified of their selection by January 31, 2012.

Step 2: Develop Implementation Plan - Due Date: February 28, 2012

Teams invited to participate will be required to attend two professional development days in February 2012 at which time teams will complete and submit for approval the following:

1) Implementation Plan: Learning Experience Design (unit plan) and work plan that details how projects will meet the goals of the program, leverage support from the sponsor, and be completed with submission of final documents (final budget and final Learning Experience Design with student artifacts and teacher reflections) by the grant deadline (June 15, 2012).
2) Budget: Line item budget detailing how stipends will be used for staff time, resources, transportation, and other allowable expenses.
3) Partnership Agreement Form: All teams will sign an agreement with their challenge sponsor that details roles and responsibilities and certifies that they will work collaboratively to execute the agreed upon implementation plan.

Budget Information

Participating teams are allowed to request up to $5,000 in a stipend that may be used for any reasonable and necessary expense related to the successful completion of the program. $4,500 will be disbursed, pending availability through the state comptroller, upon submission of items in Step 2; the remaining $500 will be disbursed upon submission of final Learning Experience Design with student artifacts and final budget. Project expenditures must meet the following requirements:

- Costs must be incurred during the authorized project period: February 2012 - May 2012;
- Costs must be directly related to an allowable cost category;
- The monetary value assigned to the costs must be reasonable given the function or activity being performed that generates the matching expense;
- Stipend funds may only be used to support teacher salaries for the hours worked on the program beyond their normal working hours; and
- Stipends may be used to cover expenses for substitute teachers during the 2-day introductory workshop to be held in February 2012 as well as the May 2012 project sharing event (dates to be determined).

The following costs are disallowed under the terms of agreement for use of the stipend:

- Funds are not to be used to cover salaries for teachers or substitutes during normal hours of school operation except as noted above;
- Funds may not be used for stipends or wages paid to students;
- Funds may not be used to pay wages of teachers working in short-term, part-time, internship or similar work experience arrangements;
- Funds may not be used to pay any bonus or commission for the purpose of seeking approval of the grant application, or to pay any costs to consultants or contractors for the preparation of the grant application; and
- Funds may not be used to cover clothing or food-related expenses unless justified as a legitimate requirement.
2011-2012 Illinois Innovation Talent Application Cover Page

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<th>Challenge Project Director or Authorized Official</th>
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Desired PBL Challenge (rank indicates 1st, 2nd, and 3rd choices)

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<tr>
<th>Rank</th>
<th>PBL Challenge Number and Sponsor (use bold-faced name from pages 3-4)</th>
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Note: Eligible applicants for challenges #1, 2, and 3 must be 21st Century Community Learning Centers which have received funding in FY 08 - FY 12. Eligible applicants for challenge #9 are by invitation only.

Narrative: Include in your application responses to the sections below. The narrative should not exceed 5 pages in length in 12 pt. Times New Roman font.

- **Targeted Challenge and Commitment to Innovation**: Explain why you selected the challenges identified above, including specific references to curriculum alignment, career exploration, or student and faculty interest. Describe how your organization's mission is consistent with the ILIT goals to promote innovation-centered education and college and career readiness.

- **Challenge Project Director Qualifications, Team Experience, and Capacity to Manage Interdisciplinary Student Projects**: Provide an overview of the qualifications and experience of the project director in managing projects with business, government and/or community partners and interdisciplinary educator teams. Identify members of the proposed teacher team and their qualifications. Priority will be given to teams that involve multiple disciplines, including career and technical education.

- **Capacity to Work with Business, Government and Community Partners**: Describe recent partnerships with business, government or community entities and how they support student engagement and learning.

- **Targeted Students and Recruitment**: Describe the student population, including grade level, which will participate and specify the recruitment and selection process and how it will include populations underrepresented in STEM fields, such as women, minority, disabled and low-income students.

- **Project Implementation Strategy and Schedule**: Explain in as much detail as possible how your team plans to implement the project within the project timeframe.

Submission of Application

Submit all application documents electronically as one attachment in Microsoft Word or PDF format to Jason A. Tyszko (Jason.Tyszko@Illinois.gov) at the Illinois Department of Commerce and Economic Opportunity. Application documents include a Cover Page, Narrative, and signed Applicant Certification Form. Facsimile or mail submissions will not be accepted. For technical assistance please contact Jason A. Tyszko via email or phone at 312-814-2316. Applications are due no later than 5:00 p.m. CST on January 20, 2012.
Applicant Certification Form

General Certifications

The applicant certifies that all information contained in this application, including attached documentation is accurate, complete and true to the best of its knowledge. The applicant also certifies that it is an organization in good standing.

Commitment to Attend Required Activities

The applicant guarantees that, if selected, the appointed educators will attend the required February 10, 2012 PBL workshop to be held at the Illinois Mathematics and Science Academy in Aurora, and additional February date at the industry partner location and the May presentation event (date/location to be determined). The applicant also understands the funding will be released only upon submission of an approved Work Plan (Implementation Plan, Budget and Partnership Agreement Form) after the February PBL workshop.

Commitment to Collaborate with External Partner

The applicant agrees to collaborate with their assigned external partner on a problem-based learning challenge selected by the applicant. The applicant understands that they will be introduced to the partner at the February 10, 2012 PBL workshop.

Audit and Project Reporting Requirements

The applicant understands that if its application is funded, it may be subject to an audit of the stipend funds to ensure the accountability of public funds. The applicant agrees that if its application is funded it will submit all requested reports on project expenditures, performance and outcomes, including curriculum plans, student artifacts and achievement data, budget, and evaluation data.

Authorized Signatures

The applicant acknowledges that the individuals identified below are the persons authorized to execute a legal and binding agreement and are identified as the authorized persons to sign an agreement if this application is funded.

Signature of Principal or Superintendent Organization Date

Signature of Challenge Project Director Organization Date or Authorized Official