



7TH ANNUAL ILLINOIS STATE UNIVERSITY TEACHING AND LEARNING SYMPOSIUM

GROWING TOWN & GOWN NETWORKS: ISU PHYSICS EDUCATIONAL OUTREACH PROJECTS IN CENTRAL ILLINOIS

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ISU PHYSICS CLUB'S "PHYSICS ON THE ROAD"

ILLINOIS STATE UNIVERSITY
2007 SYMPOSIUM ON TEACHING & LEARNING:
CIVIC ENGAGEMENT IN CLASSROOMS & COMMUNITIES
WEDNESDAY, JANUARY 10, 2007

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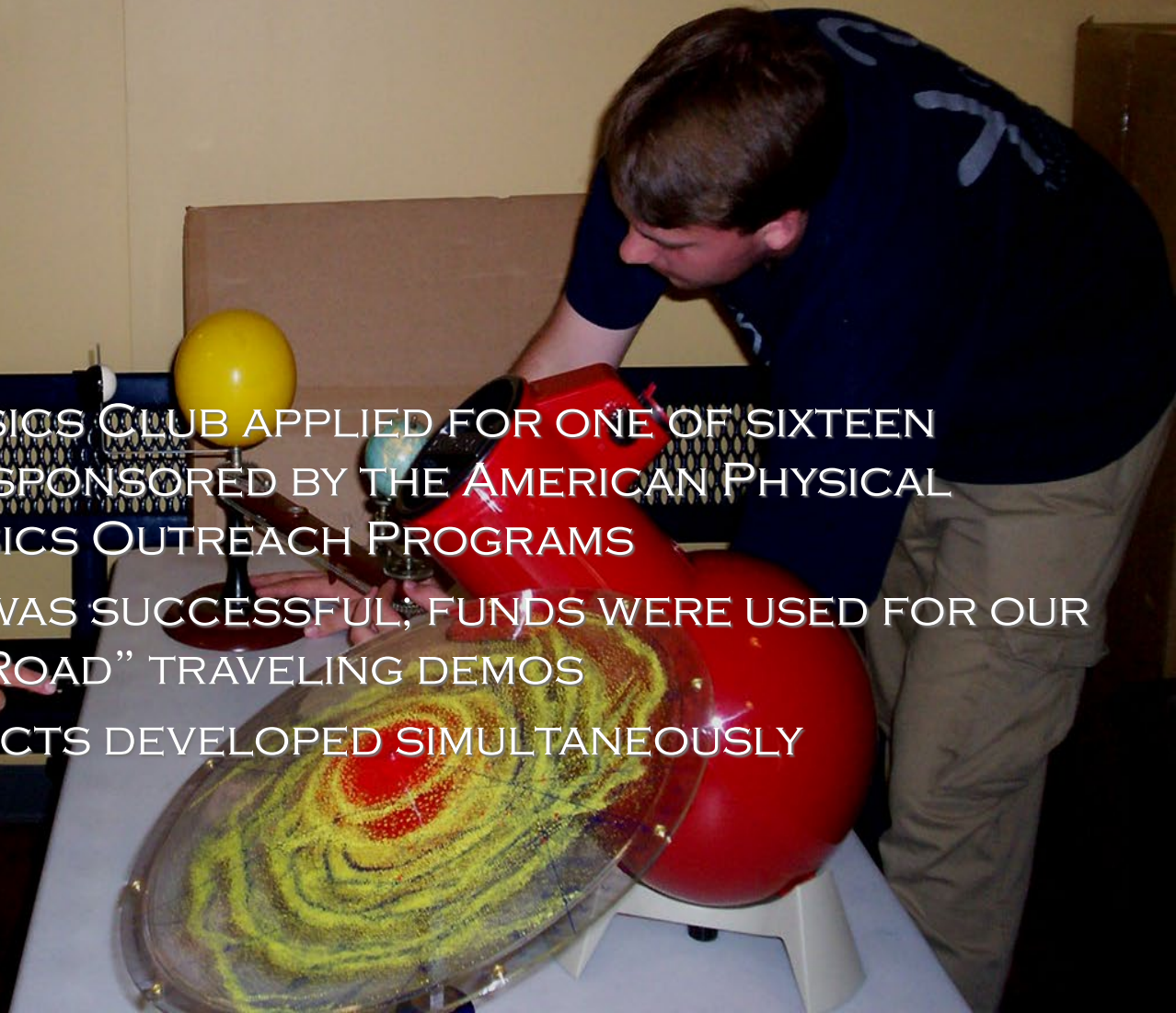
A photograph of children at a museum event. In the foreground, a young girl in a pink shirt is looking through a large black telescope mounted on a tripod. Other children are standing around, some looking at the telescope. The background shows more children and adults in a museum setting with red carpeting.

PHYSICS DAYS AT THE CHILDREN'S DISCOVERY MUSEUM

- ISU PHYSICS DEPARTMENT APPROACHED CDM AT OLD LOCATION IN ANTICIPATION OF NEW BUILDING IN THE FALL OF 2004
- PHYSICS WAS THE FIRST ISU DEPARTMENT TO COLLABORATE ON PROGRAMMING; OTHERS ARE NOW FOLLOWING SUIT
- EVENTS ARE SCHEDULED ONCE A MONTH, WITH DIFFERENT TOPICS
- EACH EVENT CONSISTS OF 2 ONE-HOUR PROGRAMS FOR KIDS (AGES 4 TO 14 YEARS) AND ACCOMPANYING ADULTS
- PRESENTATIONS INCLUDE PHYSICS DEMONSTRATIONS AND/OR HANDS-ON EXPERIENCES

EXPANSION OF PROGRAM

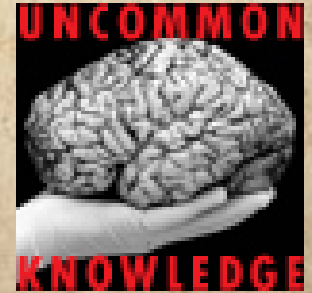
- IN 2005, THE PHYSICS CLUB APPLIED FOR ONE OF SIXTEEN \$10,000 GRANTS SPONSORED BY THE AMERICAN PHYSICAL SOCIETY FOR PHYSICS OUTREACH PROGRAMS
- THE APPLICATION WAS SUCCESSFUL; FUNDS WERE USED FOR OUR “PHYSICS ON THE ROAD” TRAVELING DEMOS
- ADDITIONAL PROJECTS DEVELOPED SIMULTANEOUSLY



PHYSICS ON THE ROAD IN ILLINOIS

- PROGRAM HAS DEVELOPED TO INCLUDE VISITS TO LOCAL SCHOOLS TO GIVE IN-CLASS OR GROUP DEMONSTRATIONS
- IN 2005-06 SCHOOL YEAR...
 - OVER 20 SCHOOL/GROUP VISITS, OVER 75 PRESENTATIONS
 - CENTRAL ILLINOIS, NW ILLINOIS, MILWAUKEE, WI
 - REACHED OVER 3000 STUDENTS TOTAL
- PUBLICITY IN ISU NEWSPAPER, COLLEGE NEWSLETTER
- PUBLICITY IN LOCAL NEWSPAPER AND LOCAL TV

UNCOMMON KNOWLEDGE ON WGLT



- TWICE-WEEKLY 2 1/2 MINUTE SCIENCE RADIO SHOW
- PRODUCED WITH WGLT AND THE CHALLENGER LEARNING CENTER IN BLOOMINGTON
- GENERAL KNOWLEDGE AND CURRENT EVENTS SCIENCE TOPICS
- LOCAL EXPERTS SERVE AS SOURCES
- NOW AVAILABLE AS FREE PODCASTS ON WGLT WEBSITE AND APPLE'S iTunes MUSIC STORE



BENEFITS TO ISU/PHYSICS CLUB

- PROVIDES OUR STUDENTS WITH MANY SERVICE LEARNING OPPORTUNITIES
- PARTICULARLY HELPS PHYSICS TEACHER EDUCATION STUDENTS
- RECRUITMENT OPPORTUNITY FOR ISU AND THE PHYSICS DEPARTMENT
- ADVERTISEMENT AND VISIBILITY FOR ISU AS A QUALITY CHOICE AMONG STATE SCHOOLS
- STRENGTHENS CONNECTIONS WITH OUR COMMUNITY
- CHANCE TO SERVE MORE THAN JUST COLLEGE STUDENTS — PART OF “EDUCATING ILLINOIS” (UNIVERSITY’S STRATEGIC PLAN 2003-2010)

ISU SOLAR CAR TEAM



- **Sponsoring Unit:** Illinois State University and ISU Physics
- **Contact Person:** Dr. Dan Holland, Professor of Physics, 438-3243, holland@phy.ilstu.edu
- **Key features, background, or history:** During the spring and summer of 2005 the ISU Solar Car Team designed, constructed, and raced the Mercury I solar powered car in the *North American Solar Challenge*, a 2500 mile race from Austin, Texas to Calgary, Alberta, Canada. The primary goal is to give our students real world experience on a large scale technical project. Secondary goals include educating the public on the potential uses of green energy, community outreach to local schools and representing ISU in a high visibility international competition. More information may be found at the ISU Solar Car Team website: www.solarcar.ilstu.edu
- **Key community/university partners:** This was truly a group effort with a lot of corporate sponsorship and contributions from a number of units in the university (see the web site for a complete list). The ISU Solar Car Team won the 2006 Team Excellence Award in recognition of this multi-dimensional project.
- **Tips for launching/sustaining a successful outreach program:** This was an outreach project that had a lot of potential to stimulate the imagination and to put the ISU name on a national stage with some of the most prestigious universities in the nation. We were very fortunate to have the backing of Illinois State University's President, Dr. Al Bowman, as well as a lot of corporate sponsors, such as Caterpillar, Incorporated. The ISU President's Office supported our early efforts through seed money to purchase a used solar shell.

Thank You!
from The ISU Solar Car Team



ISU WOMEN IN SCIENCE, MATH, & TECHNOLOGY CAREER PEN PALS PROJECT



- **Sponsoring Unit:** ISU Physics Department and AWIS-HOI
- **Contact Person:** Grace Foote Johns, Asst. to the Chair, 438-8758, johns@phy.ilstu.edu
- **Key features, background, or history:** Different women professionals are paired up with students in high school or junior high students who pose career questions to them via this Pen Pals Project. The women professionals respond and Ms. Johns creates both a poster exhibit well as a website (see the link on www.phy.ilstu.edu/AWIS-HOI). The Women Science Professionals also visit the school. So far, 22 women professionals and 23 students have participated directly in this Career Pen Pals Project—including students at Delavan High School (2004) and Parkside Junior High School (2005), and University High School (2006).
- **Key community/university partners:** Great thanks go the Illinois State University Physics Department (www.phy.ilstu.edu) for their support of this project. Additional thanks go to the Association for Women in Science--Heart of Illinois Chapter (AWIS-HOI), the Normal Public Library, and Expanding Your Horizons Through Math, Science and Technology Conference each year at ISU.
- **Tips for launching/sustaining a successful outreach program:** Providing women in science careers role models to fill an educational niche. Mining your existing networks as well as developing additional contacts with school teachers and administrators. Organizing project well to to inviting to participants (little work on their part). Asking contacts to participate in other related career projects maintains their interest in participating outreach activities.

ISU PLANETARIUM



- **Sponsoring Unit:** ISU Physics Department
- **Contact Person:** Tom Willmitch, Planetarium Director, 438-2496, trw@phy.ilstu.edu
- **Key features, background, or history:** The Planetarium offers both special reservation daytime presentations (with over 12 programs varying by topic and audience age group) for Central Illinois school and community groups as well as regularly scheduled public evening programs. Established September 1, 1964, the facility boasts a Spitz A 3-P planetarium projector (modified in 1986)^[1]_[SEP] under a 30-foot diameter dome with seating for 110. For more information about the ISU Planetarium, visit our website at www.phy.ilstu.edu/planetarium.html
- **Key community/university partners:** The ISU Physics Department has served as the guiding force behind the Planetarium since it was established over 40 years ago. Other longtime community partners are the Twin City Amateur Astronomer's Club (TCAA) and Bloomington-Normal's Challenger Learning Center at Prairie Aviation Museum. The Planetarium also provides special access to its programs for ISU classes, Children's Discovery Museum programs, and the Normal Public Library's Summer Reading Program.
- **Tips for launching/sustaining a successful outreach program:** Focus on providing an educational niche, keep entry fees affordable for broader access to your services by the community, have the commitment to the outreach program from senior administration demonstrated through resource allocation and their willingness to highlight your project and designate it a priority. For example, our College of Arts and Sciences Dean, Dr. Gary Olson, supports the ISU Planetarium because "It is a fine example of how the University can serve the community while fulfilling its educational mission. Over the years, tens of thousands of young people have attended presentations in the Planetarium, and I am certain that many hundreds of them developed a lasting interest in science because of it."

GROWING TOWN & GOWN NETWORKS: ISU PHYSICS EDUCATIONAL OUTREACH PROJECTS

RECAPPING SOME OUTREACH PROJECT TIPS:

- IDENTIFY AN UNFILLED EDUCATIONAL NICHE
- GARNER UNIVERSITY SUPPORT AND ‘BUY IN’
(SEED MONEY)
- SEEK COMMUNITY AND CORPORATE PARTNERS
(FOR PEOPLE AND MONEY RESOURCES)
- ASSESS AND REVISE OUTREACH PROJECT AS
NEEDED TO MEET CHANGING NEEDS
- KEEP PARTICIPANT COSTS ACCESSIBLE

SMALL GROUP IDEA GENERATION DISCUSSIONS (15 MINUTES)

ASSESS/SHARE YOUR OUTREACH PROJECT IDEAS AND PLANS USING CAMPUS:

- *Consistent* (how well do your outreach goals mesh with your unit's strategic plan and resource priorities?)
- *Attainable* (what other organizations might you partner with to make your outreach project happen?)
- *Measurable* (how do you know when you've achieved your outreach goals?)
- *Personable* (do you and your unit like your outreach project idea? how much support can you expect?)
- *Useable* (how will this new outreach project fill a needed outreach niche?)
- *Specific* (identify what you want to achieve intrinsically, extrinsincally, long/short term benefits, etc.)

SHARING YOUR PROJECT IDEAS WITH THE GROUP (16 MINUTES)

3 MINUTES PER GROUP (4 GROUPS)

- 1 IDEA/SENTENCE PER PROJECT
- USE YOUR WALL POST-IT VISUAL AIDS

IF THERE IS TIME, WE'LL HAVE A GROUP Q & A SESSION.

WE ALSO PLAN TO SHARE EMAIL ADDRESSES OF PARTICIPANTS FOR FURTHER DISCUSSION.

THANKS FOR JOINING US! BY WORKING TOGETHER AND SHARING IDEAS, WE CAN MAKE EACH OF OUR RESPECTIVE EDUCATIONAL OUTREACH PROJECTS BETTER.