Today’s Speakers

- University of Pennsylvania - Netter Center for Community Partnerships (www.upenn.edu/ccp)
  - Joann Weeks, Associate Director, weeks@upenn.edu
  - Cory Bowman, Associate Director, bowman@upenn.edu
  - Rita Hodges, Assistant Director, rita@upenn.edu

- Higher Education Forum of Northeastern Oklahoma (www.thehigheredforum.org)
  - Pam Pittman, Founder and Chair, pam.pittman@okstate.edu

- Indiana University-Purdue University Indianapolis (IUPUI) – Office of Neighborhood Partnerships (http://csl.iupui.edu/onp)
  - Monica Medina, Professor, School of Education, mmmedina@iupui.edu
Rationale for Higher Ed Engagement

- Future of Universities and their communities and cities are intertwined
- Universities can make significant contributions to the quality of life in their cities and communities
- Universities can enhance their overall missions of teaching, research, and service by working to improve the quality of life in their cities and local communities
Academically Based Community Service

- Addresses universal problems as they are manifested locally through collaborative problem-solving, K-16+
- Service rooted in and intrinsically tied to research and teaching
- Aims to bring about structural community improvement (e.g., effective public schools, neighborhood economic development)
- Designed to improve the quality of life in the community and the quality of learning and scholarship in the university
- Helps students to become contributing, creative, democratic citizens
Guiding Principles:

- Focus on the school as the core institution for community engagement and democratic development
- Open doors to all before and after school, weekends, & summers
- Serve educational, social service, health, and recreational needs
- Link school day and after school curriculum to solving real world, community problems
- Engage youth as deliverers not simply recipients of service
- Engage universities as a core partner in providing academic, human, and material resources
Problems with K-12 STEM Education

- Students are not learning science by doing science
- Limited involvement in real-world problem solving
- Poor engagement of disadvantaged youth
- Poor connections to higher education

- Effective implementation STEM education requires a combination of:
  - Locally appropriate (facilities, budget, skill levels) activities and labs
  - Additional human and intellectual resources for curriculum adaptation and implementation, particularly for hands-on activities and labs
  - Focused, interactive professional development
Problems with Higher Ed STEM Education

- Students are not learning science by doing science; classroom instruction is passive and/or disconnected from real-world problems
- Uneven access to undergraduate research opportunities
- Lack of interaction between undergraduate and graduate students
- Undergrad and grad students need key professional skills, e.g., collaboration and communication with non-scientists
- Science researchers and science educators are not connected
Problems with Predominant Approaches to Higher Ed/K12 STEM Partnerships

• Outreach is not aggregated for change
  • Lack of coordination of efforts
  • Efforts are geographically and topically scattered

• K-12 and higher ed STEM education problems addressed separately

• Partnerships are not integrated with core teaching and research missions, rather, outreach is viewed simply as service
Penn’s Approach to K-20 STEM Education Partnerships: Moelis Access Science

- Linked to University-Assisted Community Schools
  - Educate, engage, empower and serve entire community

- Academically Based Community Service (ABCS)
  - Real-world, hands-on, community problem solving

- Penn Student Fellows
  - Undergraduate and graduate students provide direct and ongoing K-12 classroom support

- Professional Development
  - Faculty and advanced fellows facilitate teacher professional development sessions and develop and adapt curriculum
Penn STEM ABCS Courses

Over a dozen STEM ABCS courses, including

- Math 122: Community Algebra Initiative (Algebra I)
- Math 123: Math Community Teaching Project (Geometry)
- Nurs 900: Crime Science Instruction: CSI and Science in High School
- Phys 137: Community Physics Initiative
- Environmental Studies 404: Urban Environment - Lead Poisoning Prevention
- Bio 150: Learning Biology By Teaching Biology
Penn Health Sciences Educational Pipeline Program

- Partnership between Penn’s Medical and Nursing Schools, the Netter Center, and Sayre High School

- Working towards 9th-12th grade comprehensive pipeline, each component with its own theme that is integrated with the science curriculum of that particular grade level

  ✓ Neuroscience, Cardiology, Infectious Diseases
  ✓ Engaged learning and mentorship opportunities:
    
    high school students-undergraduates-
    medical students-residents-fellows-faculty
Student volunteers from STEM departments tutor GWCHS students in the Learning Center and HUB, afterschool program.

IUPUI School of Ed Preservice teachers assist science and math teachers in classrooms two days a week.

IUPUI Wilson Scholars Program prepares teachers to work in urban and community schools.

GWCHS STEM teachers participate in professional development at IU School of Ed
George Washington Community High School and STEM Community Initiatives

- ACE Mentoring Program – CAD and 3 D Design
- Indianapolis Power and Light – Career counseling, college scholarships and employment.
- Community Library – computer courses for students and families.
- Indianapolis Public Schools – Crispus Attucks Medical Magnet
Higher Ed Forum of Northeastern Oklahoma was established in 2009 as a component of the Netter Center for Community Partnerships at Penn.

The Forum functions as an anchor institution consortium bridging nine post-secondary institutions and three public school districts.

We develop collaborative and innovative strategies to coordinate and integrate the educational pipeline.

Focus: academic service learning projects, internships and career exploration.
The Higher Ed Forum

Langston University-Tulsa
Northeastern State University-Broken Arrow
Oklahoma State university
Oral Roberts University
Rogers State University
Tulsa Community College
Tulsa Technology Center
University of Oklahoma-Tulsa
University of Tulsa

with Tulsa Public Schools, Union Public Schools, Broken Arrow Public Schools, Tulsa Metro Chamber and Oklahoma Campus Compact.
Process & Access

• 10 Steps: Request for Academic Partnership (RAP) document submission on website; portals of flow
• Placement Committee: criteria for equity in distribution
• Early Facilitation: guided by Forum into Implementation
• Checkpoint Progress: Scheduled Forum Agenda Reports
• Forum End of Year: Report of Findings with Sustainability Plan; dissemination of knowledge
Current STEM Projects

Request for Academic Partnership examples:

- Pulmonary and Cardiovascular Anatomy and Applied Physiology
- Faculty & Student Academically Based Service Learning Coursework Video Series: Magnet Media Production
- Community Nursing & Environmental Sciences: Impacts on Health
- Higher Ed Forum Digital Media Website Design [www.thehigheredforum.org](http://www.thehigheredforum.org)
- Physically Active Students – Creating a Culture of Wellness (PE4Life) through Human Performance and Sports Medicine
Tapping your Local Institutions of Higher Education

Campuses have various offices that coordinate their community partnership activities. To start, we suggest contacting:

- Any office with “community,” “service-learning” or “civic engagement” in title
- Service-learning coordinator
- Interested Faculty in Related Disciplines and undergraduate Teaching Assistants
- Office of Campus Ministry
- Student Life – Volunteer Center
- Co-ops/Internships/Career Office
- Federal Work-Study Office
- Vice Provost for Research: National Science Foundation and National Institutes of Health grant requirements (5% required for broader impacts)
Conclusion

- Universities have enormous resources to be partners for long-term positive change in the community, as well as in the University.
- Mobilize talents of faculty, staff, students.
- Root in Academically Based Community Service (ABCS) Courses that implement projects and generate and support other outreach efforts.
- Sustainability achieved through mutually-beneficial approach that is integrated with core mission of educational partners.