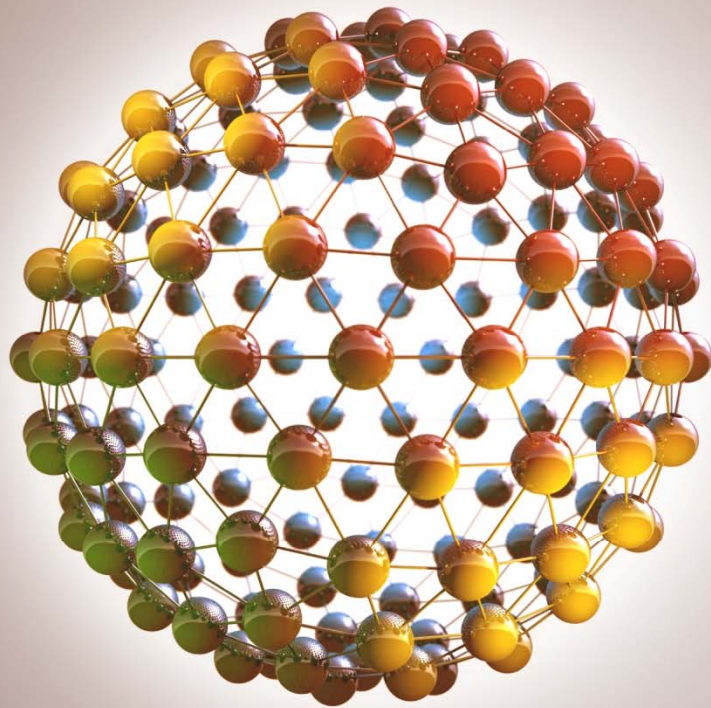
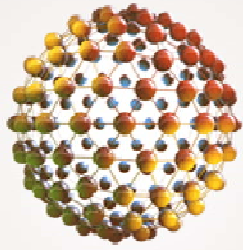


It Takes a Village to ... Encourage Students in Non-traditional Occupations

Presented by
Mimi Lufkin, Principal Investigator
STEM Equity Pipeline
and
Lynn Reha, Director, ICSPS
State Leader, MWGCP

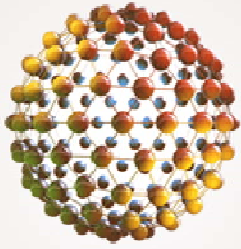


Please note: PowerPoint Presentation and resources mentioned during this session can be accessed at www.icsps.ilstu.edu or www.napequity.org



STEM

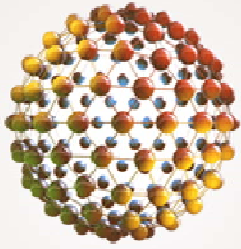
(stem) *n.* 1 The fields of **science, technology, engineering and mathematics**



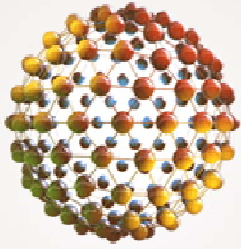
NTO

Nontraditional Occupations - (NTO)
is an occupation in which one gender
comprises less than 25% (statewide) of the
employment
within that field.

-- Carl D. Perkins
Career and Technical Education
Improvement Act of 2006



Examples of Male Nontraditional Occupations



Examples of Male Nontraditional Occupations

Teacher Aides & Educational Assistants

Elementary Educators

Welfare Eligibility Workers

Dental Assistants

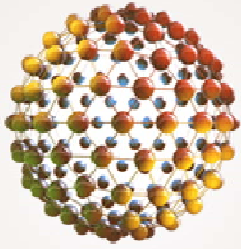
Nurses & Home Healthcare Workers

Legal Assistants

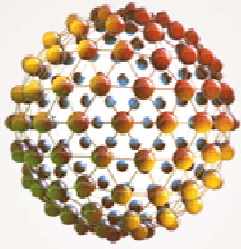
Accounting Clerks

Cosmetology

Clerical and Administrative Support Managers



Examples of Female Nontraditional Occupations



Examples of Female Nontraditional Occupations

Engineering

Auto Repair

Drafting--General, Architectural, Structural,
Mechanical

Law Enforcement Occupations

Fire Science Occupations

Construction Occupations

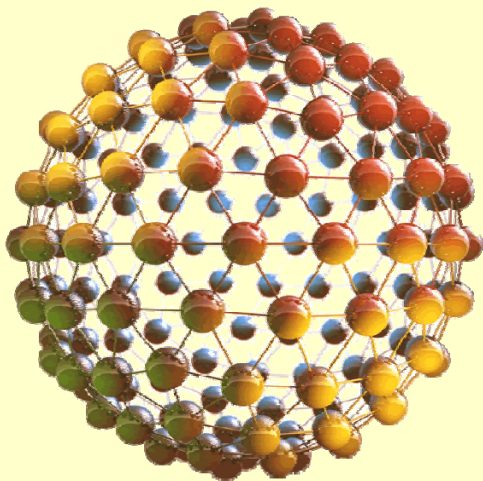
Heavy Equipment Mechanics and Technicians

Information Technology Careers

STEM Careers*

STEM-Related Career Clusters

This resource can also be found in at the [STEM Equity Pipeline website](#).



STEM Equity Pipeline

“Expanding Options for Women and Girls in Science, Technology, Engineering and Math”

STEM-Related Career Clusters

Today’s global economy has presented great challenges for the U.S. In order to compete effectively in the current global economy the U.S. must bring together industry leaders and educators to increase the population’s skills in STEM (Science, Technology, Engineering and Math). The need for qualified individuals in scientific and engineering-related fields has far outgrown the needs of the general workforce.

Science, Technology, Engineering, and Mathematics (STEM)

Engineering and Technology
Science and Mathematics

Architecture & Construction

Design/Pre-Construction
Construction
Maintenance/Operations

Agriculture, Food, and Natural Resources

Food Products and Processing Systems
Plant Systems
Animal Systems
Power, Structural & Technical Systems
Natural Resources Systems
Environmental Service Systems
Agribusiness Systems

Health Science

Therapeutic Services
Diagnostic Services

Information Technology

Network Systems
Information Support and Services
Interactive Media
Programming and
Software Development

Manufacturing

Production

Manufacturing Production
Process Development
Maintenance, Installation and Repair
Quality Assurance
Logistics and Inventory Control

Health, Safety and

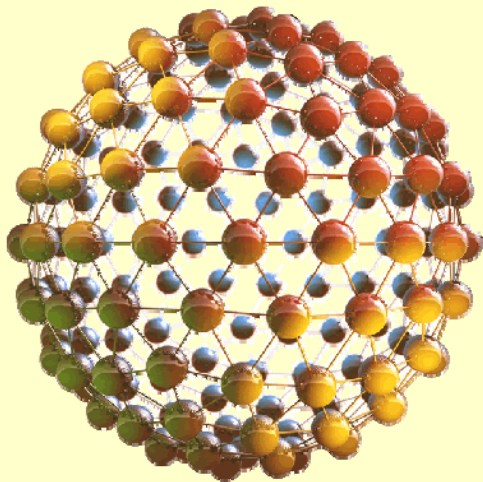
Environmental Assurance

Transportation, Distribution, and Logistics

Transportation Operations
Logistics Planning and
Management Services
Warehousing and Distribution

Why STEM Equity?

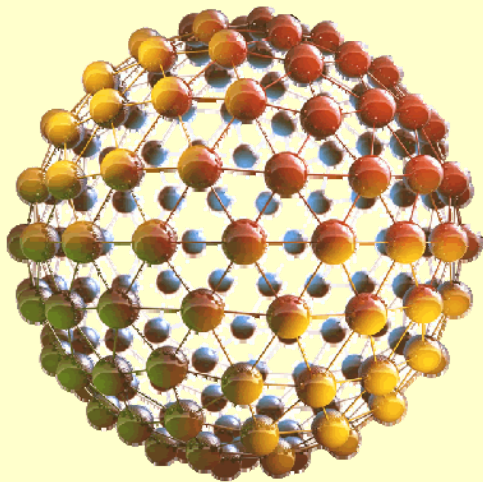
For a continued
workforce



- **“In the last 50 years, more than half of America’s sustained economic growth was fueled by engineers, scientists and advanced-degree technologists.”**
 - The Talent Imperative, www.bestworkforce.org
- **The National Bureau of Labor Statistics projects that our greatest needs will be in computer-related fields that propel innovation across the economy.**
 - The Talent Imperative, www.bestworkforce.org
- **Twenty-five percent of our scientists and engineers will reach retirement age by 2010.**
 - *NSF’s Women, Minorities, and Persons with Disabilities in Science and Engineering: 2007*
- **“By the year 2050 85% of the entrants into the workforce will be people of color and women”**
 - Sisyphus Revisited, www.cpst.org

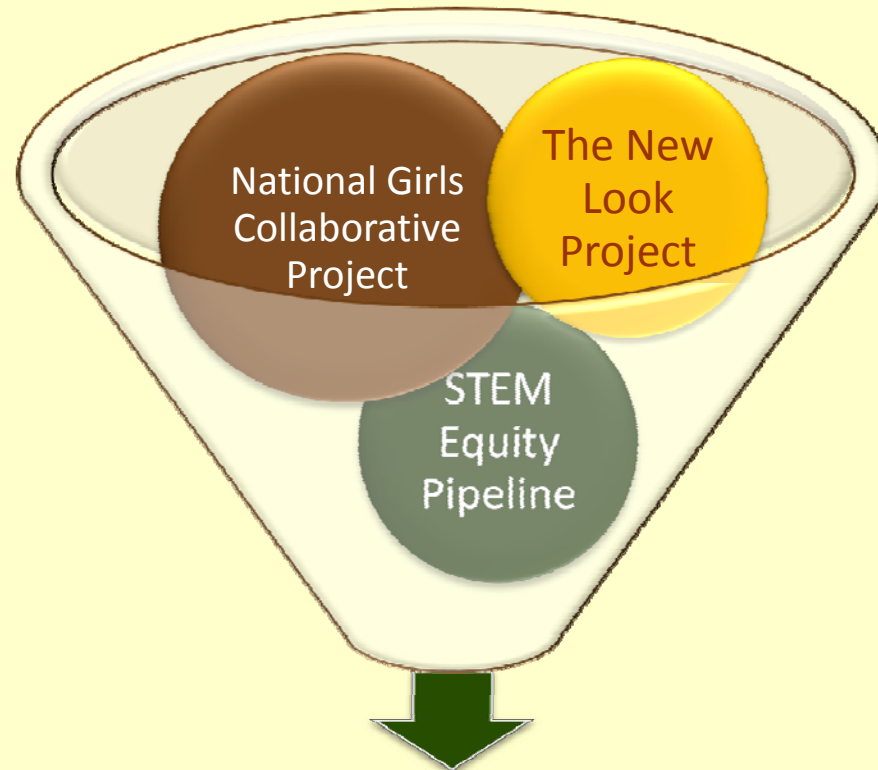
Why STEM Equity?

For
another
perspective



- **“As a consequence of lack of diversity . . . We pay an opportunity cost, a cost in designs not thought of, in solutions not produced.”**
 - Dr. Bill Wulf, Past President, National Academy of Engineering
- **“If we do not engage women and minorities in the engineering enterprise, we are ignoring more than 50% of America’s intellect.”**
 - Bostonworks.com

Three Initiatives that Support NTO's in STEM



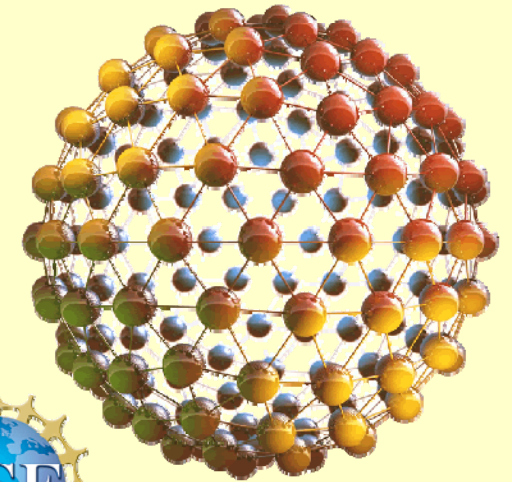
**One Common Goal:
Support the Success of Special
Populations, Especially NTO and
Females in STEM**

STEM Equity Pipeline

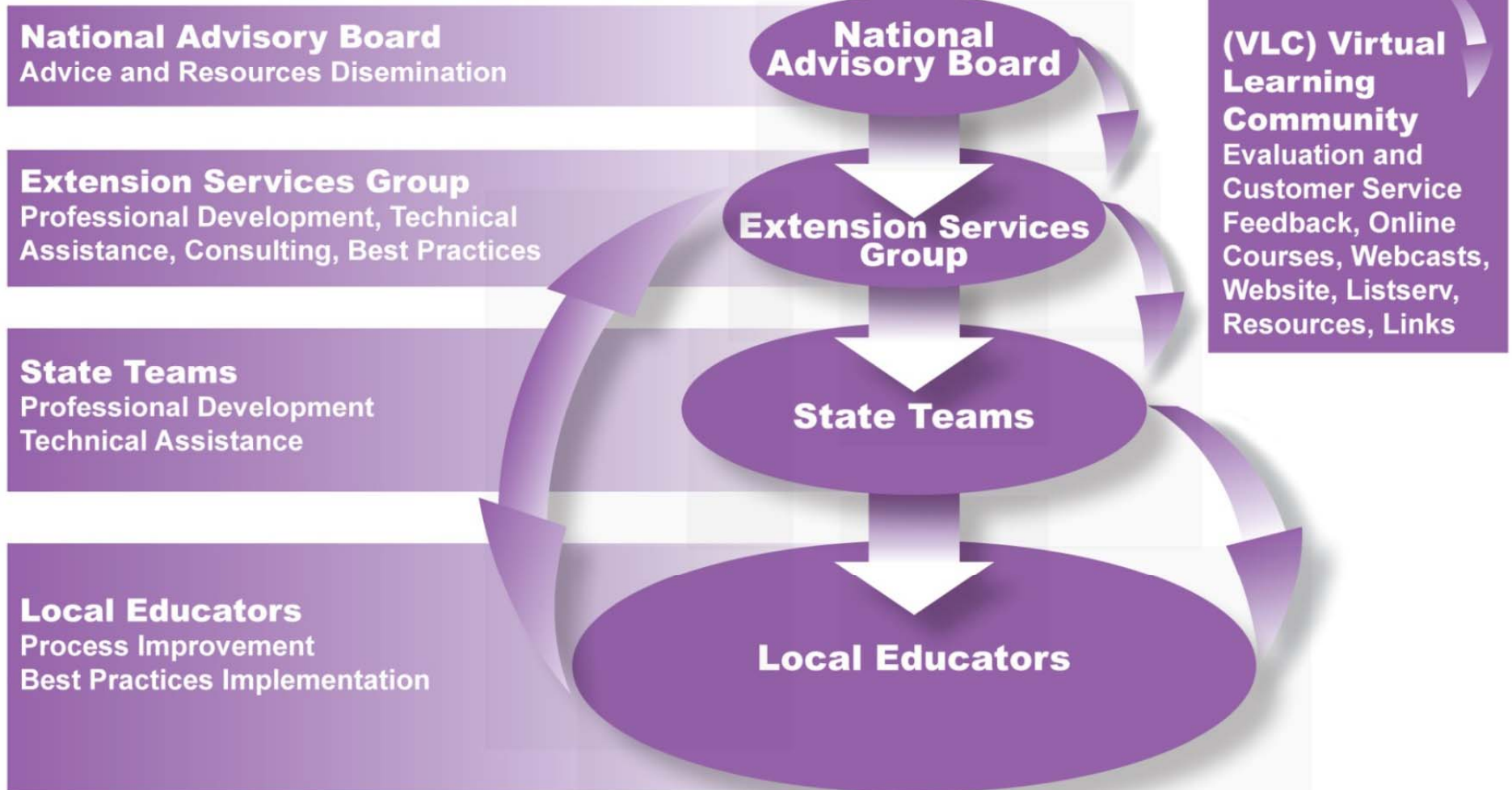
SEPP provides professional development and resources to build the capacity and commitment of the formal education community to recruit and retain women into STEM careers.



www.stemequitypipeline.org



Model



State Teams

- 5 states in year one

- California
- Missouri
- Illinois
- Oklahoma
- Wisconsin

- 2 states in year two

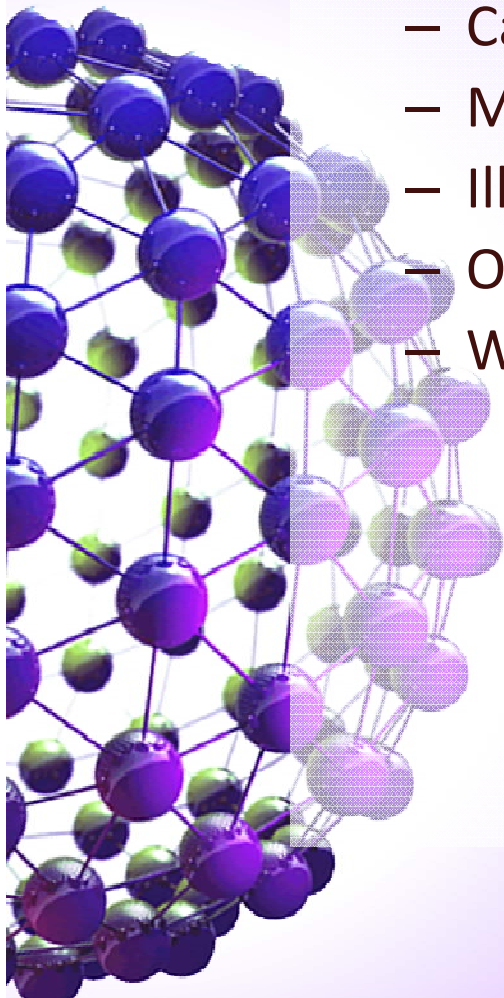
- Iowa
- Minnesota

- 2 States in year three

- New Hampshire
- Ohio

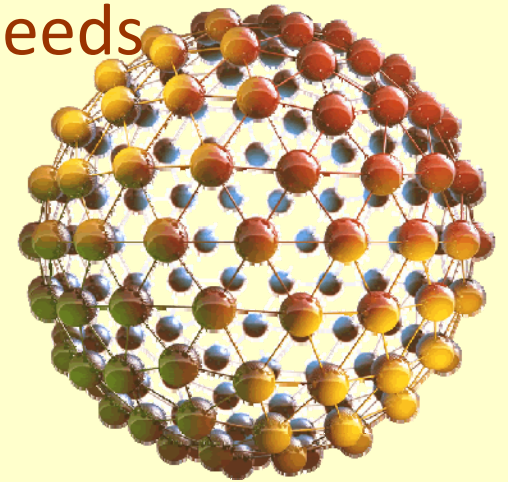
- 2 States in year four

- Georgia
- Texas



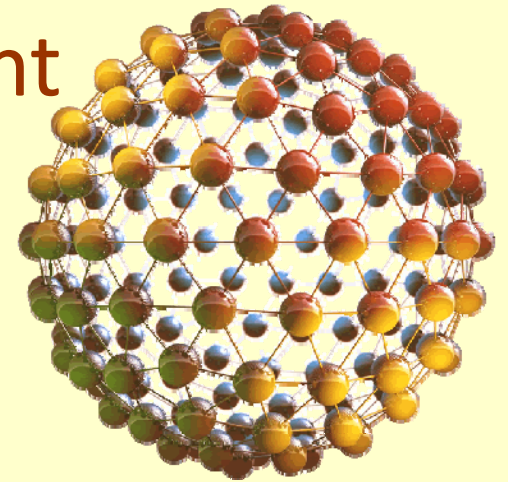
Technical Assistance

- Assign a State Facilitator to assist with
 - Developing State Team of Professional Development Leaders
 - Identify Professional Development Opportunities
 - Identify Professional Development Needs
 - Develop an Implementation Plan
 - Accessing Use of Experts



Professional Development

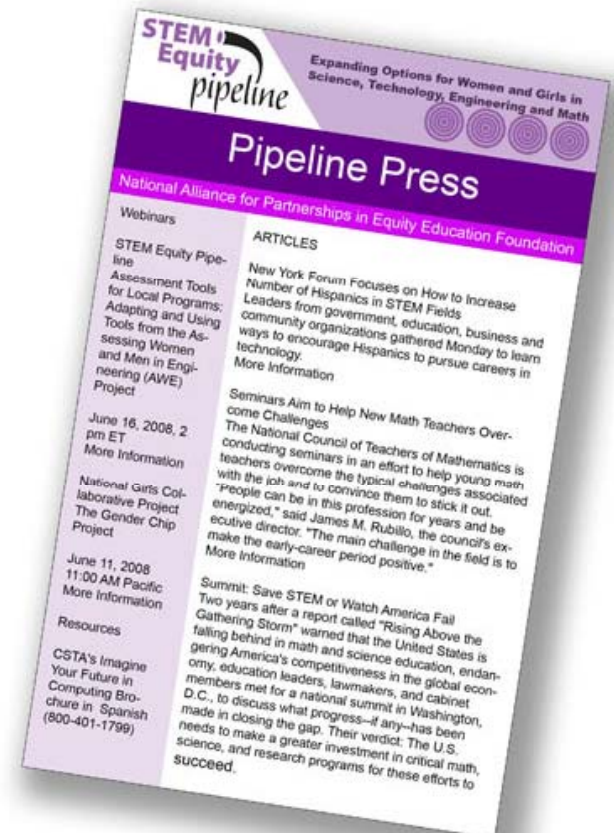
- Five Step Program Improvement Process Training
- Use of experts for specific professional development implementation
- Online professional development
- Outreach workshops





Communication and Outreach

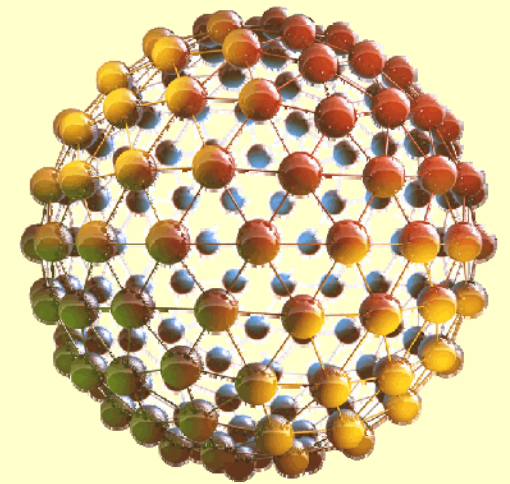
- Virtual Learning Community
- State Share Point Sites
- Virtual Meetings
- Pipeline Press
- Listserv



Virtual Learning Community

www.stemequitypipeline.org

- Public portal for the STEM Equity Pipeline community
- Communication vehicle
- Professional development
- Training materials
- Resources





“Expanding Options for Women and Girls in Science, Technology, Engineering and Math”



Home About Us Contact Us Experts State Teams Resources Professional Development



Register to Participate

Upcoming Events

NAPE Website

Illinois

Contacts

Secondary

Debbie Hopper
Principal Education Consultant
Illinois State Board of Education
100 North First St., E-240
Springfield, IL 62777-0001
Phone:

(217) 782-4620

Fax: (217) 782-0710

Email: dhopper@isbe.net

Postsecondary

Elaine Johnson
Vice President
Instruction & Policy Studies

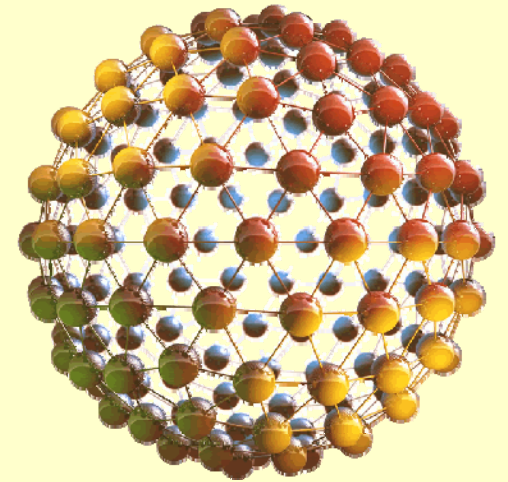


Search



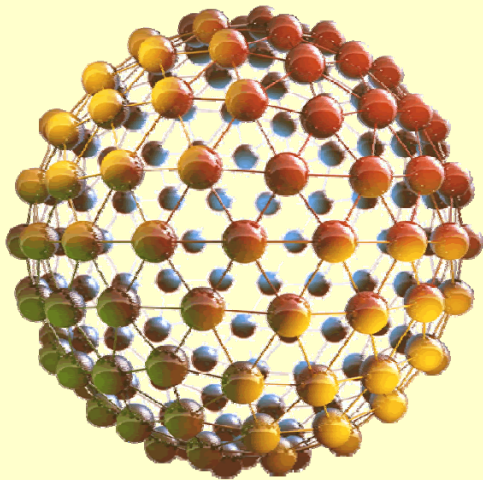
Formative Outcomes to Date

- 152 school-based teams trained in the Five Step Program Improvement Process
- 360 educators trained in the Five Step Program Improvement Process
- 11 states participating
- 1,975 educators received training
- 2410 educators on the listserv



Sample Summative Outcomes

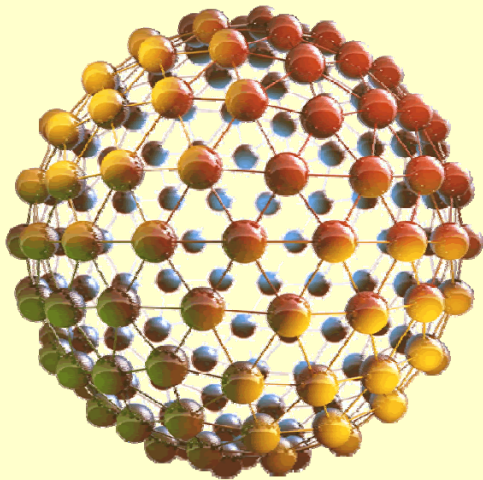
Lynn Reha,
State Team
Member,
Illinois Center for
Specialized
Professional Support



The introduction of two features of STEM Equity Pipeline-- data analysis and reliance on research-based root causes-- has strengthened Illinois' efforts to improve programming and services to women preparing for STEM careers.

Sample Summative Outcomes

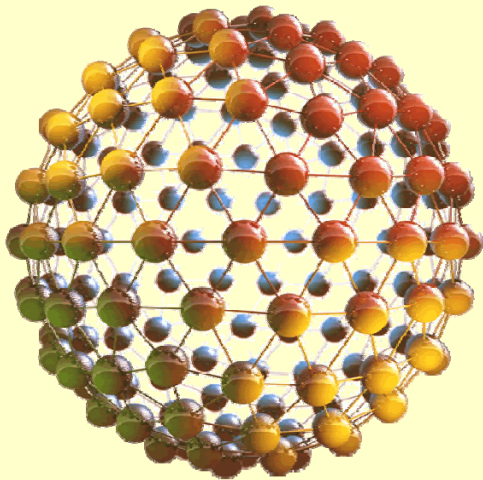
Bement High School
New Look Project
Illinois



“As a result of all these efforts 82% of senior females are registered for a senior level math course with 55% of the senior females enrolled in an advanced level math course for 2009-2010, up from 15% in 2007-2008.”

**Sample
Summative
Outcomes**

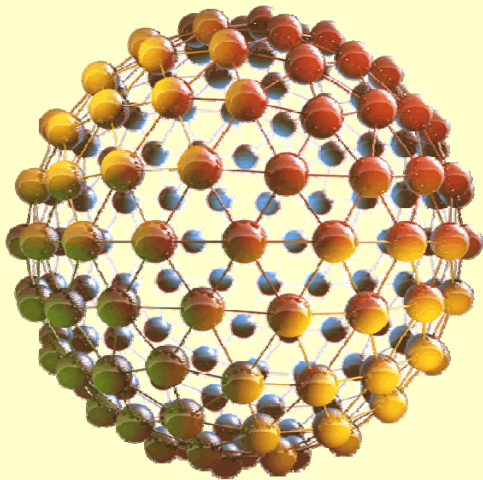
Carrie Dassow,
Plymouth High
School
Wisconsin



“Our enrollment for the science adventure week this year has increased to 50% females where last summer we only had 3 females (all employee children). Our efforts in the STEM equity project has definitely paid off.”

Sample Summative Outcomes

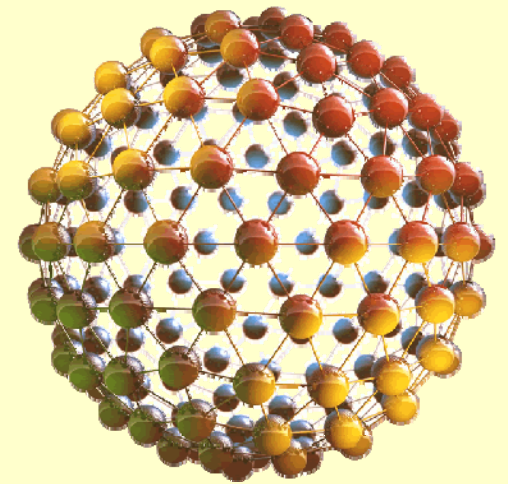
Janet Reppert,
MCCE Facilitator,
Crowder College
Technical Education
Center
Missouri

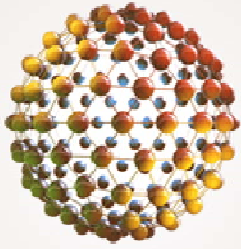


“ Since 2007 Crowder Career Technical Center has tripled the number of students participating in CTE programs nontraditional for their gender. This increase can be attributed to the work we have done as a result of our participation in the STEM Equity Pipeline Project’s Five Step Program Improvement Process.”

Participate by Registering at

STEMEQUITYPIPELINE.ORG





National Girls Collaborative

NGCP **brings together organizations**

throughout the United States and Puerto Rico that are

**committed to informing and encouraging
girls to pursue careers in**

science, technology, engineering, and mathematics

(STEM).

www.ngcproject.org



NGCP – Program Directory

STEM Programs



Program A	City	State	Zip Code	Organization
<u>4-H Tech Team (Merced County)</u>	Merced	CA	95340	UCCE - Merced County 4-H
<u>AAUW High Point Branch</u>	High Point	NC	27262	High Point Branch AAUW
<u>AAUW Murfreesboro Branch</u>	Murfreesboro	TN	37132	American Association of University Women
<u>AAUW Presque Isle</u>	Presque Isle	ME	04769	American Association for University Women
<u>AAUW Tacoma Branch STEM Encouragement for Girls</u>	University Place	WA	98467	AAUW Tacoma Washington Branch
<u>AAUWWR Wet and Wild</u>	Wisconsin Rapids	WI	54494	American Association of University Women, Wisconsin Rapids, WI Branch
<u>AAUWNC</u>	Summerfield	NC	27358	AAUWNC
<u>Admirals Boys & Girls Club Marine Academy</u>	Davie	FL	33317	Boys & Girls Clubs of Broward County
<u>Adventures in Math and Science (AIMS) Upward Bound</u>	Murray	KY	42071	Adventures in Math and Science (AIMS) Upward Bound
<u>After School Assistance Program</u>	Panama City	FL	32401	The After School Assistance Program

Records 1 to 10 of 552

NATIONAL GIRLS COLLABORATIVE PROJECT

Advancing the Agenda in Gender Equity
for Science, Technology,
Engineering, and Mathematics



NGCP E-Newsletter

February 2009

in this issue

- NGCP Updates
- Regional Collaborative News
- Upcoming Events
- Resources

NGCP Updates



NGCP Collaboration Institute 2009
NGCP National Team members, Collaborative Leadership Team members, and AAUW liaisons came together in Philadelphia on January 23, 2009, for the third annual Collaboration Institute. Hosted by the [Franklin Institute](#), the premiere science center in

Philadelphia, 16 participants represented AAUW and regional collaboratives from MAGiC (Mid-Atlantic), Pennsylvania, Kentucky, and Tennessee. Participants engaged in learning about the NGCP model and planning activities. Collaborative leads from Florida and Connecticut helped demonstrate NGCP strategies for successful implementation of the model. MAGiC and Pennsylvania are planning their kick-off conferences for this spring.

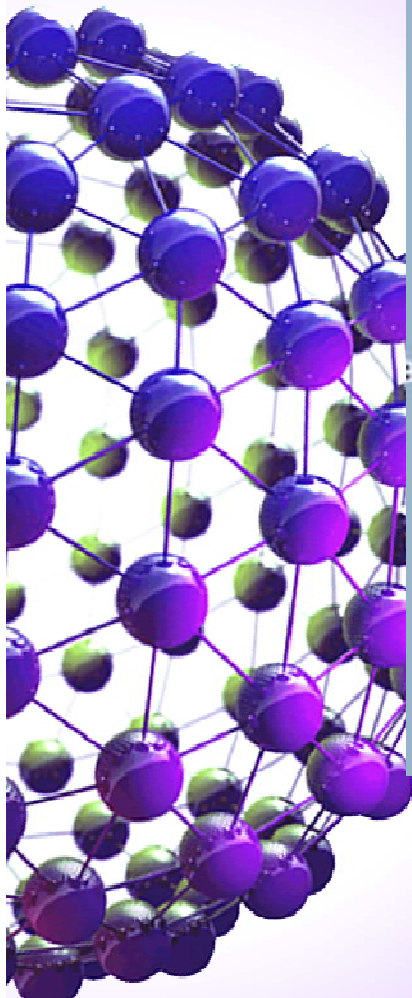


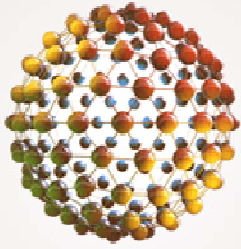
The goal of the National Girls Collaborative Project is to maximize access to shared resources within projects and with public and private sector organizations and institutions interested in expanding girls' participation in STEM.

[Find out more...](#)

[About the Puget Sound Center for Teaching, Learning and Technology](#)

Regional Collaboratives





Midwest Girls Collaborative Project

- Is a Regional Collaborative to the National Girls Collaborative Project
- Conducts annual networking events
- Helps connect organizations which sponsor activities for girls and young women
- Sponsored 14 projects so far

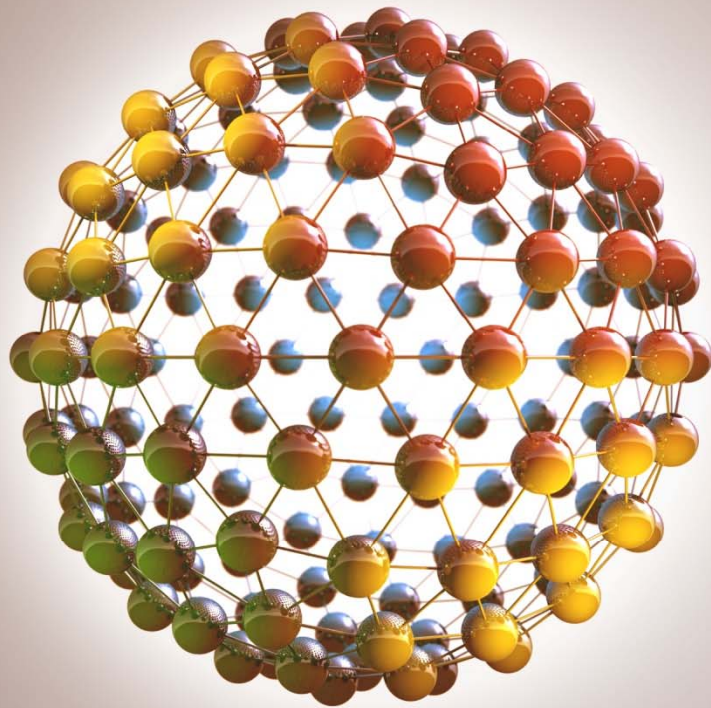


A Midwest Girls Collaborative Project Mini-award funded activity:
Girls just want to do science!



A Midwest Girls Collaborative Project supports activities which invite young women into STEM careers





Your organization can join in!

- Attend annual event
- List program in directory
- Complete application for mini-award funding

Midwest Girls Collaborative Project 2010 Fall Forum

Saturday, October 23, 2010, 8:30 a.m. - 2:00 p.m.

Northern Illinois University Convocation Center

In conjunction with



- Learn about the National Girls Collaborative Project's mission to increase girls' interest in the STEM fields through bringing together organizations committed to this goal and how the Midwest Girls Collaborative is working towards this goal in Illinois.
- Network with educators and business people dedicated to that mission.
- Learn where you can find programs and assessment tools online.
- Learn about the next round of mini grants and how to apply for one.
- Learn about past mini grant projects.
- Enjoy the continental breakfast and pasta lunch.
- Explore STEMfest: Northern Illinois Science and Engineering Festival.
- Earn 5 CPDUs (K-12 educators)

Register online at www.stemfest.niu.edu

Registration Fee: \$15.00

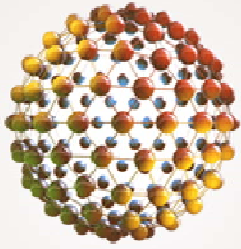
Learn more about NGCP and MWGCP at

<http://www.ngcproject.org/midwest/index.cfm>



Midwest
Girls
Collaborative





New Look Project

The New Look Project

provides financial and resource support

to secondary and postsecondary CTE educators

to identify, develop, and strengthen

services for

special populations learners, including

NTO students.

www.icspssilstu.edu



Illinois Center for Specialized Professional Support

EXCELLENCE IN PROFESSIONAL DEVELOPMENT
705 E. LINCOLN ST., STE. 313 • NORMAL, IL 61761
www.icpsps.ilstu.edu



The New Look Project

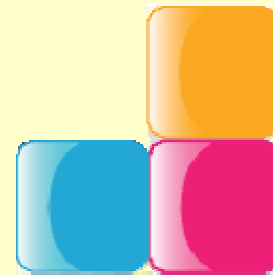
Strengthening programs for special populations learners.



FY11 New Look Project



Mission: The purpose of the New Look Project is to assist career and technical educators, and their partners in identifying, developing, and strengthening aspects of their programming for special populations CTE learners.



New Look History By the Numbers



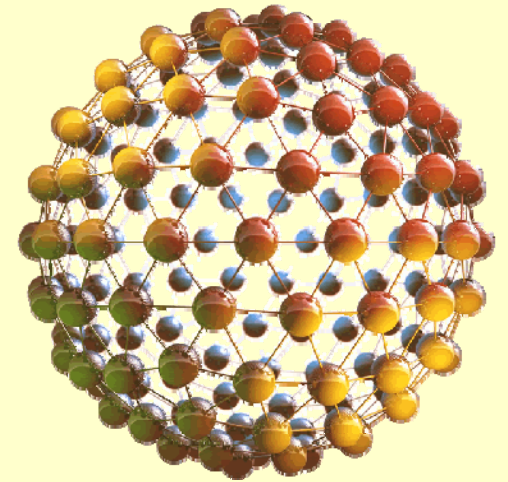
Strengthening
programs for Career
and Technical
Education special
populations

- \$424,590 Total funds to sites
- \$3,074 Average funding/year
- 266 Total sites
- 33 Average #sites/year
- 4 Technical Assistance Liaisons
- **1 Common goal**

New Look Project Sponsors



The New Look Project has been funded by the Illinois Community College Board and the Illinois State Board of Education through the Carl D. Perkins Career & Technical Education Improvement Act of 2006, and preceding Perkins Legislations.



Examples of New Look Project Activities



You **DO** have a choice!

Consider Non-Traditional Career Training at Kaskaskia College.



Auto Collision Technology

The Auto Collision Program at Kaskaskia College is designed to provide the student with a working knowledge of all phases of repair and maintenance of a vehicle's interior, exterior, and underbody structure.

Online Application

The New Look Project

Strengthening programs for Special Populations learners.



HOME



ABOUT
NEW LOOK



PROGRAM
IMPROVEMENT



PARTICIPANT
RESOURCES




APPLICATION
& SELF-STUDY



SHOWCASE

FY11 New Look Project NTO Award Application Walk-Through

Section 2: Data Analysis

-  C. Non-traditional programs offered
- D. CIP/POS of focus
- E. Category of root cause most likely to respond
- F. Specific root cause selected
- G. Strategy selected

C. What non-traditional programs does the community college offer? Please attach a list.

- Click [here](#) for a listing of total possible Illinois non-traditional CIP codes and their related Career Clusters.
- Persons who have information about the non-traditional programs offered by your community college include Registrar, Special Populations Coordinator and Career and Technical Education Dean.

[Walk-Through Intro](#)
[§ 1: Project Overview](#)
[§ 2: Data Analysis](#)
[§ 3: Activities](#)
[§ 4: Goal Setting](#)
[§ 5: Innovation](#)
[§ 6: Dissemination](#)
[§ 7: Sustainability](#)
[§ 8: Summary](#)
[§ 9: The Cohort](#)
[Project Budget](#)



Online New Look Resources

The New Look Project

Strengthening programs for Special Populations learners.



HOME



ABOUT
NEW LOOK



PROGRAM
IMPROVEMENT



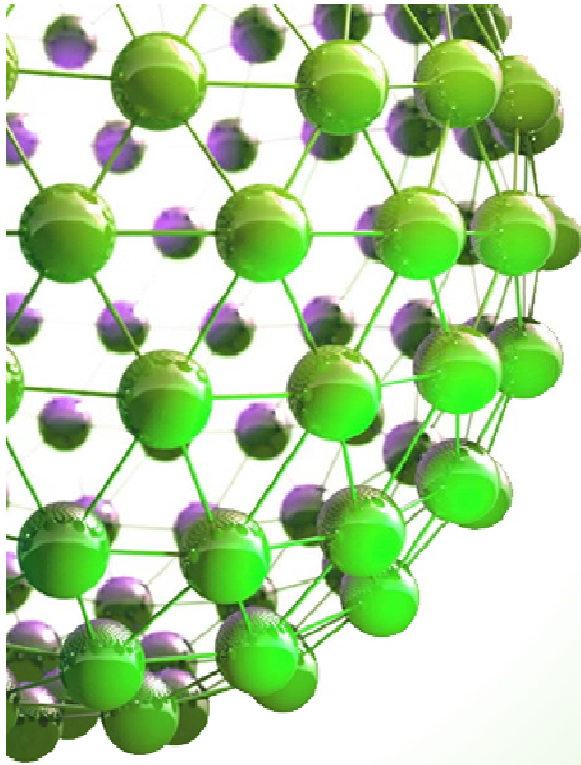
PARTICIPANT
RESOURCES



APPLICATION
& SELF-STUDY



SHOWCASE



New Look Newsletter

Volume 4 | Issue 3

newlook
View

ASSISTING SECONDARY AND POSTSECONDARY CTE EDUCATORS IN IDENTIFYING, DEVELOPING AND STRENGTHENING ASPECTS OF THEIR SPECIAL POPULATIONS PROGRAMS.

**Careers, Candle Light and College:
DACC's New Look at Recruitment**

In cooperation with Vermilion Vocational Education Delivery System (VVEDS), Vermilion Advantage & five area businesses, Danville Area Community College (DACC) hosted two sophomore-parent candlelight dinners in the DACC Bremer Theatre. The objectives of the event were to: demonstrate the need for postsecondary education and/or training, inform parents about nontraditional career options in Community College District #307; involve more minority parents/guardians and; showcase postsecondary programs available to area students. One hundred and eleven parents attend.

In addition to having a fabulous meal, the parents received a multi-media presentation which showcased the need for postsecondary education and/or training. In addition, parents learned about: College Express, Dual Enrollment, Project Lead the Way, and Partnerships for College and Career Success grant options at DACC. From twelve high schools, the 111 parent attendees received an informational binder containing *Creating Your High School Portfolio*, career search options, local career information, and general college information.

Five area businesses provided employees to serve on the Nontraditional Careers Panel. The panelists were lively, witty, and very informative about their occupations. Because of the extreme cold, many families could not attend and asked that the information and materials be sent to their homes. All schools received materials for their counseling office. For more information on this program contact Carla Boyd cboyd@dacc.edu and Patricia Shedlock pshed@dacc.edu at Danville Area Community College (DACC).

After the event closed, many of the parents stayed and spoke with the panelists and partners. Individual questions were answered during this time. Some of the comments by the parents, concerning the event were:

"Excellent session tonight. This was very informative and well worth my time. The dinner/presentation was very well done. Thanks."

Online NTO Resources from ICSPS

could this be YOUR LIFE?

Welcome to the interactive game that teaches you about careers and life choices, brought to you by the Illinois Center for Specialized Professional Support.

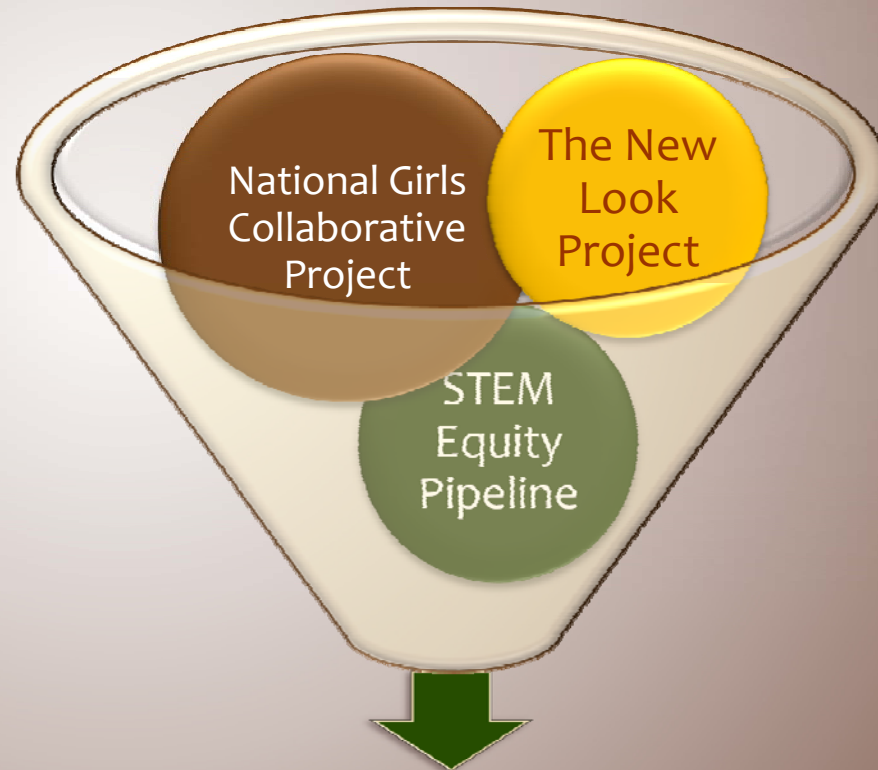
To play, you will need to:

- Set your monitor resolution to no less than 800 x 600. Best viewed at 1024 x 768 or higher. (Click here for more information on changing your screen resolution)
- Have Macromedia Flash player version 6.0 or higher installed on your computer. (If you do not see the animation below, click here to download the latest Flash player from Macromedia)

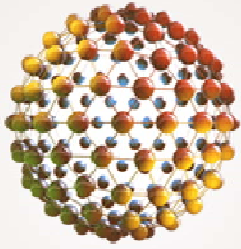
begin playing the GAME
continue.. →



Three Initiatives that Support NTO's in STEM



**One Common Goal:
Support the Success of Special
Populations, Especially NTO and
Females in STEM**



General Resources

- New Look Website

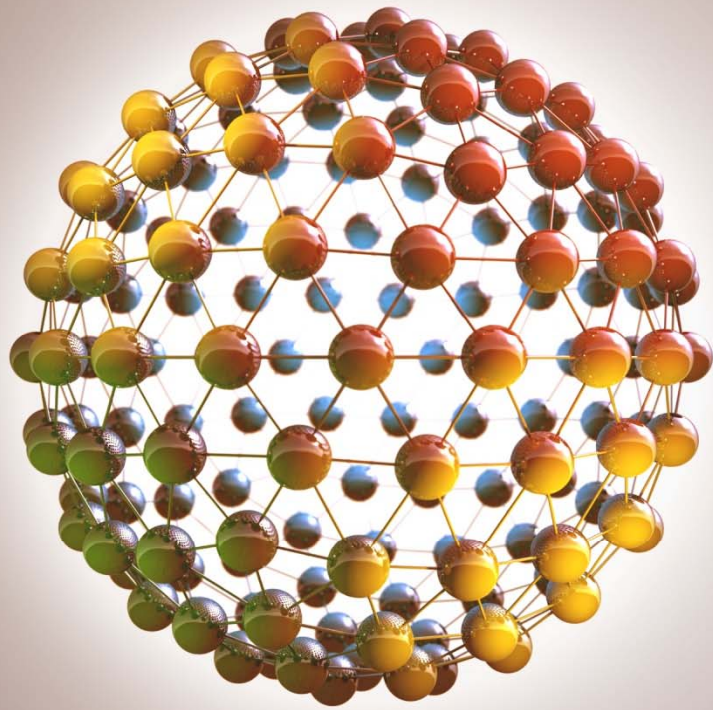
http://www.icsps.ilstu.edu/projects/index_newlook.html

- STEM Equity Pipeline Website

<http://www.stemequitypipeline.org>

- National Girls Collaborative Website

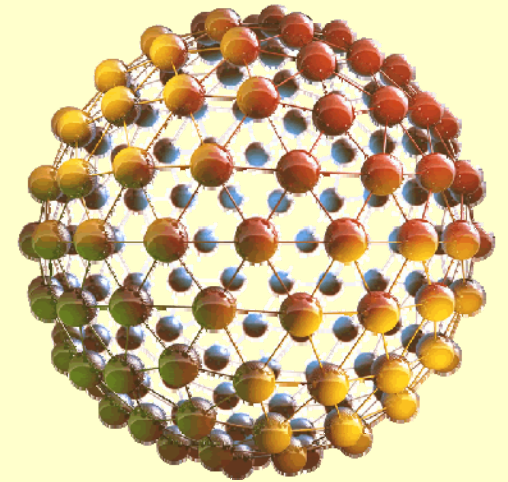
<http://www.ngcproject.org/index.cfm>

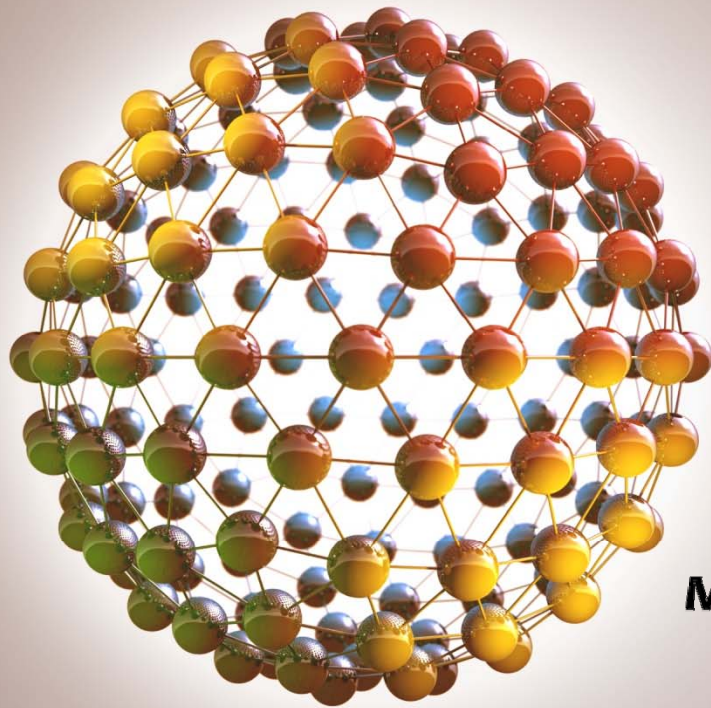


**Where do
you fit in?**

You can....

- Use the FREE resources
- Ask for technical assistance
- Attend Midwest Girls Collaborative Event on October 23
- Apply for New Look Mini-Award
- Apply for a MWGCP Mini-Award





It Takes a Village to ... Encourage Students in Non-traditional Occupations

Presented by
Mimi Lufkin, Principal Investigator
STEM Equity Pipeline
and
Lynn Reha, Director, ICSPS
State Leader, MWGCP