



# College Connections

## INSPIRING YOUNG SCIENTISTS

Science, technology, engineering and mathematics (STEM) have a wide application in our everyday lives and are increasingly important in the workplace. More and more, jobs require knowledge of math and science along with the ability to think creatively using technical skills.

New York's private, independent (not-for-profit) colleges and universities are reaching out to youngsters in elementary, middle, and high schools with a variety of programs to encourage an interest in math, science, technology, and engineering. Many of these programs are designed for nontraditional students, female students, and students of color. Examples include Houghton College's Math Day that brings grade-school students to campus to participate in activities designed to improve math skills. This program, in existence for more than 12 years, also enables elementary education majors to gain experience teaching.

Another example is a program at Union College where since 1996, talented minority high school juniors and seniors interested in careers in health and biological sciences have attended a 12-day Summer Science Workshop.

Studies show that women are underrepresented in professions that require a strong math or science foundation. To reverse this trend, many independent colleges and universities are reaching out with programs designed exclusively for girls in middle and high school. At Russell Sage College in Troy, NY, nearly 400 high school girls and their families attend its Girls Excited about Engineering Math & Science (GEMS) program. This multi-faceted program combines day-long programs on Fridays that include hands-on workshops for middle and high school students with Saturday morning programs focusing on careers and mentoring. The day-long

programs are designed for students and are open to teachers and school guidance counselors, while the Saturday

sessions are geared toward students and parents/guardians. Also focusing on encouraging young women's interest in science is the Pre-College Experience in Physics (PREP) program at the University of Rochester for young women.

For more information on these and other outreach and enrichment programs offered by New York's independent colleges and universities, visit

[www.nycolleges.org/pdfs/2007OutreachandEnrichment.pdf](http://www.nycolleges.org/pdfs/2007OutreachandEnrichment.pdf)



## RESOURCES

### National Society of Black Engineers

<http://national.nsbe.org/Programs/tabid/81/Default.aspx>

The National Society of Black Engineers (NSBE) offers scholarships, research opportunities, community activities and academic support through its pre-college and collegiate programs.

### Intel Science Talent Search

[www.sciserv.org/Sts/](http://www.sciserv.org/Sts/)

Individual students compete with research projects in this competition designed to encourage talented young scientists, mathematicians, and engineers. The top prize is a \$100,000 scholarship, but finalists greatly improve their chances at being admitted to and getting financial aid from certain colleges and universities.

### MATHCOUNTS

[www.mathcounts.org](http://www.mathcounts.org)

MATHCOUNTS is a national math enrichment, coaching and competition program that promotes middle school mathematics achievement in every U.S. state and territory. MATHCOUNTS materials challenge students and motivate them to develop strong math skills. Students can also participate in the MATHCOUNTS competition series.

### New York State Math and Science Teaching Incentive Scholarships

[http://www.hesc.com/content.nsf/SFC/2NYS Math and Science Teaching Incentive Scholarships](http://www.hesc.com/content.nsf/SFC/2NYS%20Math%20and%20Science%20Teaching%20Incentive%20Scholarships)

These scholarships encourage students to pursue careers as secondary science and math teachers. Recipients may receive annual award payments for up to four

years of full-time undergraduate study and one year of full-time graduate study; the maximum annual award for the 2007–2008 academic year is \$4,375. Students must sign a service contract in which they agree to work for 5 years as a secondary science or math teacher in New York State.

### Stafford Loan Forgiveness Program for Teachers

Offered by the Department of Education, secondary school math and science teachers who commit to working in high-need schools for five years can obtain up to \$17,500 in Stafford loan forgiveness. They must teach full time for five consecutive years in a qualifying low-income school. Click [here](#) for more information.

## SCIENCE AND TECHNOLOGY ENRICHMENT

A selection of enrichment programs focusing on STEM fields at independent colleges and universities

For more information on these and other programs, visit <http://www.nycolleges.org/pdfs/2007OutreachandEnrichment.pdf>

- **Albany College of Pharmacy** offers a 6-week Summer Research program that gives high school students hands-on research experience in the pharmaceutical sciences.
- **Canisius College's** BEAM (Buffalo Engineering Awareness for Minorities) is a summer program that provides enrichment in science and technology for high schoolers.
- At **Clarkson University**, 7<sup>th</sup> and 8<sup>th</sup> grade girls participate in the Horizons summer program, designed to interest students in math.
- **The Cooper Union** provides a Summer Internship Program in Engineering where high school students work on research projects with Cooper Union faculty and students.
- **Cornell University** offers several science-based summer programs for high school students, among them are: Career Explorations in the Life Sciences (CALs), the Nanotechnology Center High School Internship Program, and a Plant Genome Research Summer Internship.
- The Summer Honors Academy at **Houghton College** includes a Math Summer Camp for 11<sup>th</sup> and 12<sup>th</sup> grade students.
- **Manhattan College** has an Engineer Summer Program that provides high school students with an introduction to engineering.
- **New York University's** High School Fellowship Program matches economically challenged and nontraditional high school students with faculty mentors to work on year-long projects for submission to the Intel Science Search competition.
- **Polytechnic University** offers a semester-long Introduction to Engineering for 9<sup>th</sup> and 10<sup>th</sup> grade students. Among its summer programs for high school students are the Mathematics Institute and the SciTech Summer Enrichment Institute.
- **Rensselaer Polytechnic Institute's** Bernard Harris Summer Science Camp gives middle school students hands-on learning experiences in the sciences. Interested and talented female and minority high school students can explore engineering through RPI's Dylan A. Thomas Memorial PREFACE Program.
- Every year, nearly 400 high school girls flock to **The Sage Colleges'** Russell Sage campus for its Girls Excited About Engineering, Mathematics, and Science (GEMS) program, a multifaceted program with workshops focusing on careers and mentoring.
- The Summer Science Institute for Girls at **Skidmore College** offers 7<sup>th</sup> and 8<sup>th</sup> grade students an introduction to the sciences, with two one-week sessions featuring lab work, speakers, and field trips.
- **St. Joseph's College** (Brooklyn) has a 1-day program, Expanding Your Horizons, that encourages pre-high school girls to consider careers in science and math, while Experiences in Scientific Research gives high school students an opportunity to conduct scientific experiments in groups. At its Suffolk campus, **St. Joseph's** offers an Exploring Math, Science, and Technology in the 21<sup>st</sup> Century program to encourage high school juniors and seniors to consider math and science careers.
- The EDGE Workshop is a 2-week summer engineering camp for high school girls at **Union College**, where students learn about technologies to aid the disabled and use these skills to design toys and communications devices for disabled children.
- The **University of Rochester's** Pre-College Experience in Physics (PREP) program provides an introduction to physics for 10<sup>th</sup> and 11<sup>th</sup> grade girls through hands-on, inquiry-driven lab activities with experienced instructors.

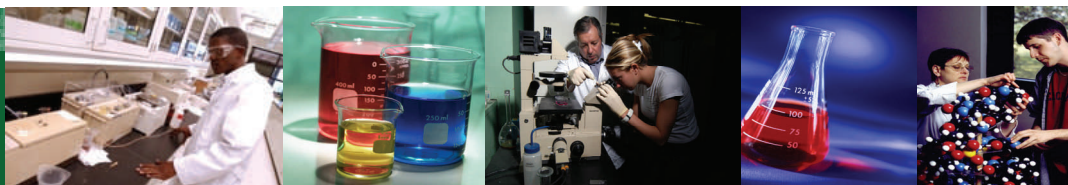
### Commission on Independent Colleges and Universities (cicu)

cicu is a statewide association representing more than 100 independent colleges and universities in New York State. cicu Outreach Programs has provided admissions and financial aid information for more than 25 years.

17 Elk St., PO Box 7289  
Albany, NY 12224  
518.436.4781 fax 518.433.8825  
[www.cicu.org](http://www.cicu.org); • [www.nycolleges.org](http://www.nycolleges.org)

#### Outreach Programs Staff:

Susan Nesbitt Perez - [susan@cicu.org](mailto:susan@cicu.org)  
Kiersten Hall - [kiersten@cicu.org](mailto:kiersten@cicu.org)  
Jen Lewis - [jen@cicu.org](mailto:jen@cicu.org)  
Pam Sargent - [pam@cicu.org](mailto:pam@cicu.org)



• Science and Technology Entry Programs (STEP) are rigorous academic enrichment programs designed to increase interest in and help prepare junior high and high school students for licensed professions and scientific, technical and health-related careers. STEP also seeks to increase the representation of historically underrepresented minorities and the economically disadvantaged in these fields. STEP programs are offered at many of New York's independent colleges and universities: **Barnard College, Columbia University, Fordham University, Hofstra University, Iona College, Le Moyne College, Long Island University, Manhattanville College, Mercy College, New York Institute of Technology, Pratt Institute, Syracuse University, and Vaughn College of Aeronautics and Technology.**

• Collegiate Science and Technology Entry Programs (CSTEP) serve undergraduate, graduate and professional school students at two- or four-year colleges and universities in New York State. CSTEP provides academic enrichment and research experience in science, mathematics and technology content areas. CSTEP is offered at: **Cazenovia College, Clarkson University, Cornell University, Fordham University, Hofstra University, Ithaca College, Long Island University, Manhattanville College, Mercy College, New York University, Rensselaer Polytechnic University, Rochester Institute of Technology, St. John's University, St. Lawrence University, Syracuse University, and Utica College.**