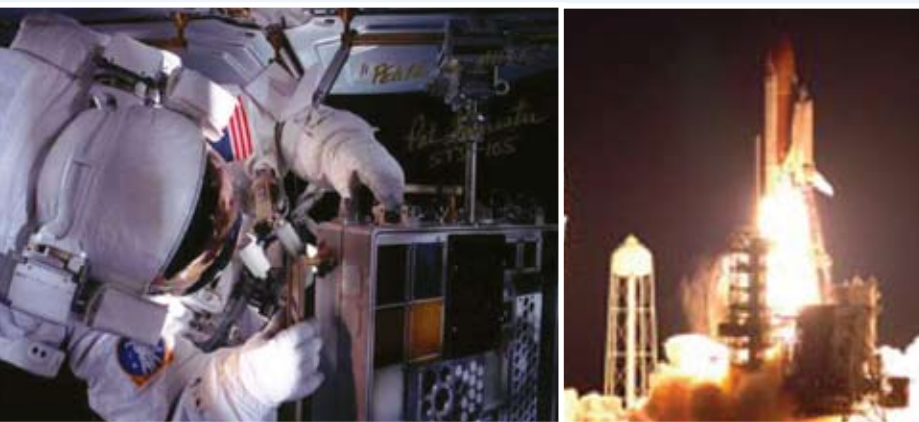


The SREP not only opens the world of science to HB girls in ways few if any other programs can, but it also quietly persuades them that anything is possible. In fields that too often present themselves as off-limits to women, SREP students thrive. Project by project, girl by girl, they dismantle the lingering perception that science and engineering are the provinces of boys and men. In this way and many others, SREP students change the world for the better.



“My SREP experience affected me more than most other experiences in my life. The maturity and professionalism I developed through my research at the Cleveland Clinic have proven very useful to me as I have applied for and been successful in receiving various internships, jobs, and scholarships. I have no doubt that my confidence, poise, and motivation to succeed were in no small part due to my experiences in HB’s SREP.”

- Maya Wolpert, HB '06, Stanford University, human biology

At HB, Maya conducted research on autism at the Cleveland Clinic through the SREP.

“I wasn’t really interested in science until high school and, although I didn’t start until my junior year, working in a chemical engineering lab in high school further influenced my decision to major in chemical engineering in college. I also learned that I did not want to do lab work for the rest of my life and that there are many other outlets for chemical engineers... I would definitely not be where I am today if I had not been a part of the SREP at HB.”

- Jane Chisholm HB '05, Johns Hopkins University, chemical engineering.

Jane worked in a fuel cell lab in the Chemical Engineering department at Case through the SREP.

## “Even the sky’s not the limit anymore.”

- Maura Lillis, HB '04

“The SREP gave me a background in research that is very uncommon in high school graduates. Participating in competitions such as the Siemens radically improved my public speaking and my ability to write technical papers, and I have several publications and a lot of experience that will help me get research jobs in the future.”

- Catherine McCarthy HB '07, Brown University, neuroscience

On HB’s PEACE Team, Catherine conducted space flight experiments at NASA Glenn.

“The exposure to science outside the classroom through my SREP experience helped me realize my love for science and aided in the decision of my college major of chemical engineering. The opportunity I had to do research through the SREP also helped me earn an undergraduate research position at Notre Dame. The research and analytical skills I began to develop through my SREP experience and continued to build upon throughout college have been an asset in my current job.”

- Caitlin Fogarty HB '03, University of Notre Dame, BS Chemical Engineering 2007,  
United States Patent Office Patent Examiner

In the SREP, Caitlin conducted mechanical engineering research at Case School of Engineering, and she also conducted theoretical astrophysics research in the Case Physics Department.



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Over the last decade, the Science Research and Engineering Program has become a phenomenon. It has garnered national attention, inspired educational innovation and won more than its share of awards. More importantly, it has changed the lives of hundreds of young women, opening not only minds and doors but also fields of possibility in science, technology and engineering.

## WHAT IT IS:

- Founded in early 1998, the SREP is an elective program beyond the traditional curriculum for Upper School students.
- SREP students conduct multi-year projects in real-life, state-of-the-art science and technology laboratories.
- Areas of study include engineering, biomedicine, biochemistry, nanotechnology, theoretical astrophysics, anthropology, robotics, space flight experiments on the International Space Station and more.
- Students work off campus in research locations including NASA Glenn, Case Western Reserve University, the Cleveland Clinic, and the Cleveland Museum of Natural History.
- Each year, approximately one-third of students in grades 9–12 enroll in the SREP.

The key to success is ownership. Students must care deeply about their projects, which is why we work hard to ensure that research topics develop organically. To get the process moving, students follow a 10-step plan:

## HOW IT WORKS:

1. Students register for the elective Research Seminar class that meets with the HB Research Director.
2. Students and the Research Director brainstorm possible research topics and identify the commitment each entails.
3. The Director seeks out and cultivates mentors in the research community.
4. As brainstorming progresses, the Director makes individualized placements between students and local research labs that are a good fit.
5. The Director arranges initial logistics and accompanies students on preliminary visits to outside research institutions.
6. Once placed, students go to their placement sites once per week after school plus several weeks in the summer for the duration of high school.
7. Students become assets in their laboratory placement over time and grow in knowledge and empowerment.
8. The Research Director remains involved throughout the entire process, making sure students remain reliable, responsible, and professional.
9. The Research Director identifies local, state, national, and even international conferences and competitions for students to enter (optional) and fosters them throughout the process.
10. Students graduate from HB and the SREP with the confidence and skills that enable them to become future leaders in their chosen fields.

It's difficult to measure the total effect of the SREP on students and our larger society, but here are a few snapshots of what they've done and the legacy they've left:

SREP students have sent three experiments to the International Space Station as a result of HB's PEACE Project. Space Shuttle Discovery carried the first experiment in 2001. Five days after launch, an astronaut mounted it on the outside of the ISS. That first experiment has since returned to Earth, a second and third have flown in space and returned, and a fourth is being prepared for flight. HB students are part of every step, including obtaining post-flight data and publishing the results in scientific papers on which they are co-authors.

Since 1999, the SREP has produced more than 100 finalists or semifinalists in the prestigious Siemens and Intel competitions, more than all other schools in Northeast Ohio combined.

The SREP was featured on the national PBS NewsHour with Jim Lehrer. The production team wanted to televise the top science program for girls in the entire US and selected HB. To obtain a DVD of this segment, please call HB's Office of Admission at 216.320.8767.

Seven members of the SREP have been named to the USA Today All-Star Academic Team. HB is the only school in Ohio whose students have accomplished this.

Two HB students have been inducted into the National Gallery for America's Young Inventors.

Three SREP students have earned full U.S. Patents, and several others have patents pending.

SREP students have amassed more than 160 professional publications as authors or co-authors.

The program has been featured in national publications including Inventor's Digest, Seventeen, Teen People, and Weekly Reader. Students have also been the subject of the book *Young Women of Achievement* as well as the PBS special Phenomenal Voyage: Women Engineering the Future.

SREP students have matriculated at MIT, Harvard, Princeton, West Point, Stanford, Columbia, Berkeley, Yale, Duke, Oxford, St. Andrews, the medical schools of Duke, Northwestern, and Brown, and Cambridge University as a Marshall Scholar, among other prestigious institutions.

Historically, STEM fields – Science, Technology, Engineering and Mathematics – have been desperate for the contributions of women, and HB graduates are filling the void. Our 10-year survey results show that 58 percent of SREP graduates went on to major in STEM fields, compared to 16 percent of all girls nationally.

