
**SREP 10-YEAR LONGITUDINAL SURVEY RESULTS: STATISTICS AND ALUMNAE UPDATES & COMMENTS**

compiled by Patricia K. Hunt, SREP Founding Director (Aug 2009, v5-15)

**Part I: SREP Ten-Year Survey Overview**

During the first 10 years of the SREP, from 1998 to 2008, over 300 students conducted over 400 major research projects in the SREP (many conducted more than one). The topics have been:

- Medicine…………………………………………………… 49%
- Engineering…………………………………………………… 25%
- Physical Science & Math…………………………………… 15%
- Environmental & Natural Science……………………… 6%
- Other………………………………………………………… 5%

Listed below are the locations where all of these projects were done:

- Case Western Reserve University,
  - CWRU Medical School, & University Hospitals….. 40%
- Cleveland Clinic…………………………………………. 25%
- NASA Glenn Research Center………………………….. 10%
- Cleveland Museum of Natural History………………….. 5%
- Other*…………………………………………………… 20%
  (*JCU, CSU, KSU, MetroHealth, private medical clinics, and more)

As of 2008, when this survey was conducted, there were 230 HB alumnae who had been in the SREP while at HB. Of the respondents:

- Undergrad data: 58% of the respondents went into STEM majors (science, technology, engineering, medicine or math)

  **STEM Graduate School Data:** 40% of respondents went to graduate or medical school in STEM:

  - 14% to medical school
  - 3% to veterinary school
  - 1% in an MD/PhD program
  - 7% in a bio related field
  - 15% in engineering, math, comp science or physical science

- Law School: 6% of respondents went to law school

- STEM Careers (but very few are out of grad school or med school)
  - 4% of respondents are in medical or biology related careers
  - 4% of respondents are in engineering or physical science careers
Part II: A Comparison of Statistics: 10-year Hathaway Brown SREP Survey Data versus National Statistics for Girls:

Table 1. Percent of Girls Entering a Four Year College Who Declared a Major in a STEM Field

<table>
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<th>Hathaway Brown SREP</th>
<th>All Girls Nationally</th>
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<tbody>
<tr>
<td></td>
<td>58% of HB SREP grads declared STEM majors when entering college</td>
<td>16% of all males &amp; females entering college in US &amp; declaring STEM majors were female</td>
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Table 2. Percent of Girls Who Received BS Degrees in STEM Fields:

<table>
<thead>
<tr>
<th>STEM Field</th>
<th>SREP Graduates*</th>
<th>All Girls Nationally**</th>
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<tbody>
<tr>
<td></td>
<td>(% of SREP grads who completed BS degree in STEM)</td>
<td>(% females of all who completed BS degree in STEM)</td>
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<tr>
<td>Biology</td>
<td>25% (43% of those who began)</td>
<td>5.2% (32% of those who began)</td>
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<tr>
<td>PhysSc, Mth, CompSc, Eng</td>
<td>15% (26% of those who began)</td>
<td>3.3% (21% of those who began)</td>
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<tr>
<td>Combined STEM Fields</td>
<td>40% (69% of those who began)</td>
<td>8.5% (53% of those who began)</td>
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* based on results of 10 year survey, 1998-2008
** from Dept of Education National Center for Education Statistics “Digest of Education Statistics”

Part III: What kinds of things have our SREP alumnae from 1998-2008 accomplished in just their first ten years out of HB? (a partial list):

Worked in Fiji, conducted original ethnographic research - Amy Saltzman (HB’01)
International stewardship grant to study medical mission work in Bolivia, summer, 2003 - Adriene Fluerke
Summer abroad London, 2005, Lubrizol and GOJO Industries, summers of ’04 and ’06 - Caitlin Fogarty (HB’03)
Deferred Harvard MD/PhD program for a year to work at an NGO called “mother2mother” in Cape Town, South Africa – Amy Saltzman (HB’01, Princeton’05)
Harvard Medical Research Lab – Sarah Tyler (’98)
National Security Agency (Washington, DC?) – Linda Hung (’01) – summer 2004
Lehman Brothers Investment Banking, NYC, (technology or healthcare sector) – Elina Onitskansky (’02), summer 2005
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Stanford 2004 Donald Kennedy Award to senior who best exhibits excellence in academics, athletic ability, & community service- Christina Saikus (HB’00)

NIH Stanford Haas African Service Fellowship (10 weeks in Africa) – Maya Wolpert

Stanford Overseas Seminar (20 days, London and Paris) on craniofacial deformities – Maya Wolpert

Works in Sloan Kettering Institute lab (Dr. Jennifer Zallen) at Weill Cornell Graduate School - Emily Marcinkevicius (HB’02)

As Harvard undergrad, CEO &CFO of the only national undergraduate-run journal publishing original research (www.jyi.org): business director of the 2nd “National Symposium on the Advancement of Women in Science” Elina Onitskansky (HB’02)

Athersys, Cleveland: Amy Saltzman(’01) – summer, 2002

Los Alamos National Laboratory, New Mexico: Ann Lai (’01) – summer, 2002


Harvard University Nanotechnology Lab: Elina Onitskansky’02 – summer 2003

Boston area biotech research lab: Amy Saltzman’01 – summer 2003

Boston area technology lab: Ann Lai’01 – summer 2003

MetroHealth, Rammelkamp Research Center, Cleveland: Lindsay Breedlove(’00) – summer, 2001

Returned to work summers in Cleveland Clinic Research Labs where they conducted their research while at HB: Jacqueline Kish (’02), Sarah Tyler (’98), OUTREACH SRP students Kim Vargas (Rhodes High School, ’02), Jessie Walker (Rhodes High School, ’01 – summers 2001 and 2002), Kim Vargas (OSRP, Rhodes 02) – summer 2002 and summer 2003, Anita Damodaran- summer 2004

Case School of Medicine Research Labs – Johanna Busch (’00), Mariam Khan

Law School

Carolyn Kaminski (HB’01) – Case Western Reserve School of Law

Erica Youngstrom (HB’02) – Vanderbilt School of Law, International Law with classes in Venice

Lindsay Breedlove (HB’00) – Harvard Law (JD expected 2009)

Alli Tuffour (HB-02) - Ohio State University School of Law

Veterinary School: Rose McDonough (HB’02) – The University of Glasgow

Of particular note:


Joanna Busch (HB’01) – Fulbright Scholar, Taiwan after U of Penn Bachelors; then, in fall 2005, on to Cambridge in UK for Masters in Bioscience Enterprise; then NIH, then U of Penn Med School

Cynthia Wambsgans (HB’00) – MS in Geosciences, Univ of Iowa - Peace Corp in Tanzania at base of Mt. Kilimanjaro teaching math and chemistry

Amy Saltzman (HB’01) – Princeton Pine Award (highest award to graduating senior), Harvard MD/PhD in Anthropology, after a year of service in South Africa (mothers2mothers AIDS prevention program)

Ann Lai (HB’01) – Harvard PhD in Theoretical Mechanical Engineering, to finish late 2009

Christina Saikus (HB-’00) – Stanford Donald Kennedy Award (see above), PhD in Biomedical Engineering, Emery/Georgia Tech

Part IV: You don’t have to take our word for it that the SREP profoundly affects the lives of young women. Just read the comments below to see what our alumnae have to say!

Catherine McCarthy (HB’07, Brown, neuroscience): “The SREP absolutely had an effect on my life. (It) 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.” (On HB’s PEACE Team, Catherine conducted space flight experiments at NASA Glenn through the SREP)

Maya Wolpert – (HB’06, Stanford, human biology): “My SREP experience affected me more than most other experiences in my life. The maturity and professionalism I developed through my research at Cleveland Clinic have proven very useful to me as I
have applied for, and been successfully receiving, various internships, jobs, and scholarships. My participation in various competitions through my SREP research taught me the values of public speaking, interacting with professionals, and being a good advocate for myself and my work. 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.” (At HB, Maya conducted research on autism at the Cleveland Clinic through the SREP)

Jane Chisholm (HB’05, Johns Hopkins, chemical engineering): “My SREP experience had a big effect on me. 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 from the experience that I did not want to only do lab work for the rest of my life but that there are many outlets for chemical engineers. In addition, it has been a good conversation topic during interviews. Now I am applying to get my masters in chemical engineering and then planning on working in industry. I would definitely not be where I am today if I had not been a part of the SREP at HB.” (Jane worked in a fuel cell lab in the Chemical Engineering department at Case through the SREP.)

Emily Marcenkevicius (HB’02; Pomona’06, BA in Molecular Biology; Weill Cornell Graduate School of Biomedical Sciences): The SREP experience was my first introduction to the world of scientific research (as there are no scientists in my family) and my professional life has since been dominated by the pursuit of a career in scientific research.” (Emily conducted BioMEMS research (Biological Microelectromechanical Systems), aka, developing micro and nano systems for use inside the human body, at the Cleveland Clinic through the SREP)

Amy Saltzman (HB’01; Princeton’05, AB Anthropology, Pine Award; Harvard MD/PhD (anthropology) program): The SREP affected my life. When I got to college, I figured I could find a way to pull together the resources and support to do just about anything. SREP made me think more broadly than the resources that were immediately apparent to me and search to find opportunities/possibilities that helped me travel to Fiji to do original ethnographic research and think outside the box about how to reform university policy.” (In the SREP, Amy worked in a genetics lab at Case that addresses issues related to Spinal Muscular Atrophy.)

Caitlin Fogarty (HB’03; Univ of Notre Dame, BS Chemical Engineering 2007; United States Patent Office Patent Examiner): “My SREP experience had a big effect on my life after HB. 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.” (In the SREP, Caitlin conducted mechanical engineering research at Case School of Engineering, and also conducted theoretical astrophysics research in the Case Physics Department.)

Joanne Wang (HB’07, Brown 8-year BA/MD program): “My SREP experience definitely had an effect on my life after HB. I really give this program credit for being the beginning stepping stones for my future career in medicine. I am in the BA/MD program at Brown University, and it is surprising to me how little research the undergraduates at Brown in this program conduct while in the undergraduate portion of the program. I think that HB’s SREP has well prepared me for the future research positions as well as other positions in the medical field.” (In the SREP, Joanne designed and made Microelectrochemical Biosensors to detect live and heart disease in the Case Chemical Engineering lab of Dr.C.C Liu)

Ashley Drieir (HB’07; Yale, Biomedical Engineering): “The SREP prepared me for advanced science and math courses and gave me research experience early on which gave me an advantage as I entered college.” (In the SREP, Ashley conducted math based genetic bioinformatics research in the Hematology/Oncology Department at the Cleveland Clinic.)

Claire Pavlak (HB’08, Emory, Emory Scholars Award): “SREP helped me understand the professional researcher’s life at such a young age that I was able to determine my future plans such as college and major choice with a great deal of concrete knowledge. I also understand the importance of perseverance, accountability, and accuracy to a greater extent now.” (In the SREP, Claire conducted fuel cell research in the Chemical Engineering Department at Case.)