



MEET THE NEW TRUSTEES

Two former electrical engineers, Nick Naclerio (1983–84) and Michele Gibson (1986–87), joined Dmitry Green (1994–95) this year as Churchill Scholar representatives on the Board of Trustees.

The Winston Churchill Foundation of the United States, which runs the Churchill Scholarship, is small compared with its peers and depends on an active and supportive group of Trustees.

A graduate of Duke University, **NICK NACLERIO** studied Metallurgy and Materials Science at Cambridge before going on to a PhD in Electrical Engineering at the University of Maryland.

He is the Founding Partner of Illumina Ventures, which invests in companies that are advancing the field of genomics

and pioneering new applications in healthcare, agriculture, environmental science, and personal wellness. He has served as Senior Vice President for Illumina. He was co-founder and Executive Chairman of the diagnostic company Quanterix, Executive Chairman of True Materials, and CEO of ParAllele BioScience.

Nick got his start in the life science field at Motorola, where he led the life science investment team and served on the boards of the SNP Consortium, Genometrix, Clinical Microsensors, and Orchid Bioscience. He founded and led Motorola Life Sciences, an early microarray company that was acquired by GE. While at Motorola, he was named to the Crain's Chicago Business "40 under 40" list.

Previously, Nick was a Program Manager and Assistant Director of the Electronic Systems Technology Office of the Defense Advanced Research Projects Agency (DARPA), was an officer in the US Air Force, and served on the board of semiconductor industry consortium SEMATCH.

Nick is currently on the boards of Twist Bioscience and Baebies and is a board observer at 23andMe. He lives in Menlo Park, California, with his wife, Jackie. They have three children in college (one at Vanderbilt, two at Duke) studying a range of STEM subjects.

A graduate of Harvey Mudd College, **MICHELE GIBSON** studied Engineering at Cambridge and went on to an MS in Electrical Engineering at Stanford University.

She is the founder of Palo Alto Digital, a consulting company that helps small businesses with search engine optimization. She is co-founder of the Palo Alto Writing Academy, a summer workshop for teenagers, and she founded Bright Lights Press, a boutique publisher that includes a Pulitzer Prize-winning journalist among its authors.

Prior to this she was Director of Web Marketing for Cisco. She was Technical Marketing Manager of Stratacom and Senior Engineering Manager at Electromagnetic Systems Laboratory, a subsidiary of TRW.

She lives in Palo Alto, California, with her husband Gary and two teenage children.

CHURCHILL SCHOLARS 2016–17

Chun Man Chow
Alexis Crockett
Mithi Alexa de los Reyes
Kara Fong
Ramya Gurunathan
Blake Hauser
Jillian Jaycox
Lisa Jones
Reuben Saunders
Travis Sawyer
Sammy Shaker
Mackenzie Simper
Henry Tran
Jean Wilkening
Karl Winsor

Letter from the Executive Director



Mike Morse in a
clean suit for visiting
Kate Groschner
(2015–16)'s lab, where
she worked on indium
arsenide nanowires

Every Churchill Scholar we select has broken new ground. This normally takes the form of a scientific achievement or advance that one rarely sees from undergraduates. In class, some Scholars set academic records, like achieving the highest-ever score for a course. It is such a privilege to see barriers fall and new heights reached, and I hope you enjoy reading about the achievements of this year's Churchill Scholars.

With this group, we have a few special milestones to celebrate. One of our Participating Institutions had wanted to nominate a 30-year-old senior and asked the Foundation why the Scholarship had been restricted to applicants age 19-26. We asked around, and no one could justify the age restriction. So, we tweaked the eligibility, removing the age limitation and replacing it with the stipulation that nominees must be in their senior year or within 12 months of graduation.

The pioneering 30-year-old nominee, while extremely impressive, did not win the Scholarship. To our surprise, the change in our eligibility criteria immediately led to the selection of the youngest-ever Churchill Scholar. We have had 19-year-old winners in the recent past, and this year we are excited to celebrate our first 18-year-old Churchill Scholar. It is not for me to make public the ages of any of our students, but I did want to acknowledge this amazing achievement and what it means for broadening participation for both older and younger Scholars.

Speaking of broadening participation, when the Churchill Scholarship started in 1963, Churchill College was all-male, and so, by default, was the Scholarship. In 1972, Churchill College, along with Clare and King's, became the first in Cambridge to go mixed, admitting both men and women. In 1974, we had the first two women Churchill Scholars. In 1977, four of the nine Churchill Scholars were women.

This year, thanks to the generous support of our alumni, we were able to select a record total of 15 Churchill Scholars, nine of them women. This represents the largest number of women we have sent to Churchill College in a single year. Prompted by this record-breaking year, I reached out to our first woman Churchill Scholar and also our ninth. Both used the phrase "life-changing" when describing the importance of the Scholarship.

In 1974, the Foundation sent Anita Crafts-Lighty (now Mills) to study biochemistry and Judith Schaeffer to study Geodesy and Geophysics. I was able to track down Anita, who has retired from a fascinating career in biotech and scientific publishing in the UK and now operates a private hotel in France. She said that she was "so accustomed to be the first woman to do this or that" that she did not realize that no women had been awarded this prize before her year.

In 1977, the Foundation appointed the sixth through ninth woman Churchill Scholars, and of the group I was able to contact Deborah Grubbe, who we can take to represent our ninth woman Scholar. She studied chemical engineering at Cambridge and went on to work for DuPont. Later, she moved to BP as Vice President of Group Safety, and she gives credit to the Churchill Scholarship for helping her to establish a global network and to understand British culture to the point where she could thrive at a British company. Now, she is back in the US and is owner and president of Operations and Safety Solutions, LLC.

I was struck how both Anita and Debbie had similar stories to tell: that they were not particularly conscious of breaking gender barriers but instead were wrestling with culture

shock and being made to feel like an outsider in Cambridge on account of being American.

Perhaps their experiences point to one of the most significant changes, beyond gender integration, that Churchill College has been through since 1963. Today, with 15 Churchill Scholars and many Gates Cambridge Scholars choosing Churchill, Americans are very well represented at the College.

As the cultural and academic barriers between US and UK fall, I'd like to think that this situation is exactly what Sir Winston Churchill had in mind when he proposed the Scholarship that bears his name. Sir Winston had envisioned a world where American and British scientists could travel freely through both countries, working together to advance technology, medicine, and science in order to secure a safe and prosperous future.

All of these changes are embodied in the Master of the College, Dame Athene Donald. Dame Athene is the College's first woman Master, and while she studied at Cambridge, she held her first post-doctoral job at Cornell University, living the reverse of the Churchill Scholar experience.

As this Scholarship contributes to the fulfilment of Churchill's vision, it is exciting to see what breakthroughs our Scholars achieve, both scientific and otherwise.

In Memoriam

The Foundation is sad to report that **RICK HARRISON** (1967–68) passed away in April at age 70. He was on a trip to Australia at the time. Rick studied chemistry at Harvard before he turned to nerve and muscle physiology during his Churchill Scholarship year in Cambridge. After that, he entered and then dropped out of Harvard Medical School to do his PhD at Cornell on the genetics of crickets in eastern North America. Rick spent most of his career at Cornell in the Department of Ecology and Evolutionary Biology and often served on the campus committee which selected Churchill Scholarship nominees.



Chun Man Chow

HOMETOWN
Hong Kong
INSTITUTION

UC-Berkeley (BS, Chemical
Engineering, Environmental
Engineering Science)
TO STUDY
MPhil, Advanced Chemical
Engineering
Department of Chemical
Engineering
and Biotechnology

CHUN MAN CHOW

Through his experience growing up in the polluted city of Hong Kong and frequent interactions with nature as a Boy Scout, Chun Man developed a strong interest in the environment. He has field-tested low-cost water treatment systems in West Bengal, India, he designed and built a portable arsenic remediation testing system, and he has worked on rechargeable batteries for electric vehicles at the Argonne National Laboratory in Illinois.

At Cambridge, Chun Man works with Dr. David Fairen-Jimenez in the Adsorption & Advanced Materials Lab to use molecular simulations to identify optimal metal-organic-frameworks (MOF) for natural gas storage and analyze the materials' stability. The implementation of MOF-based adsorbed natural gas systems can save costs and reduce energy and environmental impact in natural gas storage and transport.

Chun Man was awarded the Goldwater Scholarship, Tau Beta Pi Scholarship, and the SCI (Society of Chemical Industry) Scholar award. He won the Regents' and Chancellors' Scholarship for exceptional matriculating undergraduates and the Cal Alumni Association Leadership Award for students demonstrating innovative and motivational leadership. He won the first place prize for his poster presentation at the Berkeley Energy and Resources Collaborative Innovation Expo in 2013. He had a 4.0 GPA and has attained 21 A+ grades.

At Berkeley, Chun Man was co-president of the Bay-Area Environmentally Aware Consulting Network, through which he performed life-cycle analyses on pulp and plastic packing materials for a local packaging firm. Among his outreach and community volunteering work, Chun Man taught English in Japan and worked with orphans. Chun Man will focus his future work on water treatment technology and pollution control.

**Kara Fong****HOMETOWN**

Highlands Ranch, Colorado

INSTITUTIONStanford University (BS,
Chemical Engineering)**TO STUDY**MPhil, Materials Science
Department of Materials
Science and Metallurgy

KARA FONG*Russo Churchill Scholar*

In an age of wearable devices, there is an increasing demand for stable, low-cost, flexible, light-weight energy storage. Kara works with Professor Stoyan Smoukov in the Active and Intelligent Materials Lab to look at polymer-based supercapacitor electrodes.

Kara earned 25 A+ grades from eight different departments in her undergraduate career and earned numerous academic prizes. She won a Goldwater Scholarship and a DAAD RISE, which brought her to the Jülich Research Center in Germany to work on fuel cell-based power systems. At Stanford, she designed a technique for direct quantification of the hydrogen and oxygen products of water splitting, which continues to be used by others in the Jaramillo Research Group. She worked in this lab for her honors thesis on electrocatalysts, which won an award for an outstanding research proposal.

Through the Tau Beta Pi honor society, Kara has been dedicated to mentoring and tutoring. She also volunteered to teach English as a second language to Spanish-speaking staff members at Stanford. Her interests include the cello, juggling, and unicycling. She has already won an NSF graduate fellowship.

**Ramya Gurunathan****HOMETOWN**

Yardley, Pennsylvania

INSTITUTIONPenn State University (BS,
Materials Science and Engi-
neering/Nanotechnology)**TO STUDY**MPhil, Scientific Computing
Department of Physics

RAMYA GURUNATHAN

In a summer internship in Japan, Ramya designed computer models to study a material used in electric vehicles, and at the US Department of Energy's Lawrence Berkeley Laboratory, Ramya developed a robot into a tool for the high-throughput discovery of nanoparticles. Ramya has also spent time at Leiden University in the Netherlands in the Superconducting and Ferromagnetic Materials Group. These experiences inspired her to study scientific computing at Cambridge, which is a center of innovation in the burgeoning field of materials informatics.

Ramya's proposed work in Cambridge is on "high-throughput computational determination of multi-component phase diagrams," which can be incomprehensible for non-scientists. She has dedicated herself to the dissemination of complex scientific ideas. While acting as the Director of Local Projects for Penn State's Engineers Without Borders, she hosted monthly science workshops for school children at the Discovery Space Museum. She is especially proud of a tour she organized with her graduate student mentor of the Nanofabrication and Materials Characterization facility, where she inspired fourth graders to dream of a career in engineering. Ramya also enjoys mentoring other students, and she worked as a teaching assistant for a materials design course, where most of the students were her classmates. There she helped the students design research proposals that were then submitted to a board of alumni industry leaders. Ramya was a member of Penn State's highly competitive Presidential Leadership Academy, where she helped draft a proposal for curriculum reform.

At Penn State, Ramya founded and led a classical Indian dance team, and she choreographs dances for national competitions. She is also a fan of jazz music. She has already won an NSF graduate fellowship.

**Blake Hauser**

HOMETOWN

Marietta, Georgia

INSTITUTION

University of North Carolina–
Chapel Hill (BSPH,
Environmental Health
Science, Biology/Chemistry)
TO STUDYMPhil, Biological Science
Department of Zoology**Jillian Jaycox**

HOMETOWN

West Chester, Pennsylvania

INSTITUTION

Carnegie Mellon University
(BS, Biological Sciences)
TO STUDYMPhil, Medical Science
Department of
Clinical Medicine**BLAKE HAUSER***Epstein Churchill Scholar*

Looking back at what led her to pursue a research career, Blake points to her experience at a UNC-sponsored clinic in Malawi, where the HIV prevalence is around 15% overall and nearly 50% in some communities. There, she designed and supervised the installation of a hand-washing station in a rural village and worked with young mothers looking for practical ways to drive down mother-to-child transmission rates. Back in the US, Blake studied the Lassa virus at the Rocky Mountain Laboratories and HIV at her home campus. She already has one co-authored publication and has more in the works.

At Cambridge, Blake works with Professor Derek Smith, Director of the WHO Collaborating Centre for Modelling, Evolution, and Control of Emerging Infectious Diseases. Professor Smith has developed a mathematical framework for studying the influenza virus through an antigen map, and Blake will pilot this application for HIV.

Blake arrived at UNC with a Morehead-Cain Scholarship, a prestigious four-year academic scholarship awarded for academic distinction and leadership potential. Elected Phi Beta Kappa her junior year, she has a single A- on an otherwise perfect transcript. She was one of only ten undergraduates selected to design and teach an undergraduate course. Her course was titled “The Re-emergence of Infectious Disease: From Cholera to Ebola and Beyond.”

The theme of Blake’s extracurricular activities has been outreach. She has long been involved with a Leadership Training Academy for middle school students with incarcerated parents. And, just like the Winston Churchill Foundation itself, which expanded to 15 Churchill Scholars this year thanks to fundraising, Blake initiated a successful campaign to raise \$30,000 in 2015 to expand the Eve Marie Carson Junior-Year Scholarship at UNC, and as Executive Director of that Scholarship she supervised the selection process. She was President of her sorority chapter.

JILLIAN JAYCOX

Jill works with Professor Ken Smith, Head of the Department of Medicine, to investigate prognostic biomarkers for autoimmune diseases such as systemic lupus erythematosus (SLE) and anti-neutrophil cytoplasmic antibody-associated vasculitis (AAV).

At Carnegie Mellon, Jill won an Andrew Carnegie Society Scholarship, which recognizes academic excellence, volunteerism, leadership, and involvement in student organizations, athletics or the arts. She was a Goldwater Scholar, has earned numerous academic honors and had a 4.0 GPA. Jill was also awarded the Gina M. Finzi Memorial Student Fellowship, given by the Lupus Foundation of America, to support her research on SLE at the University of Pittsburgh. Jill has co-authored three scientific publications from her previous work on the immune response to fungal pathogens that she conducted at the University of Pittsburgh.

Jill has been an athlete for all four years on CMU’s track and cross country teams. She was Co-President of The Triple Helix, an undergraduate-run journal of science, society, and law. She has worked as a student instructor for Physiology (preparing original teaching content), and served as a mentor for new students. She participated in community service through the Circle K club and was a volunteer for the Animal Rescue League of Pittsburgh.

END-OF-YEAR GIVING

Last year, Churchill Scholar alumni gave a record \$113,186, enough to fund a 15th Scholar for this academic year. Let’s break that record and keep the number of Scholars at 15!

You can donate by credit card through our website (www.churchillscholarship.org/howtogive.html) or send a check to the Winston Churchill Foundation of the United States, 600 Madison Avenue, Suite 1601, New York, NY 10022.



Lisa Jones

HOMETOWN

Chandler, Arizona

INSTITUTION

United States Military Academy

(BS, Computer Science, Mathematical Science)

TO STUDY

MASt, Pure Mathematics

Department of

Pure Mathematics and Mathematical Statistics



Reuben Saunders

HOMETOWN

Santa Cruz, California

INSTITUTION

Massachusetts Institute of

Technology

(SB, Chemistry)

TO STUDY

MPhil, Medical Science

(Cambridge Institute for Medical Research)

LISA JONES

Gerschel Churchill Scholar

Lisa is interested in quantum computing, a theoretical computation system that uses the principles of quantum mechanics and which would pose cyber security challenges if realized. Having graduated as a double major in computer science and math, Lisa is taking Part III mathematics at Cambridge, where she takes courses such as category theory, combinatorics, commutative algebra, and representation theory to enhance her understanding of quantum computation and information.

Co-authored publications early in her time as a cadet at the US Military Academy led to an internship for Lisa at the Computational Physics Division at Los Alamos National Laboratory. Her success there, in turn, convinced the Academy to make an exception to its policies and create a first-of-its-kind semester exchange with the National Security Agency, where Lisa was treated as a visiting researcher in the Math Research Group. Then she spent a summer at the Summer Conference on Applied Mathematical Problems (SCAMP) as the only invitee who was not already at least a doctoral candidate. She returned to SCAMP the summer after graduation. The Computing Research Association named Lisa an Outstanding Undergraduate Researcher for 2016.

With multiple USMA academic awards and a GPA above 4.0, Lisa was the cadet-in-charge of the Department of Foreign Languages Piano Program, and she has performed solo as well as alongside winners of the Puccini Foundation opera competition. She was the chairperson of USMA's chapter of the Association for Computing Machinery's Committee on Women in Computing and a member of the Cadet Competitive Cyber Team, which is ranked in the top 10 nationally. She also worked as a tutor to fellow cadets.

REUBEN SAUNDERS

Kanders Churchill Scholar

Reuben started his undergraduate education at Columbia University, where he focused on intellectual history and literature. During his first year, he was inspired by a bioengineering talk and joined a tissue engineering lab, where his work led to his first co-authored publication. He soon transferred to MIT to major in chemistry, and there he has maintained a perfect GPA.

At Cambridge, Reuben joined the lab of Professor David Ron of the Cambridge Institute for Medical Research, where he investigates proteins involved in cellular homeostasis, particularly as it relates to stress in the endoplasmic reticulum. This work builds upon research on the cellular machinery for protein degradation that Reuben conducted in Bob Sauer's lab at MIT. Also at MIT, Reuben studied the molecular and cellular mechanisms that control regeneration in flatworms.

Reuben was the editor-in-chief of the MIT Undergraduate Research Journal and served as the president of the MIT undergraduate chapter of the Sigma Xi honor society. He is passionate about conveying scientific ideas to inspire the next generation and taught science classes to middle school and high school students through MIT's Educational Studies Program. Reuben has won numerous academic awards, including an Amgen Scholarship and the undergraduate writing prize from the MIT history department. He has already won an NSF graduate fellowship.



Travis Sawyer

HOMETOWN

Oro Valley, Arizona

INSTITUTION

University of Arizona
(BS, Optical Sciences and
Engineering/Mathematics)

TO STUDY

MPhil, Physics
Department of Physics



Sammy Shaker

HOMETOWN

Roseville, Minnesota

INSTITUTION

University of Minnesota
(BS, Chemistry, Mathematics)

TO STUDY

MPhil, Materials Science
Department of Materials
Science and Metallurgy

TRAVIS SAWYER

Gabelli Churchill Scholar

Travis' goal is to make advances in medical optics so that diseases like esophageal cancer can be detected more quickly. Current imaging techniques provide poor contrast for detecting dysplasia (one of the first warning signs of cancer), but Travis proposes to use recent developments in hyperspectral imaging to improve the visual resolution of these anomalies. At Cambridge, he works in Dr. Sarah Bohndiek's laboratory as well as with the Cancer Research UK Cambridge Institute.

While an undergraduate, Travis was invited by Professor Robert Erdmann to join his image processing research group. There, he helped design a novel machine learning technique that may help identify tumors, and he started a software consulting business that will allow the public to access image processing software. While working with Erdmann, Travis has also used image-processing techniques to help authenticate a painting attributed to Vincent Van Gogh. Travis spent a summer at the University of Stuttgart working in the Optical Design and Analysis Group to analyze freeform illumination systems using a method called "phase space."

Travis is one of two Churchill Scholars this year (along with Mia de los Reyes) to have received the Astronaut Scholarship twice. He also received the Goldwater Scholarship, and he was a member of the team that designed the winning entry for an infrared imaging system to be sent to Saturn's moon, Titan, to photograph the seafloors. He has many other academic awards and maintained a 4.0 GPA. He has a passion for sharing his knowledge with younger students and the general public, and his demonstrations have reached over 2,000 people in the past academic year. He has already won an NSF graduate fellowship.

SAMMY SHAKER

Sammy plans to study phase transitions in metal-organic frameworks (MOFs) in the Cambridge lab of Professor Anthony Cheetham. Sammy began his explorations in the scientific field as a student of the University of Minnesota's Talented Youth Mathematics Program (UMTYMP). Sparked by an interest in mathematics, he began working on projects in mathematical neuroscience and error-correcting code theory, which led to a single-author publication. He found his passion for chemistry, however, as a high school and college student at the University of Minnesota-Twin Cities. His projects with Dr. Andreas Stein, in the study of silica gardens, porous and layered metal chalcogenides, and MOFs, cemented his interest in chemistry research. Sammy also spent a summer in a biomaterials laboratory studying shears and stresses on a tissue-engineered heart valve.

At the University of Minnesota, only around 5% of those who take introductory chemistry then move up to the Honors General Chemistry course. Sammy was the best student in Honors General Chemistry *when he was still in the 11th grade*. Once he matriculated to the University, he maintained straight A's in his science courses. Sammy has the unique distinction of being the only student to have ever received a perfect score in every test and assignment in Inorganic Chemistry at Minnesota. In addition to his chemistry scholarship, he has won the Goldwater and Astronaut Scholarships.

Sammy has worked in the Emergency Department as part of a research project in a local hospital, and he founded a student group to promote screening for kidney disease. He looks forward to a career as a materials chemist, exploring novel materials for energy storage and catalysis.



Mackenzie Simper

HOMETOWN
Salt Lake City, Utah
INSTITUTION
University of Utah
(BS, Mathematics)
TO STUDY
MASt, Pure Mathematics
Department of
Pure Mathematics and
Mathematical Statistics



Henry Tran

HOMETOWN
Dublin, Ohio
INSTITUTION
Ohio State University
(BS, Chemistry and
Mathematics)
TO STUDY
MPhil, Scientific Computing
Department of Physics

MACKENZIE SIMPER

The first Churchill Scholar from the University of Utah, Mackenzie looks forward to deepening her knowledge of analysis and the foundations of probability in Part III pure mathematics. Mackenzie traces her interests in math to a linear algebra course that was heavily proof-based. This led her to drop her pre-med ambitions and focus on math. She is fascinated by the way inductive reasoning influences other fields of study like organic chemistry and computer science. She majored in math with minors in computer science and psychology.

She has participated in several National Science Foundation Research Experiences for Undergraduates (NSF REU), including the study of the Bak-Sneppen model of biological evolution. While completing a summer NSF REU at Brown University, she provided a rigorous proof in the study of dynamical systems with noise. Her current interest continues to be focused on probability and stochastic processes with an eye toward making contributions in the growing field of stochastic partial differential equations (PDEs). Mackenzie is the 2016 winner of the Alice T. Schafer Prize for Excellence in Mathematics by an Undergraduate Woman.

Mackenzie maintained a 4.0 GPA and has received numerous awards for academic excellence. She has competed in fencing at the national level, including at the 2012 Junior Olympics, and is also a published writer and poet.

HENRY TRAN

Henry looks to deepen his knowledge of numerical techniques and high-performance computing in the Scientific Computing course before further pursuing his career goal of developing computational methods in electronic structure theory. Describing excited electronic states is fundamental for much of chemistry, but it is often computationally unfeasible. At Cambridge, Henry intends to explore extensions to efficient mean-field-based methods to meet this challenge.

As a first-year undergraduate, Henry joined Professor Terry Miller's spectroscopy lab. He took on the notoriously difficult task of studying nitrate (NO_3), a challenging intermediate in the chemistry of industrial pollution, and produced the first rotational characterization. After giving an oral presentation at the International Symposium on Molecular Spectroscopy his sophomore year, his work caught the attention of Professor John Stanton at the University of Texas, and this project has expanded into a large collaborative effort.

Henry has received several academic awards including distinction as the top student in his class in the Department of Chemistry and Biochemistry his sophomore and junior years and as runner-up at the Bareis Ohio State Mathematics Competition. He won a Goldwater Scholarship, was inducted into Phi Beta Kappa, and had a near-perfect GPA.

Henry has organized fundraising drives and community volunteering activities for local hospitals. He was recognized as a Morrill Scholar for his commitment to diversity-based leadership and he served as a peer mentor for the Office of Diversity and Inclusion and the University Honors Program at OSU to promote engagement in STEM. He has already won an NSF graduate fellowship.



Jean Wilkening

HOMETOWN
Tucson, Arizona
INSTITUTION
University of Arizona
(BS, Chemical Engineering)
TO STUDY
MPhil, Earth Sciences
Department of Earth Sciences



Karl Winsor

HOMETOWN
Ann Arbor, Michigan
INSTITUTION
University of Michigan
(BS, Mathematics, Computer Science)
TO STUDY
MASt, Pure Mathematics
Department of
Pure Mathematics and
Mathematical Statistics

JEAN WILKENING

Dyer Churchill Scholar

Jeannie studies the role of microbial activity in biogeochemical cycling and how various pollutants are transformed and transported in anaerobic environments. While at Cambridge, she will further her research with Dr. Sasha Turchyn and study carbon, sulfur and iron cycling in marshes and their climate implications.

Jeannie has done two National Science Foundation Research Experiences for Undergraduates, one at Princeton University and one at the University of Michigan Biological Station. She has also done two study abroad experiences (in China and Sweden) on sustainable development. Jeannie is the recipient of multiple awards, including the Goldwater Scholarship, the Flinn Foundation Scholarship, and the Thomas R. Brown Scholarship (given to the most promising incoming engineering students at Arizona). Minor in Art History, she has been recognized as the top junior in the Chemical and Environmental Engineering Department and maintained a near-perfect GPA. She was president of Society of Women Engineers, which helps to promote STEM among female undergrads and K-12 girls.

Jeannie credits her success to the influence of great female role models, including her own mother, who was a science teacher in the middle school that both Jeannie and Travis Sawyer attended. Jeannie volunteered as a tutor in math, science, and engineering classes, and she helped recruit students to the Honors College. She has already won an NSF graduate fellowship.

KARL WINSOR

Karl has worked on problems relating to complex dynamics, elliptic curves and their L-functions, and quantum computation. At Cambridge, he would like to advance his understanding of number theory, geometry, and computation.

Karl has completed two National Science Foundation Research Experiences for Undergraduates (NSF REU) at the University of Michigan as well as the prestigious SMALL REU at Williams College. Karl's research at SMALL led to three co-authored publications in number theory and random matrix theory. He has also conducted original research on quantum information and computer science in the College of Engineering.

Karl received a joint degree in mathematics and computer science through two separate colleges. Most of his grades were A+. He was a recipient of the Goldwater Scholarship, as well as the winner of several named prizes in the math department at the University of Michigan. He volunteered with Math Circle (an outreach math enrichment program) and the STEM Society. He was president of the Society of Undergraduate Mathematics Students and plays the mandolin. He has already won an NSF graduate fellowship.

> ON THE MOVE

Brenda Rubenstein was appointed Assistant Professor of Chemistry, Brown University

Kristi Beck started a post-doc in physics at the University of Maryland, College Park

2007

2008

2009

2010

2011

2012

2013

2014

2015

2016

Churchill Scholar Autumn Gatherings



Tour of Illumina in San Francisco

Churchill Scholars spanning 51 years met at the trendy STEM Kitchen in San Francisco on October 19 and were treated to a tour of Illumina. One week later, on October 26, Scholars from as far as Philadelphia gathered in Washington, DC, and were the first group to be taken around the newly opened National Churchill Library and Center at George Washington University.

At STEM Kitchen, Scholars enjoyed happy hour at a rooftop garden with breathtaking views of San Francisco Bay. Attendees included Norman McEachron (1964–65) from the Scholarship’s second year, as well as two of our most recent alumni, Jonathan Timcheck and Daniel Kang (both 2015–16).

The event was hosted by the Foundation’s newest board members (see separate article), Nick Naclerio (1983–84) and Michele Gibson (1986–87). Nick gave a behind-the-scenes tour of the Illumina Accelerator and Illumina Ventures, located downstairs from the restaurant. Both are funded by Illumina to support seed and early stage companies developing new applications of genomics. The group peered into a laboratory at what looked like a college mini-fridge. Nick explained that the machine can sequence a whole human genome in a single day. Illumina’s DNA sequencers generate over 90% of the world’s genetics data. Their most powerful machines cost \$1M each and are sold in packs of ten.

It was the first time that some of the Scholars had seen each other since Cambridge. Future Bay Area events will rotate among Stanford, Berkeley, and San Francisco.

The Foundation’s President, Patrick Gerschel, and Treasurer, David Burrows, along with Executive Director Mike Morse, were on hand in DC the following week to celebrate the opening of the new Churchill Library. On his third day in post, the Library’s Director, Michael Bishop, welcomed the group, which included a dozen Churchill Scholars.

Our next target for a get-together is Boston, so please contact the Foundation if you are in or near Boston and have an idea for an event. Also, stay tuned for a possible Philadelphia gathering. Alumni events are a great reason to make sure we have your up-to-date contact details, since we can only invite you if we know you live nearby. Anyone who’d like to help host or organize future events should let us know (mmorse@churchillscholarship.org).

Churchill Scholars gather at the National Churchill Library and Center at George Washington University. (left-to-right): Saniya LeBlanc, Yoni Kahn, Viviane Callier, Kristin Beck, Noël Bakhtian, Malisa Dorn, Roger Oba, Scott Wunsch, Kristin Abkemeier



CHURCHILL SCHOLAR OLYMPIANS

2004

2005

2006

2007

2008

2009

2010

2011

2012

2013

2014

2015

2016

No, we’re not talking about the Olympics that took place in Rio last summer. **Po-Shen Loh**, Churchill Scholar and Associate Professor of Mathematics at Carnegie Mellon University, has coached the USA Math Olympiad Team to two straight gold medals at the International Mathematics Olympiad. These two victories broke a 21-year drought for the American team.

Back in 2010, **Evan O’Dorney**, a four-time individual medalist at the IMO, had the second highest score in the competition. His team came in third place. The IMO is for pre-college students. Let us know if we have missed any Churchill Scholar participants.



“Dress as your research night” with Churchill Scholars: Back row (left-to-right) Travis Sawyer, Sammy Shaker, Chun Man Chow, Henry Tran, Reuben Saunders. Middle row (left-to-right): Kara Fong, Blake Hauser, Karl Winsor. Front row (left-to-right) Ramya Gurunathan, Mia de los Reyes, Jeannie Wilkening, Alexis Crockett, Lisa Jones, Jill Jaycox, Mackenzie Simper