Letter from the Director

Things are shaping up for another exciting fall in STPP! I’m thrilled to be filling Prof. Shobita Parthasarathy’s shoes this year as Interim Director while she enjoys a well-deserved sabbatical. Some of you know me from PubPol 650: Introduction to Science & Technology Policy Analysis. My history with STPP actually goes all the way back to 2008 when I was a postdoctoral fellow at the Ford School. Just a year out from my Ph.D. in the history of science, I was looking for ways to get involved in science and technology policy. I never thought that ten years later I would have the privilege of directing this vitally important program.

I’m delighted to introduce two new additions to our program. Dr. Molly Kleinman recently joined us as Program Manager. Dr. Kleinman has a Ph.D. in Higher Education from U of M, an M.S. from the School of Information, and is a proud STPP alum. We are so lucky to have her! On the faculty side, Dr. Robert C. Hampshire has joined the Ford School as Associate Professor of Public Policy. Professor Hampshire specializes in the policy, management, modeling, and optimization of mobility and smart cities technologies. He has worked in a number of cities—including Paris, Beijing, San Francisco, and Ann Arbor—to create smart systems that balance the demands of efficiency and equity.

Our student body is growing as well. A warm welcome to the 8 new students from across campus, including the Ford School, SEAS, and the School of Public Health, who joined the program last spring!

We have an exciting lineup of events this fall. We are especially thrilled that Professor Virginia Eubanks (University at Albany-SUNY), the author of Automating Inequality: How High-Tech Tools Profile, Police, and Punish the Poor, will join us for a Ford School Policy Talk in December. I look forward to seeing you there!

-Joy Rohde, Interim Director
Policy Advising at the National Academies: The Christine Mirzayan Science and Technology Policy Graduate Fellowship

Last January, I was fortunate to start my Christine Mirzayan Science and Technology Policy Graduate Fellowship at the National Academies of Sciences, Engineering and Medicine in Washington, D.C. The Mirzayan Fellowship is a training program that brings early career scientist and engineers--graduate students and postdocs--to the Academies for 12 weeks to learn about science and technology policy and to acquire hands-on experience in the process that advises the nation. During the fellowship, each fellow works on projects associated with any of the Academies’ units, under the guidance of a senior staff member acting as a mentor.

My work at the Academies’ Board on Energy and Environmental System (BEES) focused on three projects: (i) For the Subnational Climate Assessments workshop, I created a backgrounder on the historical developments of climate change assessments in California, and the policies that created the program and results of its findings. This information helped design the workshop content. (ii) I also developed stakeholder engagement strategies for a consensus study on technologies for improving fuel economy of light-duty vehicles, which could help the information gathering stage of the study in a similar fashion to the rulemaking process. (iii) For an ongoing collaborative paper with BEES staff, I gathered and analyzed data on climate technologies, geographically-distributed pollutant emissions, and international, national and subnational climate policies.

Fellows are also encouraged to explore the policymaking process in D.C. beyond the Academies’ work by attending workshops, conferences, Congress and Supreme Court hearings, and other events. During my time at the Academies, I went to several Senate hearings and panels organized by NGOs and development banks on various energy and climate issues, as well as to the ARPA-E Energy Innovation Summit. Informational interviews are also an important part of the fellowships; they helped me grow my network, get different perspectives on what an S&T policy career path may look like, and learn of job leads in Colombia, my home country.

A third component of the program consists of working with a group of fellows to develop a
discussion session on a current S&T policy issue, which in my case was carbon capture and utilization incentives in the U.S. Bringing my experience on roundtable discussions from my STPP coursework--especially PP510--enabled us to simulate an interesting Senate hearing on the topic with a subsequent tight voting process.

Overall, being a Mirzayan fellow has been one of the most rewarding professional experiences I have had outside my technical research. I had the opportunity to put in practice what I learned in the STPP program by connecting the S&T policy theory with the practice, while bringing my technical expertise on climate change and energy for transportation. On the personal level, living in D.C. with my family was amazing and we left the U.S. knowing more about its history, thanks to the free museums. Currently, I am back in Colombia where I am a Professor in Mechanical Engineering at the Universidad de la Sabana, also doing consulting work on technology assessments for decarbonization of the transportation sector.

Finally, I would like to give UM students interested in applying to the Mirzayan Fellowship a few tips that may be helpful, based on my experience:

1. Show that you care about S&T policy. There are several ways you can do this while on campus. The one I recommend the most is to enroll in the STPP certificate--or at least some STPP courses--as you feel more comfortable discussing S&T policy issues, both in your application essay, and during your interviews and the fellowship itself. Another thing you could do, if you are writing a research thesis, is to make your introductory chapter a discussion on the policy issues surrounding your topic and how your results could help inform the matter.

2. Demonstrate you policy writing skills. For some project, the committee may need you to help with literature reviews and policy backgrounders. If you are a PhD student you are expected to have scientific papers published, but if you can also show your policy-writing skills, you will have an advantage. My recommendation is to publish blogs, op-eds, policy analysis and memos, and technology assessments, or even try to publish in the *Journal of Science Policy & Governance*.

3. Put your policy interest into practice. You can get involved in students organizations like InSPIRE and run for UM representation positions that deal with S&T policy issues of your interest. In my case, I was one of the UM delegates to the UN Framework Convention on Climate Change - COP 23 in Bonn, Germany last year. I also was RSG...
representative to the UM SACUA Research Policy Committee in 2015.

4. Figure out the Academies’ units that may be your best match. Look into current and past projects, and the profiles of former fellows. You will have the opportunity to propose three units to host you. I would suggest including at least one experience related to each proposed unit in your essay, although you can show preferences for one over the other two.

5. Do not get too political in your essay. Keep in mind that, although you may not be happy about how S&T advising is being currently treated (Ahem! EPA), the Academies’ mission is to provide independent, objective, and nonpartisan advice to the current Administration.

Good luck in your application to the Mirzayan Fellowship! You can reach me out with questions at cbotet@umich.edu.

In March, I was given the opportunity to attend the American Association for the Advancement of Science CASE workshop (Catalyzing Advocacy in Science and Engineering). The CASE workshop is designed to serve as a thorough overview of science and technology policy, encompassing perspectives from multiple players in the S&T policy process. Over the course of the four-day workshop, graduate students from across the country hear presentations on essential S&T topics, with a focus on best practices for science advocacy.

The full days of the workshop were a marathon of policy talks and panels. Our first panel, a detailed primer on the federal S&T budget, was very aptly timed as the Omnibus was released while we were attending the workshop. This allowed us the unique opportunity to analyze the proposed federal budget armed with our fresh knowledge of the subject. AAAS Director Rush Holt and Rep Bill Foster (D-IL) gave poignant remarks on the importance of advocacy in the current political climate. A personal highlight was the session on how Congress really functions, given by Judy Schneider of the Congressional Research Service. Judy was introduced to us as a “national treasure”, and by the end of her engaging and informative presentation peppered with stories from her forty years working on the Hill, it was apparent that the introduction was not an exaggeration.

Judy’s presentation also gave important context for the culminating event of the workshop - our
trip to Capitol Hill. After getting some sage advice from the AAAS Government Relations team, we broke into groups to plan for the next day’s Hill visits. For our breakout session, we teamed up with the other Michigan universities present – Michigan State, Wayne State, and Northern Michigan. Our session spent strategizing how to make the most out of our Hill visits with Michigan lawmakers was my favorite experience of the workshop. We discussed the issues that mattered to us as graduate students (such as student loan debt and basic research funding) and how to best approach presenting those at our meetings. Being able to connect with other Michiganders served as a unique reminder of the ways we can work together to be involved in policy.

Unfortunately for us, the weather was not on our side and many of our Hill visits were cancelled due to significant snow (at least significant by D.C. standards!). Despite the weather we were able to keep a few appointments, including a meeting in the office of Senator Tim Scott (R-SC) where we got to meet the senator himself.

I highly recommend the CASE workshop to any student who is interested in S&T policy. Getting to hear from a variety of different voices and areas of expertise really helped me better understand the intricacies of the S&T process. The workshop allowed me to connect with graduate students from throughout the country and with professionals in the field. I left the workshop with a renewed sense of enthusiasm that I could not wait to bring back to the STPP program.

As my final class in the STPP program, I provided research and think tank services for the UM Washington Office. Besides being an incredible opportunity for STPP students, this program provides a model for how STPP can provide valuable advice to stakeholders and inform policy. I worked with Kristina Ko, Senior Director of Federal Relations for Research, with Prof. Shobita Parthasarathy as my faculty advisor. I worked on two different types of projects: long term research papers (one 15 page paper on artificial intelligence, one 5 page paper on autonomous vehicles) and quick-turnaround, 500 word memos which I had 48-72 hours to complete after receiving the assignment. These shorter assignments dealt with S&T topics of current critical interest to Kristina to help with her work in briefing members of Congress or preparing faculty to give Congressional testimony.

My transition into “real world” memo writing was not perfectly smooth. In fact, the work I did for Kristina was some of the most challenging I did in graduate school, thesis writing included. It challenged me to think, research, and write in different ways. Shobita pushed me to grapple with the broader social questions of access, bias, expertise, and knowledge creation associated with these S&T issues in ways I had not before.

Below is a general outline of the process I learned for “real world” memo writing after 510 and 650. I took what I learned in these classes about memo writing and adapted it to fit my working style. This isn’t the “linear model” of memo writing (there’s a PubPol 650 callback for you). In class, you usually have at least a week to research, plan, and write
your memos, whereas in the “real world,” you may get 24 hours, or even one hour, before your boss needs a recommendation. With less time, you may be forced to triage your sources and write more quickly. The best piece of advice I have is, no matter how soon your deadline, leave time to edit.

1. Read, read, read, but be judicious about your sources
I spend more time researching, reading, and re-reading than actually writing. Find good, scholarly sources, and if you cannot find any, look for a news article on the subject, which will often contain a link to peer-reviewed research. If you don’t agree with the conclusions, consider why this might be, including your bias and potential biases of the author/publisher. Read conflicting points of view. Make sure to read on both sides of the debate, especially if you are primarily going to be arguing one side and making a recommendation. Use your research to decide on your arguments, counterarguments, and rebuttal before beginning to write. Your goal is to find the strengths and weaknesses of your given position. This means you need to research, use, and (most importantly) rebut the strongest counterargument.

2. Structure your memo with meaningful headings (and sub-headings)
I outline my memo before I begin writing by starting with the headings and subheadings. Going through the process of writing the headings helps me to clarify my arguments, and helps me see what I am missing. The goal is to condense your headings to their strongest, most concise form. If you cannot make your heading a short sentence, you probably have too many thoughts in one section or you need to combine your arguments into a larger point. Writing out the headings also forces you to examine the flow of the memo and identify points at which your arguments might be weak or faulty. Use phrases, or even entire (short) sentences. Do not use your headings to merely name the section; that is boring and does not actually tell your reader anything meaningful. The headings should be the thesis/main argument of the section. Be honest with yourself: if you need more information, do not hesitate to go back to step one and research more.

3. Jot down your arguments and evidence in the appropriate section
At this point, I write out my arguments and key pieces of evidence as phrases or short sentences. This process feels very stream-of-consciousness and is a chance for me to get my thoughts out. The document can get messy - lots of hard returns, words, and phrases scattered throughout. This process helps me figure out exactly how I might want to make my points. Often, I change the headings as I start to craft the argument and identify what my topic phrase or sentence is.

4. Write your paragraphs
Fill it all in, add the transition sentences, but be concise. The best piece of advice I heard regarding memo writing in the real world came from a talented former STPP-er who works in science policy in D.C.: if it has a staple, it’s going in the trash. Front and back are the most you are ever going to get, and 500 words is often a luxury in this work. Get to the point, tell your reader why it matters, what the most compelling evidence is, and what you recommend. Also, remember to leave some words/space for your Executive Summary.

My training as a scientist taught me to explicitly discuss all the facts, supporting data, and sources in my writing. For example, I (still) instinctively want to write something like, “According to a 2012 report by the XYZ thinktank, 12% of biomedical research…” Instead, tell your reader the punchline of the research and why it matters: “Every dollar invested in biomedical research returns $XX in reduced healthcare costs and increased worker productivity.”

5. Write your Executive Summary
The Executive Summary should be the last thing your write. It is much easier to do once you have already settled all your points. Use your headings
as a guide. State the implications of the science, acknowledge counterarguments and provide a rebuttal, (e.g., “Opponents of this bill cite potential economic burden to states, but…”), and give your recommendation. The executive summaries I write are generally 2-4 sentences and not more than 75 words.

6. Edit, edit, edit
Start with the the obvious and check for typos. But, also find places where you can be clearer, more concise, and not repeat yourself. Do not use adverbs unnecessarily and quickly remove any verbiage or jargon unless your reader will definitely understand it. Make sure every sentence serves your argument. Even if it holds your favorite fact, a wasted sentence is a wasted sentence. The passive voice is to be avoided in memos.

Not all of this may work for you. Take what you need, leave the rest. Happy writing!

STPP in the Field is made possible, in part, by STPP Student Career Development Grants awarded to each of our student authors.

The STPP Student Career Development Grant is designed to provide supplemental support for students to attend STPP-related conferences and professional development events that may otherwise be cost-prohibitive.

Eligibility: Funds are available on a first-come, first-serve basis. You must be in good academic standing and have successfully completed two of the three STPP core courses. Students enrolled in their second STPP core course when the application is submitted are also eligible. You may apply once per fiscal year. Applications will not be considered for retroactive funding. MPP/MPA students should contact the Graduate Career Services department for information on how to apply for FSPP-specific professional development funding.

Award Description: The STPP Student Career Development Grant can be applied to STPP-specific career development activities, including conferences (e.g., AAAS or 4S Conferences), workshops (e.g., Science Outside the Lab), and unpaid or underpaid internships.

Application Procedure: Completed applications must be submitted prior to the start of the professional development activity. You may apply for the funds at any time, but the funds will not be disbursed until we receive your paid registration receipt. For more information: http://stpp.fordschool.umich.edu/grant/

Rachel Wallace, PhD ’18
Welcome New STPP Students!

Winter 2018 Cohort

Hanan Al-Awadhi, MS Industrial and Operations Engineering
Hanan is pursuing a Master’s degree in industrial and operations engineering with a concentration in healthcare engineering and patient safety. She is also a graduate student research assistant at the U-M Center for Healthcare Engineering & Patient Safety. Her research interests focus on informed healthcare policy-making, in particular policies related to healthcare technologies, regulations and safety in healthcare. Hanan earned her Bachelor degree in biomedical engineering from Boston University in 2005. In 2016, the Federation of Arab Engineers named Hanan as one of ten distinguished women engineers in the Arab world.

Kelsey Blongewicz, MS Environmental Informatics, Environmental Policy & Planning
Kelsey Blongewicz is a student in the School for Environment and Sustainability, pursuing a Master’s degree with a dual emphasis in Environmental Informatics and Environmental Policy and Planning. She is interested in using spatial data to better inform strategies and policies surrounding landscape conservation and habitat preservation. Currently, she is working with a team of students to identify the ecological impacts of climate change and anthropogenic development on a nature preserve in Homer, Alaska, and will subsequently define long-term management strategies for coping with these stressors. Outside of class, Kelsey enjoys cooking and watching baseball, and hopes to one day have time to read novels.

Laura Grier, MS Environmental Justice
Laura Grier is a Master’s student in environmental justice at the School for Environment and Sustainability. She is a North Carolina native and is interested in the intersections between environmental justice and education, as well as food justice issues and initiatives. Through her academic program, Laura is currently working in partnership with the Michigan Environmental Justice Coalition to conduct an assessment of environmental justice in Michigan, with a focus on air pollution issues in Detroit. Outside of school, Laura likes to run, cook, and be outside.

Luca Henrion, PhD Mechanical Engineering
Luca is a Ph.D. candidate in Mechanical Engineering studying radiation heat losses in internal combustion engines. He was born in Belgium and lived in Albuquerque, New Mexico for 15 years before beginning his graduate studies in Michigan. He has seen firsthand the impact that policy has on peoples choices around the world, especially surrounding transportation. He hopes that through advanced study of policy he can learn how to bridge the gap between his research and its broader impact on society. Additionally, he is involved in the Rackham student government as the external affairs officer where he lead state and national advocacy efforts for graduate students.
Marlotte de Jong, MS Environmental Policy and Planning, Environmental Justice
Marlotte de Jong is pursuing a Master’s degree from the School for Environment and Sustainability in Environmental Policy and Planning and Environmental Justice with a regional focus on sub-Saharan Africa. Her interests center on the nexus between violence and the environment and assessing international policy development for environmental conflicts. Before attending the University of Michigan, she graduated cum laude from Vanderbilt University with degrees in Psychology and Environment and Sustainability Studies. After graduation, she worked for the World Agroforestry Centre, a sustainable development NGO based out of Nairobi, Kenya, as part of their Program Development Unit.

Saachi Das Kuwayama, MS Environmental Policy and Justice
Saachi Das Kuwayama (she/her/hers) is a master’s student in environmental policy and justice in the School for Environment & Sustainability (SEAS). Her research explores the gendered dimensions of water politics and protest in east India. Saachi is also involved in several Diversity, Equity, and Inclusion (DEI) initiatives on U-M’s campus. She serves as the Vice President of Diversity in SEAS’s student government and is a research assistant on a ‘Diversity in Environmentalism’ project. Aside from academics, Saachi likes to cook, play violin, and read George Saunders’ short stories.

Brenda Cisneros Larios, PhD Molecular and Integrative Physiology
Brenda Cisneros Larios is a graduate student in the Molecular and Integrative Physiology department. She has an undergraduate and master’s degree in Physiology. Her minor in Health Education and her background as a scientist sparked her interest in science and policy. Her research interests are in neuroendocrinology and understanding neural circuits that regulate reproduction. She is interested in understanding the policy making process and how she can use her scientific background to improve science policy.

Emily Mueller, PhD Chemistry
Emilly Mueller is a 2nd year Ph.D. student in the Department of Chemistry, where she works in Prof Anne McNeil’s group. Her main research focus is making polymers for organic solar cells – which are flexible, lightweight, and cheaper to manufacture than typical silicon solar cells. With these polymers, she hopes to improve solar cell thermal stability and performance. When she’s not in lab, you can find her outside (biking, hiking, running, or really anything in the sunshine), enjoying music (piano, singing, guitar), reading, or baking bread. She is excited to start the STPP program to connect with a broader community of scientists and to learn about science policy (particularly environmental/energy policy)!

For more information about the STPP Program:
(734)615-6942
stpp@umich.edu
http://stpp.fordschool.umich.edu
Follow us on Twitter! @STPP_UM
Gilberto Soria Mendoza, MPP ‘18, writes: “After 10 years away, I am back in the San Francisco Bay Area. I am also excited to start a new job at the San Francisco Public Utilities Commission working on their Policy and Government Affairs team. I am new to the public utility policy space and am looking forward to learning the issues and establishing a career in local government.

“I know many of you do business in the Bay Area, let me know if you are ever around and we can grab coffee, lunch, or drinks. Thank you for enriching my time at the Ford School.”

Ben Isaacoff, Applied Physics ‘18, received a AAAS Congressional Fellowship. Congressional Fellows serve a 1-year term as special legislative assistants on the staffs of U.S. congressional offices or committees in Washington, D.C. Ben will serve as the 2018-2019 Arthur H. Guenther Congressional Fellow, which is co-sponsored by the Optical Society (OSA) and the International Society for Optics and Photonics (SPIE).

Attn: STPP Alumni, we want to hear from you!

• Do you have news that you would like to share with the STPP Community? What have you been up to since graduating from U-M? How has the STPP certificate helped you professionally?

• Would you like to be involved with STPP Program activities?

• Email Molly Kleinman (mollyak@umich.edu) with your story and/or updated contact information.