ALUMNI PROFILE

His Mission: Help Ph.D.s Get the Jobs they Love

"My students' happiness is my success"

Roman Holowinsky was at a crossroads.

The Rutgers senior was graduating with a bachelor's degree in math and computer science, but had no idea what to do next.

He made a last-minute decision to attend graduate school. "Academia was the career path I was most aware of," says Holowinsky RC'01. "I just felt I should get my Ph.D. in math."

His decision worked out well. He studied under Henryk Iwaniec, the renowned analytic number theorist in the Rutgers Department of Mathematics. Holowinsky ultimately joined the faculty of The Ohio State University in 2010, where he remains today as a tenured professor specializing in analytic number theory. His research has received prominent awards, including a Sloan Fellowship and the SASTRA Ramanujan Prize.

But his experiences as a young adult—from grappling with decisions about graduate school and careers, to adjusting to life as a new faculty member—have motivated him to find a second calling in which he seeks to help young scholars facing similar hurdles.

> "Being at Rutgers is a huge advantage—living in this very diverse, high-energy, real-world experience."

At Ohio State, Holowinsky has been instrumental in the creation of two academic "startups" that may become national models: the STEAM Factory and the Erdős Institute.

The STEAM Factory is a network of scholars that promotes interdisciplinary collaboration and stronger connections to the Columbus, Ohio community. Once a fledgling meetup group for new faculty, the STEAM Factory now has its own headquarters, hundreds of faculty participants, and regular programs that include seminars, open houses, and public lectures.

"We had all these people in search of community," says Holowinsky. "Then what started as academic community grew into academic collaboration."

More recently, Holowinsky formed the Erdős Institute to focus on the needs of another academic community: doctoral students and post-docs.

The mission is simple yet daunting: "We help Ph.D.s get the jobs they love while helping companies hire the Ph.D.s they need," he says.

The Erdős Institute works to build a pipeline between academia and industry through initiatives that include month-long "boot camps" to teach industry-specific skills, such as data science. The institute arranges for internships at companies and holds seminars in which Ph.D. alumni working in industry meet current graduate students and post-docs from similar departments.

The program has expanded to Rutgers and the University of Michigan. Holowinsky says the institute brings an innovative new approach to career development.

"The key is connecting corporate and alumni engagement by building community among our Ph.D. students and Ph.D. alumni," he says.

Supporting these students is urgent, Holowinsky says. Universities in the United States are graduating more than 40,000 science-based doctoral students annually. Yet there are only about 3,000 permanent faculty jobs opening up every year. And though there are employers in tech, finance, and other sectors seeking well-educated talent, many traditional academic departments lack industry connections.

"My students' happiness is my success," Holowinsky says. "With the oversaturation of the academic job market, we have a responsibility to educate them about all the opportunities that are out there."

Since launching Erdős in 2017, Holowinsky has partnered with colleague Amanda Perrin to add an industry placement office, recruited a large network of Ph.D.s to serve as advisors, and forged connections with dozens of companies.

He credits his Rutgers experience with instilling in him the entrepreneurial drive, networking skills, and energy to get the job done.

"Being at Rutgers is a huge advantage—living in this very diverse, high-energy, real-world experience," he said. "You learn to deal with all types of situations, and you are much more comfortable in the world."

Roman Holowinsky RC'01

ROUNDUP

Things You May Not Know about the School of Arts and Sciences

1296 Average SAT score of the School of Arts and Sciences Class of 2023.

Rutgers Graduate Named New Jersey Teacher of the Year

The 2019-20 New Jersey Teacher of the Year Kimberly Dickstein Hughes RC'08 was honored at the State Board of Education in Trenton in October. The Camden County native, who has taught at Haddonfield Memorial High School for eleven years, told *The Philadelphia Inquirer* she was born to teach, inspired by her grandmother, who said: "The more you know, the more you grow. Listen to learn, learn to listen." An English teacher whose world literature class emphasizes community service and global citizenship, Dickstein Hughes majored in English and political science and earned her master's in English secondary education at Rutgers. "If you want to help people, become a teacher," she said at the board meeting. "And if you want to give back to your community, become a teacher in your community."

Class of 2019 Paul Robeson Scholars Celebrate Achievement

"To stand here and be recognized as a Paul Robeson Scholar is very meaningful to me," said Joshua Cox (center, in robes), one of 258 students in the Class of 2019 who were named Paul Robeson Scholars. Cox served as speaker at a reception honoring the scholars and commemorating the centennial year of Robeson's graduation. "Paul Robeson was not only a scholar, but also an actor, an athlete, a musician, and a human rights activist," said Cox. "He continuously remained true to himself and his morals."

The School of Arts and Sciences has long continued the Livingston College tradition of designating students who complete a senior thesis as Paul Robeson Scholars. Robeson, an accomplished and extraordinary student, wrote a senior thesis, "The Fourteenth Amendment, the Sleeping Giant of the American Constitution," which fueled his famed valedictory address, "The New Idealism," and life-long humanitarian philosophy.

"Students who engage deeply with critical issues as you have done are following in Paul Robeson's footsteps," Arts and Sciences Executive Dean Peter March (far right) told the 120 students at the event. "As Paul Robeson Scholars, you have conducted research on a topic that's meaningful in your life, and through this experience you have expanded your knowledge and understanding of the world. We look to you to carry this passion and commitment into the world as Rutgers graduates."

Learn more here: **sas.rutgers.edu/paul-robeson-centennial-scholars**

Teacher-Scholar of Sufism is NEH Fellow

Stephanie Abrams, a senior majoring in religion and minoring in English, is enjoying the Rumi seminar taught by religion professor Jawid Mojaddedi (above). The course begins with an explanation of Sufi Islam and then moves into an in-depth examination of Rumi's works.

Mojaddedi, a scholar of early and medieval Sufism, brings an energy that makes the 13th century Persian poet's work come to life. The course has about twenty students, but only seven are in the room with Mojaddedi. The others, at the University of Michigan and the University of Nebraska, join his seminar through a state-of-the-art videoconferencing classroom at 1 Spring Street. The Digital Islamic Studies Curriculum, a Big Ten initiative supported by the Andrew W. Mellon Foundation, aims to provide students with access to a broad range of courses on Islamic cultures and historic traditions.

"Professor Mojaddedi has this enthusiasm that makes you want to learn more," Abrams says. "We all join the conversation. Everyone comes from different perspectives, different religions, and different regions. One student from Michigan speaks Persian, and brings that interesting insider perspective of reading Rumi's poetry in its original language."

Rumi, a Muslim mystic born near today's border between Afghanistan and Tajikistan, has been the best-selling poet in North America for the past two decades. Mojaddedi has shared his research insights into this beloved and prolific author with students at Rutgers for years, while creating the first unabridged verse translation of the *The Masnavi*, Rumi's magnum opus, with Oxford University Press. His translation of volume one received the 2005 Lois Roth Prize for Excellence in Translation of Persian Poetry, awarded by the American Institute for Iranian Studies; he published the next three volumes (approximately 18,000 verses) and was awarded the 2014 National Endowment for the Arts Literature Translation Fellowship to prepare volume four. Mojaddedi recently received a fellowship from the National Endowment for the Humanities to complete volume five of this multi-volume, multi-year project.

A Strong Science Student Turns her Focus toward Public Policy

Biology major sees law school as the path

Samantha Chen seemed destined for medical school.

Strong in science and passionate about helping others, the Morris County native attended a STEM-focused magnet high school, earned dozens of AP credits, and chose biological sciences as her major at Rutgers.

Now a senior in the **School of Arts and Sciences** and Rutgers Honors College, Chen is still steeped in life sciences, including working on a research team studying Parkinson's disease. But her vision for how she wants to use her knowledge and skills has changed.

"I came in thinking I would be premed," she says. "But I had to rethink the impact I could have on the world."

The change began taking shape two months into her first year, with the 2016 election. Chen became alarmed by what she—and many other scientists—say is a dismissive and often confrontational attitude by some politicians toward science and its role in setting public policy, such as for climate change.

> "I want to fight on the side of scientists."

On a more personal level, Chen also wondered whether working as a physician would provide the opportunity to work for the greater good in the way she had always envisioned.

"As a doctor, I wanted to help people," she explains. "But the patients coming in to see you are the ones who can afford health care. And the people I want to help are the ones who can't."

In her sophomore year, Chen traveled to South Africa and met social justice activists, including some who were imprisoned during the apartheid era. The trip, which took place over winter break and was organized by the Honors College, SAS Honors Program, and Study Abroad, left a deep impression on her.

"The most powerful part was meeting these activists and learning about the sacrifices they had to make," Chen says. "I am not sure I'm brave enough to sacrifice my life, but I can sacrifice my comfort, and that is what ultimately made me take the leap off the path to medical school."

Chen has decided to attend law school and pursue a career that will combine her strength in science with her passion for social justice. She can see herself in a variety of roles, such as at a think tank or government agency. But the one thing she knows for certain is that she wants to serve as an advocate for science.

"Many politicians do not understand science or medicine, and as a result, they do not always understand the consequences of their decisions," she says. "I want to be that person who has a background in science, who has done research and can tell you how the body works, and will push for the initiatives that we need as a society."

Her major in biological sciences is the ideal preparation for a calling that will require knowledge of science, day-to-day interaction with government, and an ability to explain complex issues to lay audiences.

In her research with Alice Y. Liu, a professor of cell biology and neuroscience, Chen is using advanced microscopy techniques to better understand the protein clumps, or plaques, in the brains of patients suffering from neurodegenerative illnesses.

And in courses like "Human Parasitology," with Anne Keating, Chen has learned about diseases that affect the developing world, and United Nations initiatives that—if funded—could help stop them.

"This again got me thinking about the role of government in allocating funding," she says. "Science that saves lives is underfunded. I want to fight on the side of scientists to get the money they need."

Senior Samantha Chen

STUDENT SPOTLIGHT

Seeing the World Anew Through the Lens of Social and Behavioral Sciences

An interview with David Vicario, Dean of Social and Behavioral Sciences

I am learning to think like a social scientist," says David S. Vicario, describing his immersive approach to his job as dean of the Division of Social and Behavioral Sciences (SBS) in the School of Arts and Sciences. With a background in neuroscience studying the brain basis of vocal learning in songbirds, his interactions with SBS faculty and exposure to SBS research have expanded his horizons since becoming dean in September 2018. In this interview he talks about that experience and why students are drawn to SBS departments and programs.

Q: What is your academic background?

A: I am trained as a neurophysiologist, but consider myself a behavioral neuroscientist. I'm interested in how the brain produces behavior. As we live in the world, and in our bodies, we get signals that we are hungry, or we see interesting things. The question that has always intrigued me is how does that translate into decisions and actions? I wanted to study the way the brain integrates all the information from the body and the outside world and produces behavior.

Q: How did that lead to your work with songbirds?

A: The songbird system corresponds closely to my interest in how sensory information is transformed into motor information. The songbirds hear the song of their parents, internalize it, and then use it to create a copy, just as human infants hear the speech of their caregivers and ultimately apply those sounds to objects in the world.

Q: With your background in neuroscience, what led you to become SBS dean?

A: Becoming chair of the psychology department required me to dive deeper into the clinical and social aspects of psychology. That was a real education for me. Similarly, as SBS dean, I'm now working with economists, political scientists, sociologists, evolutionary and cultural anthropologists, and geographers. It's an even bigger tent, and even more fascinating as an education.

Q: What have you learned?

A: I've always been politically and socially aware, but interaction with SBS faculty has given me a different grasp of current social and political situations. The most serious problems today have to do with a breakdown of the political process, international friction, inequality, and the danger these pose in terms of instability. These are the issues that social and behavioral scientists have been addressing for years.

Take a collective problem like climate change. Perhaps a miraculous solution may come from an engineering lab. But the problem in practice is actually a problem of social and political interactions, including decision-making based on ideological positions rather than shared mission, which results in political paralysis. The social sciences provide evidence-based analyses of where the dysfunction begins and how it develops.

Q: What are some of your priorities for the division?

A: I am interested in programs that will increase interaction among the departments and lead to interdisciplinary education opportunities. We have already been working to identify common themes. I would ultimately like to create an incentive structure for faculty to team teach in a way that exposes undergraduates to a rich array of perspectives on a single topic, such as inequality.

Q: What enrollment trends are you seeing in SBS?

A: Nearly half of Arts and Sciences students want education in the social and behavioral sciences—a total of 43 percent of SAS students who graduated in 2019 were in an SBS department. Clearly, they are interested in the subject matter; they are interested in the issues; and they are choosing with their feet.

Dean of Social and Behavioral Sciences David Vicario

RUTGERS
School of Arts and Sciences

FALL/WINTER 2019

Excellence in the Arts and Sciences

Access

High-Tech Laser Tweezer Helps a Rutgers Biophysicist Move the Tiniest Molecules

Sang-Hyuk Lee integrates two Nobel Prize-winning innovations

Sang-Hyuk Lee, a biophysicist, designed and built his own version of optical tweezers. The instrument uses a focused laser beam to trap, hold, and move microscopic objects.

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"An old dream of science fiction," the Nobel Prize Committee said in praise of the invention. Like the "tractor beam" of vintage *Star Trek* episodes, others observed.

The futuristic device they're talking about is optical tweezers.

Invented by Arthur Ashkin, one of three pioneers in laser physics to win the 2018 Nobel Prize in Physics, the instrument uses a focused laser beam to trap, hold, and move microscopic objects that previously were too tiny to touch.

The revolutionary tool is essential to the work of a Rutgers professor who recently brought the technology to the university. Sang-Hyuk Lee, of the Department of Physics and Astronomy, **School of Arts and Sciences**, has also added advanced microscopy techniques to make the device capable of examining and visualizing molecules at the tiniest level.

He is using the innovative instrument for several federally funded research projects that combine elements of physics and biology. Lee's device allows him to examine live plant cells in "unprecedented molecular detail" for a project that could help

(continued inside)

RUTGERS
School of Arts and Sciences

The **School of Arts and Sciences** provides an education of unparalleled breadth and depth, from biological, mathematical, and physical sciences to humanities and social and behavioral sciences. The largest and most comprehensive academic unit of Rutgers University–New Brunswick, with roots that date back to the beginning of higher education in America, the school reflects an educational tradition that began in 1766 with the founding of Queen's College, the institution that would become Rutgers University. Four outstanding undergraduate institutions carried that tradition into the 21st century: Rutgers, Douglass, Livingston, and University colleges. Established in 2007 with the union of these four colleges, the School of Arts and Sciences (SAS), with 750 full-time faculty and a vibrant and diverse student body of over 20,000 students, is now a globally engaged teaching and research institution.

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MATHEMATICAL & PHYSICAL SCIENCES

(continued from front)

Rutgers Biophysicist Moves the Tiniest Molecules

break new ground in the development of biofuels. He is also able to generate ultra-high resolution images of neuron development for research aimed at finding improved treatments for degenerative diseases.

For Lee, these multidisciplinary projects reflect the essence of his chosen calling: biophysics.

"A biophysicist bridges the gap between two worlds," he says. "I want to understand these complex biological processes using the laws and tools of physics."

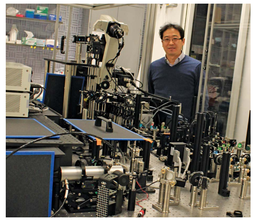
The optical tweezers provide him with the perfect tool for that mission. Optical tweezers can move and manipulate particles smaller than a micron. A single strand of human hair is about 75 microns in width.

Lee became intrigued by the technology while working on his doctorate at New York University under David Grier, a physicist who created more complex versions of optical tweezers by adding digital holography. Lee later worked as a post-doc for Carlos Bustamante, a biophysicist at the University of California, Berkeley, who used optical tweezers to stretch a single DNA molecule to measure the force holding it together. This experience influenced Lee's own work.

At Rutgers, Lee designed and built the mammoth instrument that is now housed within a glass enclosure in a laboratory at the Institute for Quantitative Biomedicine on Busch Campus. The device is far more versatile than commercially available models because Lee integrated a number of advanced optics techniques, including use of multiple lasers, and a technology known as super resolution fluorescence microscopy, which won the 2014 Nobel Prize in Chemistry for producing higher resolution images than what conventional light microscopes could achieve.

"So, we can get super-resolution images of intra-cellular structures while we exert measure force on individual molecules," he says. "Our instrument is a one-of-a-kind, home-built microscope."

Physics Chair Robert Bartynski agrees. He says the application of laser physics to contemporary problems in biology is opening an exciting new chapter in interdisciplinary science.



Sang-Hyuk Lee with his "tractor beam."

"The optical tweezers technology that Sang-Hyuk has developed at Rutgers gives us a singular capability that expands our understanding of how biomolecules move in and around cells to carry out critical tasks," Bartynski says. "The ability to manipulate and visualize individual molecules with these advanced optical techniques will give unprecedented insights into the physics behind key biological processes."

Lee is principal investigator on a Department of Energy project with his Rutgers team (Shishir Chundawat, Eric Lam, and Laura Fabris). Along with collaborators at Vanderbilt University and Oak Ridge National Laboratory, they seek to understand how cell walls in plants are formed—knowledge that may accelerate the development of genetically engineered crops for use as renewable fuels, and will have broad impact on molecular and cellular biology fields in general.

He is also involved in a National Science Foundation-funded project—with Nada N. Boustany, a Rutgers professor of biomedical engineering serving as principal investigator—that could help improve treatments for degenerative neural diseases or nerve injury due to trauma.

HUMANITIES

Justin Kalef (right) expects students taking his "Logic, Reason, and Persuasion" class to master a complex issue, construct an argument, and evaluate how well it holds up against those of their peers. The students (below) work in an active-learning classroom where their work is displayed on screens for others to critique.

A GIFTED TEACHER FINDS NEW WAYS TO ENGAGE STUDENTS WITH PHILOSOPHY

Justin Kalef brings teaching innovation to a venerable Rutgers department

Students in Justin Kalef's "Logic, Reason, and Persuasion" class at Rutgers University take a deep dive into some divisive issues.

And they can expect, over the course of the semester, to have their positions challenged—perhaps by the person sitting next to them.

Kalef, a teaching professor in the Department of Philosophy, **School of Arts and Sciences**, gets this undergraduate course underway by surveying students on such topical hot buttons as abortion, gun control, and tax policy.

"Then I put them on teams for the rest of the semester with people who disagree," Kalef says. "They have to sit with, make alliances with, and do collaborative work throughout the course with people whose positions they oppose."

He is not out to provoke a collegiate version of *Crossfire*. His goal is for students to develop the skills that a good philosopher—and engaged citizen—should have: the ability to master a complex issue, construct an argument, and meticulously evaluate how well it holds up against those of their peers.

"It's really easy to criticize others, so I put an emphasis on finding flaws in your own reasoning," Kalef explains. "That's the advantage of having teams with diverse views. There's always going to be somebody who says 'Wait, how do you know you're right?'"

The novel approach reflects Kalef's passion for teaching. He is the first-ever director of teaching innovation in the philosophy department at Rutgers—a department routinely ranked among the top three philosophy programs in the world.

Dean Zimmerman, the department chair, says Kalef is one of just several teachers worldwide who are applying a team-based learning approach to philosophy. And the results are revelatory.

"Rather than lecturing to students and debating with the more ambitious ones, Justin's goal has been to ensure that every student does some original philosophical work every day," Zimmerman says. "In addition to creating challenging, engaging activities that push students to excel at doing philosophy, his approach has the benefit of making students responsible for their learning—not just to themselves, but to one another."

Kalef's job includes working with doctoral students and part-time lecturers, helping them grow and develop into effective teachers. He also creates innovative new undergraduate courses, including a series of "Rutgers Philosophy All Stars" online courses in which students study the work of the department's great scholars.

For the "All Stars" courses, which will later be released as Massive Open Online Courses, Kalef worked with James Chun of the Cyberlearning Innovation and Research Center to create a tightly structured course that—even in the online format—offers ways for students to collaborate with one another and with Kalef.

Senior Daniel Cappell says the combination of online work and then an in-person meeting of the entire class on the last day was effective, and even inspirational.

"In the online forums you get to know other students through their writing style and their positions," he notes. "Then when you see them in person, the personal element comes through and you feel like you really know them." He adds that the course inspired him to become a philosophy major.

Meanwhile, students in the "Logic, Reason, and Persuasion" course—most of whom are not philosophy majors—said they emerged from the experience with a new depth to their thinking.

"The course takes you a step backward so you can observe the way you argue," says sophomore Ying Zhang. "It forces you to ask yourself: 'Am I arguing my feelings or arguing the facts?'"

Each group must complete weekly collaborative assignments and a final project in which they take a position on an issue and demonstrate expertise down to the smallest details. Students must also show a command of the techniques of argument—claims and counter-claims, objections and responses. On the final day, the groups present physical tables of supporting and opposing arguments.

"A lot of work goes into these," Kalef says. "I can see from looking at the tables whether they have done a good job or not."

Luke McCarty, whose group focused on whether sex work should be legalized, started out strongly supporting legalization. "But over the course of the project I changed my mind," says McCarty, a biological sciences major. "I found many statistics showing that legalizing prostitution doesn't mitigate sex trafficking, and in many cases can increase it."

Lily Black, an environmental sciences major, said the course has had a lasting impact. "I wanted to learn how to argue without emotion," she states. "Now, in my everyday life, I analyze arguments like I have been taught in this class."

For Kalef, the job of teaching has long been a personal mission. His mother and her parents were teachers. And Kalef says he struggled as a student.

"I was more aware than most people of the difficulties of learning from others," he says. "When I found someone who could teach me, I asked myself how it had happened. It's a question my evolving work still seeks to answer today."

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Honors Program Students Read *The Leavers* and Meet Author Lisa Ko

At the August 30 induction of the School of Arts and Sciences Honors Program Class of 2023, Honors Dean Charles Keeton welcomed 347 stellar students into the Rutgers family. Over the summer they had read and blogged together about the 2017 National Book Award finalist, *The Leavers*. Now they were about to hear the novel's author, Lisa Ko, give context and depth to the story about Deming, who is adopted by a white couple when his mother Polly, an undocumented Chinese immigrant, leaves for work one day and never returns.

"Reading Lisa Ko's *The Leavers* and discussing it with my future classmates before I even stepped foot on campus for my first class was fantastic," says Zachary Goldman, from Bogota, NJ. "It allowed me a glimpse of what the coming semester would bring, both academically and socially. Then, having the privilege of hearing Lisa Ko in person discuss her writing process after having read her book was invaluable, especially to someone like me who has a passion for creative writing."

Lisa Ko described her writing process and discussed the historical background of family separation in the U.S., from the selling of enslaved African American children away from their families, to Native American children put in boarding school, to immigrants today being separated at the border.

"I know how it feels to be misrepresented or alienated in books," said Ko, on developing her storyline and authentic characters after reflecting on immigrant stories in the news over the years. "Fiction allows us to really inhabit the life of a character in a way that journalism doesn't."

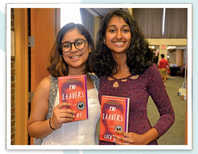
"That relevance to present-day issues was the best thing about the summer reading," says Amanda Chen of Parsippany. "For the first time, I saw myself and people who look like me represented in a novel, and that was truly empowering. Even more inspiring was meeting and talking with Lisa Ko."

The semester-long honors colloquium for first-year students titled "Borders and Belonging: Creating a Life in Lisa Ko's *The Leavers*" continues to explore the themes of immigration and border crossings. The course includes guest lecturers such as Rutgers political scientist Yalidy Matos and sociologist Ali Chaudhary, and a panel of three SAS Honors Program alums who taught abroad on Fulbright Fellowships.

"We all want to belong, and the politics of belonging is deeply embedded in immigration policy," said Matos, who explained the Illegal Immigration Reform and Immigrant Responsibility Act of 1996. "The invitation to lecture in the colloquium was a great opportunity to join and expand a conversation that must be rooted in history as a way to move forward."

These large lectures alternate with small discussion sections where students explore how individuals and communities create a sense of belonging while testing the boundaries of "borders" created by racial, ethnic, and religious identities, by norms of gender and sexuality, and by religious, cultural, and political affiliations–while building their own community here at Rutgers in the School of Arts and Sciences Honors Program.

Learn more: **sashonors.rutgers.edu**



Members of the SAS Honors Program Class of 2023: Amisha Mukhopadhyay (left) and Akshada Rajadhyksha

CREATING A PIONEERING PROGRAM IN POLITICAL SCIENCE

Rutgers has long been the center of research on women and politics

Debra Liebowitz was checking out Ph.D. programs in political science, visiting universities on the West Coast and in the Midwest. But faculty at those schools kept talking about Rutgers.

"They said, 'You've applied to the Rutgers program, right?'" Liebowitz recalls. "I had an interest in gender and politics, and when I described my ideal program, they'd say that sounds like Rutgers."

So she reached out to Susan Carroll, one of the founders of the Program in Women and Politics, and its driving force for decades in the Department of Political Science, Rutgers University–New Brunswick.

"After talking to Sue, I knew Rutgers was where I had to go," she says.

After Liebowitz received her Ph.D. in 2000, she did research on women's human rights activism. Now provost and dean of the College of Liberal Arts and Caspersen School of Graduate Studies at Drew University, she is just one of many scholars who cite the Rutgers program as their foundation.

Since the 1980s, Rutgers has been known as the "mothership" of graduate studies in women and politics, training generations of influential scholars who brought their knowledge to colleges and universities nationwide.

"This program is world renowned," says Carroll, a professor of political science and women's and gender studies and a senior scholar at the Center for American Women and Politics (CAWP). "People know that Rutgers is the place where you can come and do this work."

The program's increasing stature through the years parallels dramatic changes in women's political participation. In 2019, record numbers of women serve in the U.S. Congress and state legislatures.

"I feel that we have come full circle," Carroll says.

Last August, alumni came together at the annual meeting of the American Political Science Association, holding a panel discussion about the program and honoring Carroll for her leadership.

Carroll, who was raised in a small town in Ohio, never imagined becoming a trailblazer in political science. But her undergraduate years—1968 to 1972—came at the height of the 1960s-era upheavals, and she developed a passion for studying women and politics. For her dissertation she constructed a survey documenting all women seeking public office in 1976, something no one had ever done before.

"Back then there were just a few scholars doing work on women and politics," she said. "I didn't have much literature to cite."

But Carroll was impressed by the work going on at CAWP, and was drawn to Rutgers in the early 1980s. It was a time of transition: The faculty of the four undergraduate colleges had been merged into the Faculty of Arts and Sciences, the forerunner of the **School of Arts and Sciences**. The political science department was seeking new directions for graduate studies.

Seeing an opportunity, Carroll assembled support within the department, including Barbara Callaway and Roberta Sigel. And she "got together with every feminist I could find on campus," including Ruth Mandel, CAWP director, and Mary Hartman, dean of Douglass College.

"These women were fabulous," she says. "They sold the idea that if there was any university that was going to do this work, it was Rutgers."

In the years since, Rutgers scholars have taken the field in many new directions. Ronnee Schreiber, who received her doctorate in 2000, did research on conservative women, which fueled her book, *Righting Feminism: Conservative Women and American Politics*. She is now an associate dean at San Diego State University.

> "After talking to Sue, I knew Rutgers was where I had to go."

Nadia Brown, who earned her Ph.D. in 2010 and is a professor at Purdue University, broke new ground with her dissertation on black women legislators, which she published as a book, *Sisters in the Statehouse: Black Women and Legislative Decision Making*.

"Much of what we knew about women and politics was based largely on research about white women," Brown says. "I wanted to tell a story about what made black women unique in politics."

Carroll, who plans to retire at the end of 2020, said the eclectic, impactful research by her students is a great legacy and a testament to the program's success.

"Our basic idea was to create a field," she explains. "I didn't want people to replicate what I did. I wanted younger scholars to go out and pursue their own imaginative work, and create new knowledge. And they have."

Sue Carroll, sixth from left, surrounded by former graduate students at the annual meeting of the American Political Science Association in 2019.

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SOCIAL & BEHAVIORAL SCIENCES

A Celebrated Surgeon Always Finds Time for Rutgers Undergraduates

Steven Stylianos led teams that separated conjoined twins

Steven Stylianos is a busy man.

He is a world-renowned pediatric surgeon and serves as Surgeon-in-Chief of New York-Presbyterian Morgan Stanley Children's Hospital. A Rutgers graduate, Stylianos led teams that separated conjoined twins in 1993, 1995, and 2000. Yet he still manages to find time every week to mentor undergraduates.

"I have a lot of things to do, but I take these kids and put them at the top of the list," says Stylianos RC'78. "I want to inspire them to fulfill their dreams."

Working with the Health Professions Office in the **School of Arts and Sciences**, Stylianos reserves Thursdays for students to shadow him for the day. Students get a very complete experience, from sitting in on radiology conferences where physicians discuss their latest cases, to observing a simulated trauma exercise, to making rounds and meeting patients and their families.

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They also get something else that they will likely remember for years to come: Stylianos's disarmingly frank reflections on the challenges and rewards of his chosen path. During one recent visit, a group of nine undergraduates gathered around a long conference table and asked Stylianos—at his insistence—a range of questions about his life and career. One asked how he stays energetic and engaged after 30 years as a surgeon. His response left students a bit awestruck.

"When a mother stands in front of you with tears in her eyes saying, 'Please save my baby,' it is one of the most powerful forms of human contact you can have," he said. "The fuel that will keep you going is the energy that comes from these brave little babies and their families."

When asked how he handles tragedy, such as when a surgery fails, Stylianos drew a deep breath and shared some difficult truths. He said he rarely thinks back on his successes, adding, "The ones you lose ruminate inside you and you play back that loop years and years later."

The only way forward is through fearless honesty.

"The way we scrutinize our performance is very important," he explains. "You owe it to that baby you lost. You honor that baby by becoming better for all the babies that are going to come after that."

For the students, the shadowing experience came at a time when their minds are preoccupied with getting into medical school: taking the required courses, studying for MCATS, and applying to the right programs. When the day was over, they said Stylianos helped them see a bigger picture.

"He made what we're all thinking about into a more relatable, tangible, and human goal," says Brian Chen, an SAS senior majoring in biological sciences. "I really admire this doctor, and he made me want to be a surgeon."

Kinza Abbas, a senior in cell biology and neuroscience, agreed. "This was well beyond my expectations," she notes. "I really like the personal aspect. He is so open to questions."

The day was not without humor. Stylianos, a bit of a card, elicited laughs frequently, such as when he discussed doctor shows like *Grey's Anatomy*: "We're not that funny, and we're not that good looking," he says.

After a presentation on pathology by a medical student, Stylianos thanked the student, saying, "This is the first time I will say it was a treat to listen to a pathology lecture."

Stylianos's dedication to mentoring comes from firsthand experience. He was in his third year at NYU School of Medicine when he received some life-changing advice from a prominent surgeon, John H.C. Ranson, who was serving as his preceptor in a clerkship, or rotation.

At the time, Stylianos was planning to pursue obstetrics and gynecology.

"He said, 'Listen—you are a surgeon,'" Stylianos recalls. "That was a very powerful conversation and I was just so fortunate to be there at that place and time."

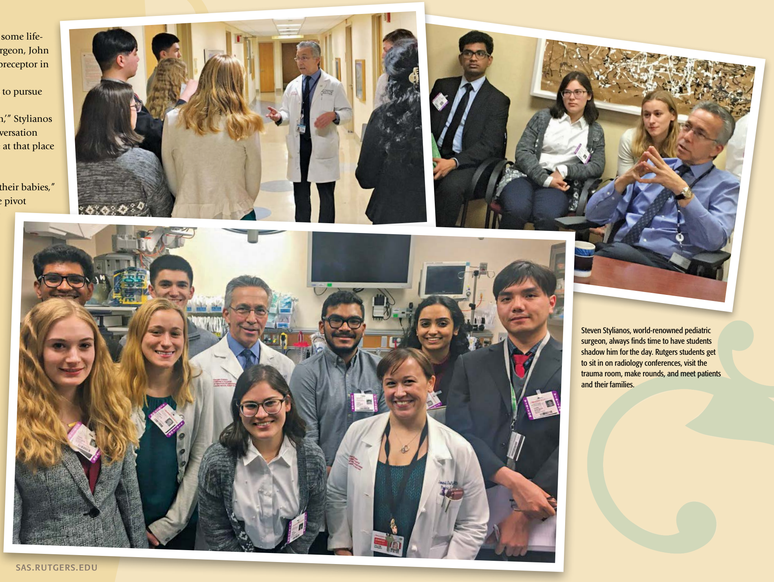
Stylianos made a fateful decision.

"I had wanted to help people have their babies," he says. "When Dr. Ranson helped me pivot toward surgery, I realized I could take that instinctive love for children and combine it with surgery and become a pediatric surgeon, a focus that took nine years, but was well worth it."

Stylianos says that students today have much more access to advising services than students of his generation. Nevertheless, he finds that many undergraduates considering medical school are naturally apprehensive and uncertain about their path. The benefits of talking to an experienced, caring physician are lasting.

"If a physician shows these young students that someone cares about them, they gain confidence in their own journey," he says. "It empowers them to work even harder to achieve their goals."

Learn more about the Health Professions Office at **hpo.rutgers.edu.**



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