



Produced by the Princeton Institute for International and Regional Studies in conjunction with the Office of International Programs, the Office of the Vice Provost for International Affairs and Operations, and the Council for International Teaching and Research.

EDITOR: Leda Kopach, Princeton Institute for International and Regional Studies

ASSOCIATE EDITOR: Mary Cate Connors, Office of International Programs

DESIGN: art270, inc.

PHOTOGRAPHERS: Denise Applewhite; Dylan Goldby; Sergey Grachev; Chris Noltekuhlmann; Nuno Patricio; Ben Weldon; and courtesy of Princeton students, staff and the Princeton University Archives

Editorial Board:

Jill Dolan, Office of the Dean of the College
David Jarvis, Office of the Dean of the College
Stephen Kotkin, Princeton Institute for International and Regional Studies
Karen Krahulik, Office of International Programs
Ed Turner, Council for International Teaching and Research
Anastasia Vrachnos, Office of the Provost

piirs.princeton.edu princeton.edu/oip princeton.edu/international

Louis A. Simpson International Building Princeton University, Princeton, NJ 08544

For questions, contact pimagazine@princeton.edu
Princeton in the nation's service and the service of humanity

Copyright © 2017 by The Trustees of Princeton University

Nondiscrimination Statement In compliance with Title IX of the Education Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, Title VI of the Civil Rights Act of 1964, and other federal, state, and local laws, Princeton University does not discriminate on the basis of age, race, color, sex, sexual orientation, gender identity, religion, national or ethnic origin, disability, or veteran status in any phase of its employment process, in any phase of its admission or fi nancial aid programs, or other aspects of its educational programs or activities. The vice provost for institutional equity and diversity is the individual designated by the University to coordinate its efforts to comply with Title IX, Section 504 and other equal opportunity and affirmative action regulations and laws. Questions or concerns regarding Title IX, Section 504 or other aspects of Princeton's equal opportunity or affirmative action programs should be directed to the Office of the Vice Provost for Institutional Equity and Diversity, Princeton University, 205 Nassau Hall, Princeton, NJ 08544 or 609-258-6110.









in depth

16 Working in Conflict

Princeton students, faculty and staff respond to the global refugee crisis.

22 | Teaming Up for Impact

Four internationally-focused service programs offer students opportunities for learning and sharing their skills with others.

26 | All Abroad

PIIRS Undergraduate Fellows travel internationally to conduct research for their senior theses.

30 A Starry Collaboration

Princeton and Japanese astronomers collaborate to discover distant galaxies.

2 A Letter From the Provost

Deborah A. Prentice celebrates Princeton as a global university.

3 In the News

Updates from the Louis A. Simpson International Building and beyond.

6 In My Own Words

Junior Lucina Schwartz reflects on her Global Seminar in Athens, Greece.

in person

8 Connecting His Past and Future

Achille Tenkiang '17 makes his mark on the University.

10 Building Robots and Relationships

Whitney Huang '19 embraces research and cultural opportunities in Seoul.

12 | Curiouser and Curiouser!

Joani Etskovitz '17 turns the page on the next chapter of her life.

14 From East Coast to South Seas

Keo Chan '18 tackles fisheries science in New Zealand.

interview

32 Creating an Arc of International Experiences

An interview with PIIRS Director Stephen Kotkin.

in closing

33 | Farewell My Concubine

The Shanghai Peking Opera makes a rare trip to the United States.





A Letter From the Provost

his issue of *Princeton International* celebrates a bold, innovative collection of scholarly projects and initiatives that Princeton faculty and students have undertaken this past year. It also marks a new stage in Princeton's transformation into a truly global university, one in which teaching and research know no geographical bounds. Princeton has always been an international university, with world-class programs in regional and international studies and faculty and students drawn from around the globe. What has changed over the past decade is that the international now infuses everything we do. Major university initiatives are pursued on an international stage; international experiences enrich courses across the curriculum; and faculty and students from all academic specialties find valuable research collaborations and teaching and learning opportunities in other countries.

Consider, for example, Princeton's renewed commitment to make service central to an undergraduate education. Our new initiative in service and civic engagement aims to involve an increasing number of Princeton students in coordinated curricular and co-curricular activities around service. A model of what we hope to achieve with this initiative is provided by the Bridge Year Program, one of Princeton's signature international offerings. We are now working to augment Bridge Year with additional programs that will give students an immersive experience of serving in a culture very different from their own. Whether that culture is within the boundaries of the United States or beyond them, we anticipate that the experience of service will open students up to the world and encourage them to explore it more broadly.

An impressive array of courses now feature international experience as a central component of their pedagogy. These courses span the entire curriculum and incorporate international experience in a variety of ways. At one extreme along an immersion continuum are the PIIRS Global Seminars, in which students learn about an area of the world while living in that region. This has proven to be a fantastically successful model, and we are delighted that PIIRS plans to add another seminar to the roster next year. Somewhat less immersive but nonetheless highly impactful are those courses

that offer one- to two-week trips abroad, either during the midterm break week or reading period. The purposes of the trips vary, depending on the content of the course: Some visit a museum, archive, archaeological dig or building site; others explore an ecosystem; and still others visit a research facility. When a trip is not possible, faculty use digital technology to enable students to experience distant locales without leaving campus and to engage with colleagues, mentors and teachers abroad. You will see examples of all of these pedagogies in this issue.

Finally, Princeton researchers are pursuing their investigations in venues around the globe. Whether they are studying robotics, English literature, the ecology of fisheries, or the origins of the universe, faculty and students are finding their work enriched and, in some cases, transformed by global perspectives. We are all international scholars now, and Princeton's teaching and research mission is more vital and vibrant as a result.





in the news

Krahulik Named Senior Associate Dean for International Programs and Experiential Learning

By Karin Dienst

aren Krahulik '91 was named the senior associate dean for international programs and experiential learning at Princeton University, effective Sept. 1. She is responsible for developing a strategic vision for undergraduate international academic programs and experiential, immersive learning. She works closely with



colleagues in the Office of the Dean of the College and across the University.

"I am honored to be returning to Princeton to further the University's commitment to study and service in the U.S. and abroad," Krahulik said. "I look forward to working with Princeton's extraordinary students, faculty and staff to help make international and experiential learning an even more important part of a Princeton education."

Krahulik comes to Princeton from New York University, where she served as the associate dean for academic affairs since 2011,

overseeing the College of Arts and Science curriculum in New York and abroad. Previously, she worked in faculty affairs at Columbia University and as the associate dean of the college at Brown University. From 1999 to 2005, she was the director of the Center for LGBT Life at Duke University. She spent a year as the coordinator at Princeton's LGBT Center soon after she graduated.

Krahulik has a Ph.D. in United States history from NYU. Her book, "Provincetown: From Pilgrim Landing to Gay Resort," traces the history of Provincetown, Massachusetts, from the 17th century to the present and argues that the development of cohesive communities cannot be separated from tensions around race, gender, class and immigration that have shaped and continue to shape global and local economies.

She received her bachelor's degree in religion from Princeton, where she excelled as both a scholar and an athlete, earning a senior thesis award in women's studies and serving as captain of the women's swim team.



Bridge Year Launches New Site in Indonesia

rinceton University's Bridge Year Program, part of the Office of International Programs, has launched a new program site in the Special Region of Yogyakarta, Indonesia.

"We are thrilled to be able to offer students the opportunity to explore Indonesian society and culture," said John Luria, director of the Bridge Year Program. "As with all of our program locations, volunteers in Indonesia are engaging in service work, studying the local language and



immersing themselves in the local community."

Bridge Year is a nine-month, tuition-free program that enables incoming students to begin their Princeton experience with a year of public service abroad.

The seven students

who are part of the inaugural Indonesia cohort are working with community organizations addressing issues of public health, access to education, sustainable agriculture and environmental conservation.

Follow along with the 2017-18 Bridge Year cohort: princeton.edu/bridgeyear.

Princeton Athens Center: One Year Later

By Julie Clack

ast fall, the Princeton Athens Center opened its doors for the first time to a small group of 55 faculty, students, alumni and friends. One year later, under the direction of the Seeger Center for Hellenic Studies, the Center has burgeoned into a hub of activity for Princeton scholars in Greece, hosting long-standing international conferences and new programs alike.

The International Network for the Comparative Humanities (INCH) retreat kicked off the Center's event series. The INCH retreat is a consortium that promotes interdisciplinary exchange between Princeton faculty and graduate students from English and Comparative Literature with their counterparts overseas. "The Center's scale and layout make it a haven for humanist inquiry and conversation," said Maria DiBattista, professor of English. "With small seminar rooms that encourage lively discussion, a larger area for screening films or hosting a guest lecture and a lovely garden to relax over coffee or sit in silent contemplation, the Center invites you in and makes you feel at home but is also close to the heart of things."

In July, the 21st meeting of the Symposium Aristotelicum convened for several sessions at the Princeton Athens Center. The Symposium invites over 30 established scholars from around the world to present on a theme in Aristotle's philosophy or texts. "Sessions at the Symposium are traditionally rather long: three hours, with a coffee break," said Ben Morison, professor of philosophy. "After six days, with two sessions every day, we were ready to relax, and we did that with a reception on the



Center's rooftop terrace. It was a perfect culmination to the Symposium as a whole."

Capping off the Center's summer programming was the Liquid Antiquity workshop, where a small group of classicists, poets, archaeologists, curators and artists gathered to reflect on the multimedia project, "Liquid Antiquity." "The Center, intimate and welcoming, offered an ideal environment to incubate intellectual and creative cooperation between scholars and artists working in Princeton and in Greece," said Brooke Holmes, professor of classics. "The group together extended the project's experiment with new forms of engaging a broad public in thinking about classical antiquity and its legacies and laid the groundwork for further collaboration."

"The Princeton Athens Center's inaugural events exemplify both the interdisciplinary and international nature of the Center," said Dimitri Gondicas '78, founding director of the Seeger Center for Hellenic Studies. "We anticipate the Center will continue cultivating a dynamic community of Princetonians and scholars abroad by expanding its existing programs and adding several new ones in the near future."

The Paul and Marcia Wythes Center on Contemporary China

gift from the Wythes family has named the Center on Contemporary China, established in 2015, in honor of former trustee Paul Wythes of the Class of 1955 and his wife Marcia. The gift was made by Marcia Wythes W55 P86; Jennifer Wythes Vettel '86, a member of the PIIRS advisory council; Paul Wythes, Jr.; and Linda Wythes Knoll.

The Center, located in Wallace Hall, is distinguished by its emphasis on a quantitative approach to social science research. It provides an institutional home for interdisciplinary collaboration and brings together faculty and students with expertise and interest in China.

Paul Wythes '55 earned a BSE in mechanical engineering and an MBA from Stanford. He was the founding general partner of Sutter Hill Ventures and helped found the National Venture Capital Association, receiving a lifetime achievement award from that organization. He was also a member of the Princeton Board of Trustees for 14 years, serving

as its vice chair. In 1997, he led a committee that explored long-term strategic issues facing the University. The resulting "Wythes Report" recommended that Princeton increase the undergraduate student body to 5,100 from 4,600 "to enhance the quality of the overall educational experience at Princeton and make more effective use of the University's extraordinary resources." Today's student body stands at approximately 5,200.

The Wythes had previously created two professorships: the Paul M. Wythes '55 P86 and Marcia R. Wythes P86 Professorship in Computer Science and the Paul M. Wythes '55 Professorship in Engineering and Finance. Their gifts have also benefited the Benjamin H. Griswold III, Class of 1933, Center for Economic Policy Studies; the James Madison Program in American Ideals and Institutions; the Princeton Institute for International and Regional Studies; the Princeton Varsity Club; a variety of scholarships; and several athletic programs.

in my own words

I have hardly heard

By Lucina Schwartz '19

I already knew it was true from seeing, reading and performing

< July 2017 >

have a tendency to fill silences. When there is a pause in class, I speak; I often sing when cooking or taking a walk. This is how I understand myself; this is also how I understand Greece, living here briefly as a student participating in the PIIRS Global Seminar, "Re:Staging the Greeks." I feel that Greece, too, fills silences, both in the soundscapes of everyday life and in the sounds of Greek Theater.

First in Athens and then in Epidaurus, I was constantly listening to the background – compelling sounds, difficult to tune out. Athens, like any city, is full of people and vehicles, but for me, it also had its own particular sounds – people shouting prices in our neighborhood's outdoor food market; students chatting as they smoked outside the summer school of Martha Frintzila, our acting professor; the soft drone of cars and the rumble of motorcycles outside my bedroom window. Until this summer, I had never been able to fall asleep easily in a loud city before. I guess it must have helped that, because of all of our seminar's absorbing activities (hours of class, seeing plays, visiting archaeological sites) I was always exhausted by the time I slept. Strangely, for all the incredible things we have done during the seminar, when I think of Athens the first thing I think of is drifting to sleep each evening, cradled in its night noises.

In Epidaurus, where we have come for our final two weeks, night is the quietest time. It's when the cicadas finally quiet their buzzing, which goes on relentlessly all day. During the day, I could hear them even behind the walls of my apartment, as if nature wanted to bring its revelry indoors. For the first few mornings here, in my sleepy haze I mistook the buzzing for my roommate, Feyisola, taking a shower. Among the sounds of Epidaurus are the bees buzzing at breakfast and the waves gently breaking on our backyard shore. When the weather changed from hot, humid and stagnant to cool and windy, the environment's soundscape changed from pulsating garden to whispering shore. The bugs quieted down, too.

I have hardly heard silence this summer in Greece, not only because of the outside background noises but also because of the clamor of Ancient Greek Theater. In his book, "How to Stage Greek Tragedy Today," Simon Goldhill says that Greek tragedy is particularly wordy, and he doesn't mean it in a bad way. When I encountered Goldhill's statement as assigned reading,

the ancient Greek plays.

We saw over 10 performances, various and splendid,
during our time in Greece. The very first play we saw was Amalia
Moutousis' one-woman performance of Euripides' "Hippolytus."
For much of the play, she spat, coughed and breathed out words
like she was possessed by them. Later, we saw a play, "Metropolis,"
made up of messenger speeches from several of the ancient
tragedies, and I experienced the same melodious deluge of Greek.
Then, last night, we heard our acting professor Martha and her band
sing the choral odes of Euripides' "The Bacchae." It was one of our
last scheduled performances, and even though I was moved by the
sound of the music alone, I had never wished to understand Greek

more desperately.

In these last two weeks, memorizing a scene from Euripides' "Iphigenia in Aulis," a monologue from Aeschylus' "Agamemnon" and a chorus from Euripides' "The Bacchae" has given me the close encounter with Greek tragedy that I so craved when I was reading them too quickly earlier in the program. The monologue I perform, Clytemnestra's speech (spoiler alert) after she has killed her husband, begins, "Words, endless words." How fitting. I love having the words I've memorized echoing in my head all day – as I cook, walk, sit in the car. One day, during a group excursion to town, my scene partner Julia and I recited our scene over and over with as many accents and moods as we could think of. We drove everyone crazy. Here, in Greece's drowsy heat, there has been time to think about the possible meanings of each phrase and to experiment with its expression. It amazes me how the way I perform excerpts from these tragedies has evolved and is still evolving. Our class discussions constantly prompt me to rethink my existing approach.

So, a few days from now, when I return home bearing a few gifts and a lot of dirty laundry, I will also be filled with the sounds of Greece: motorcycles, bugs, endless words...

Lucina Schwartz is a junior English major from Barrington, Rhode Island. She attended the PIIRS Global Seminar, "Re:Staging the Greeks," this past summer which was held primarily in Athens, Greece. Michael Cadden, chair of the Peter B. Lewis Center for the Arts, taught the six-week course.





Achille Tenkiang '17 makes his mark.

By Leda Kopach

hen Nelson Mandela passed away near the end of 2013, Princeton's Umqombothi African Music Ensemble gathered under the 1879 Arch and moonlit sky to perform a beautiful tribute to the revolutionary leader. Achille Tenkiang '17 led the stirring performance of the a cappella group's rendition of *Asimbonanga*, an anti-apartheid protest song, and recited a powerful self-penned poem about Mandela amid the group's striking harmonies.

"But now I'm here in tears, and I'm not crying because you are dead. I'm crying because the world does not know who you are. Now that you're gone, they'll try to plasticize you, to soften the wrinkles on your face and erase the scars on your skin. They'll pretend that you never existed and pretend that there were never any fires in Soweto. Now that you cannot speak, they'll twist your

words. Tata, more than ever, it's important we share all chapters of your story..."

Throughout his years at Princeton, Tenkiang was a politically and socially active student, often turning to music and poetry to express his interests in subjects like racial equality and diversity. Interestingly, Tenkiang didn't arrive at Princeton to pursue the arts or English or even politics. He came to study engineering, having attended a STEM high school in Bear, Delaware.

"I would not have considered myself an artistic person before coming to Princeton," Tenkiang says. "My high school was very math and science heavy, and there weren't many outlets for students to express themselves artistically. I suppose I already had these inclinations but never had the space or resources to actualize them. Princeton made that possible."



After taking engineering classes his freshman year, Tenkiang's academic trajectory changed dramatically when he traveled to Ghana that summer on a PIIRS Global Seminar called "African Cities: Their Past and Futures," taught by Simon Gikandi, the Robert Schirmer Professor of English.

"It was just an incredible experience for me," says Tenkiang, who was born in Cameroon and moved to the States when he was 3 years old. "I came back home and decided I wanted to pursue African Studies full-time at Princeton."

Unfortunately, Princeton didn't offer an African Studies major. After speaking with several professors who suggested that he initiate an independent concentration in African Studies and Development, Tenkiang petitioned the Dean of the College, who quickly approved the curriculum. This past spring, Tenkiang was the first student to graduate from the University with an independent concentration in African Studies, leaving an indelible mark on the Princeton.

"When I look back, it was somewhat groundbreaking," he says. "I really tried to curate my own academic experience at Princeton

and make one that I thought would be most fulfilling to my personal and research needs. The questions that I wanted to explore wouldn't have been feasible in the existing academic ecosystem at Princeton, and I knew that I wanted my work to be interdisciplinary."

As a student, Tenkiang sought many opportunities to travel while expanding and deepening his studies both on campus and abroad. In addition to the Global Seminar, he traveled to Cameroon and Senegal to conduct research as a Mellon Mays Undergraduate Fellow at the end of sophomore year and then to France for the fall semester of his junior year to study Francophone Literature at the Sorbonne and Paris VII-Saint Denis. He was named a PIIRS Undergraduate Research Fellow later that year, which funded his trip to Ethiopia to conduct his senior thesis work.

Tenkiang also earned undergraduate certificates in French language and culture, urban studies and African studies, in which he won the Senior Thesis Prize for his work on the role of public monuments and the work of memory in post-colonial African cities.

In addition to his scholarly work, Tenkiang was also active in a variety of organizations on campus. He co-founded the Black Leadership Coalition, was co-president of the African Students Association, and served as a member of the CPUC Diversity, Equity and Inclusion Task Force. At graduation he was named a Young Alumni Trustee to the University's Board of Trustees.

Currently, Tenkiang is in Kenya working with Fatuma's Voice, a grassroots arts and social justice organization, to organize a series of slam poetry workshops with urban refugee youth. He is pursuing this opportunity through the Henry Richardson Labouisse '26 Prize, which awards funds to graduating seniors who pursue international civic engagement projects following graduation.

"This project combines my passion for slam poetry, social justice and African cities," says Tenkiang, who plans to work in human rights. By leading word poetry workshops, he hopes to learn "how the refugees define citizenship, and how they view themselves as bodies in the periphery while wanting to be a part of the national fabric at the same time."

In addition to his work in Africa, Tenkiang wants to give himself time to ponder the questions he wants to ask and the problems he'd like to solve moving forward in life.

"It was a challenging four years and I just want to make sure that before I jump back in, I'm in a good place."

Kenya is a good starting point.

Watch the Umqombothi African Music Ensemble's tribute to Nelson Mandela: http:/bit.ly/2wuwqXA.

Building Robots and Relationships

Whitney Huang '19 embraces research and cultural opportunities in Seoul as one of 12 Streicker Fellows.

By Erin Peterson

ew Jersey native Whitney Huang '19 spent most of her life close to home, but she'd longed to go abroad for years. And she wanted to do it on her own terms. Her goal was to embed herself in a place and a culture, yet also find a way to integrate her academic interests – engineering and robotics – into the experience.

Thanks to financial support from the Streicker International Fellows Fund, she was able spend a summer in South Korea at Seoul National University's BioRobotics Lab doing just that.

The fund, launched in 2015 with support from John Streicker '64 and administered by the Office of International Programs, gives up to 12 students each summer the chance to conduct research or pursue an internship in a foreign culture. Students have wide latitude to design their own project or internship in conjunction with a partner organization that will offer them strong opportunities for intellectual growth. Fellows are also encouraged to find ways to engage with their host cultures while abroad: They even receive funding to support cultural immersion activities, from art classes to beach volleyball teams.

Huang's research was linked to "soft robots" that use pressurized air or fluids to move. She focused on developing teaching tools, which she describes as "a soft version of LEGO." These robots also have significant potential applications in medicine because they are more flexible than traditional robots made from rigid mechanical components.

Huang acknowledges that working in another culture had plenty of challenges, especially since she wasn't fluent in the language. Though many of her lab mates were willing to present their research in English to practice their own language skills, for example, team meetings were often held in Korean. "Sometimes they

would present in English for my sake, and other times I would have to guess what they were saying using visual cues, context and body language," she says.

She also navigated the tricky terrain of cultural expectations beyond the lab. Huang had to learn the many nuances of interacting respectfully with older people. And she was surprised to see how much time co-workers spent together outside of the office, often heading to restaurants, bars and karaoke rooms after hours. "Work, social life and home life are much less separated than in American culture," she says.

Scott Leroy, the associate director of the Bridge Year Program and manager of the Streicker Fellowship, says that the emphasis on both intellectual development and deep cultural immersion is intentional. "There was strong interest on the part of Mr. Streicker to encourage students to pursue stimulating work while engaging with the local community in enriching ways — and to draw from both aspects of that experience," he says.

Academic and cultural insights – both large and small – are happening around the globe for these Streicker Fellows, Leroy says. Students have studied architecture in Budapest, interned at an artificial intelligence startup in Beijing and worked with refugees in Rome. "Students return to Princeton not just with greater knowledge about their area of interest, but with a richer understanding of their own culture and values," he adds.

Huang, for her part, says the experience has transformed her. "It has been so rewarding to get to know locals, foreigners visiting Korea and foreigners who live in Korea," she says.

"Hearing about their lives and experiences growing up and comparing them to what I'm familiar with in the United States has really opened my eyes," she says. "It has been truly amazing."





Curiouser!

Book in hand, Joani Etskovitz turns the page on the next chapter of her life.

By Mary Cate Connors

oani Etskovitz '17 was devouring books before she could even read them – literally.

"There are plenty of pictures of me gnawing on my first board books, so I guess my love of reading started there," Etskovitz says. When she was old enough to read, her parents would take her to the public library in Wayne, Pennsylvania, and would watch as she pulled books off the shelf and tore through them at breakneck pace.

Each book led to another, and Etskovitz's appetite for learning

never seemed to slow. In fact, it was her love for reading that sparked an insatiable curiosity, one that led her to study at Princeton and now at the University of Oxford on a Marshall Scholarship.

As a first year student at Princeton, Etskovitz had several academic paths in mind. Her passion for the humanities, however, drew her to the English department. During her first semester, she studied literature, took a foundational course in Princeton's unique Humanities Sequence and spent time reading in the Firestone Library.

Nose always buried in a book, Etskovitz had not taken notice of the curious space on the first floor of the library until one fortuitous day in her first year, when the sound of children's laughter led her down the rabbit hole to the Cotsen Children's Library.

"I met with Dana Sheridan, the library's outreach director, told her my life story and explained how desperately I wanted to volunteer in her library," Etskovitz says. "She didn't let me leave until I had a job lined up."

At Cotsen, Etskovitz researched rare children's books and helped plan free education programs for children designed to

encourage creativity and promote literacy. It was her first glimpse into the importance of public humanities outreach. "At Cotsen, I discovered that you can take materials that foster deep academic research and use them to inspire programs that in turn spark wonder in wide audiences of all ages," she says.

Etskovitz's hard work and enthusiasm at Cotsen landed her a prominent internship at the Library of Congress in the Young Readers Center (YRC), where – quite serendipitously –

they were in the midst of planning a 150th anniversary celebration of Lewis Carroll's "Alice's Adventures in Wonderland," one of her absolute favorite stories.

"'Alice's Adventures' is one of the most important published texts in the 19th century," Etskovitz says. "It isn't so much about plot, but a story about adventure, exploration and imagination, meant to plunge readers into a different world."

She spent a month devising programs for every age group, from infants to the elderly. She planned an Alice-themed storytime and contributed to the design of an exhibition on the cultural aftermath of the novel. Etskovitz also helped YRC Director Karen Jaffe plan a reading of A Mad Tea Party, a chapter from the book, for underserved children in the Washington D.C. area.

Reconnecting with "Alice's Adventures" inspired Etskovitz academically as well. Her

prize-winning senior thesis, as well as both of her junior papers, explored the topics of curiosity and literary imagination through the lens of "Alice's Adventures" and other important 19th century texts like Charlotte Brontë's "Villette."

Research for these papers, coupled with a curiosity of her own, took Etskovitz overseas for the first time. She made the

"My sense of wonder stemmed from all the time that I spent in museums and libraries as a child. I just want to try to share that so that others may be able to view learning with that same excitement."



From East Coast to South Seas

Keo Chan '18 tackles fisheries science during his semester abroad in New Zealand.

By Mary Cate Connors

s Keo Chan '18 flew into Dunedin, New Zealand, to begin his semester abroad, a giant rainbow appeared over the airport. It was a "lucky sign," he says, that he was in the right place.

If you had told Chan, a native New Yorker, that his Princeton education would include studying fjords in the South Island of New Zealand, he might not have believed you. But a gut instinct and some helpful advice from the Office of International Programs were all it took for him to decide on a spring semester abroad at the University of Otago.

Chan, a geosciences major with a specific interest in fisheries science, says he knew that studying at a university abroad would nudge him out of his comfort zone while also enhancing his academic portfolio.

"I was eager to push my boundaries, socially and academically," he recalls. "Since I eventually want to pursue a career in fisheries science, it was important to me that I gain experience in the field and conduct research in a place with abundant natural fisheries and opportunities."

The South Island of New Zealand was a natural fit for his semester abroad. Surrounded by mountains, glaciers, beaches and glowworm caves, Chan could take full advantage of the university's natural classroom.

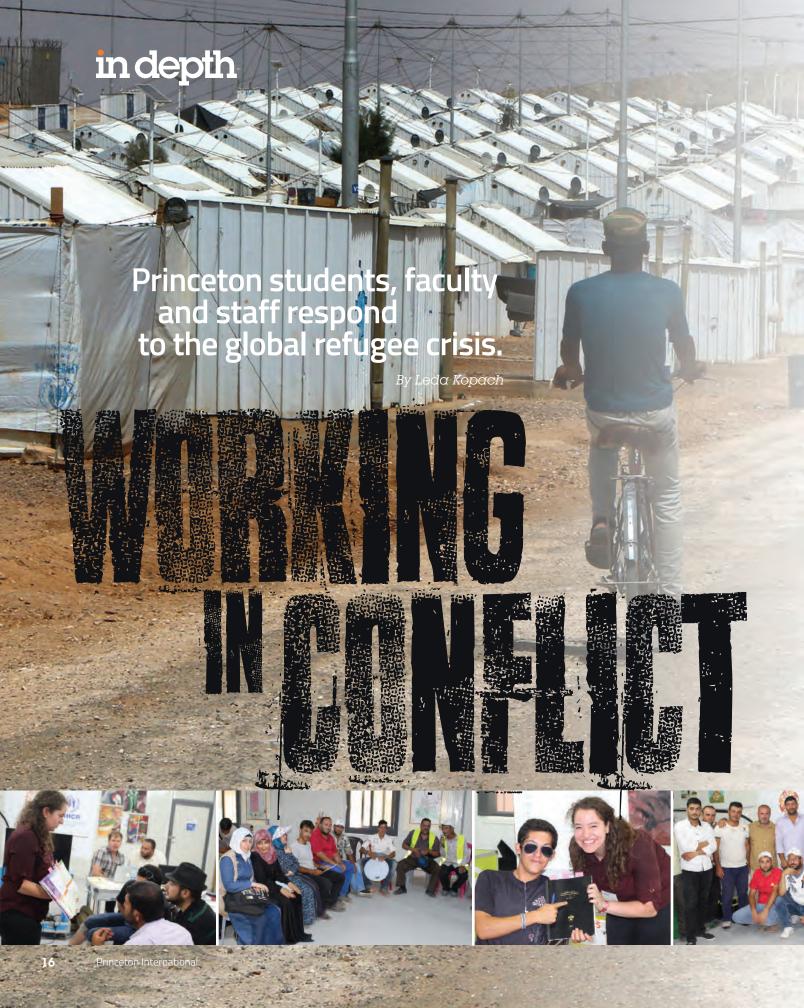
With the help of IFSA-Butler, a nonprofit study abroad organization, Chan spent the first few weeks of his semester living in a traditional *marae* – the cultural hub of a Maori village – where he cooked meals with members of the local community, worked on a small-group project surveying eels and other river fish and learned ancient Maori fishing techniques.

After his initial field experience, Chan moved into the on-campus flats and began school with his peers from around the world. He enrolled in classes in the Department of Fisheries and Aquaculture, most of which required fieldwork.

"I wanted to take courses that involved work and research that was out of the physical classroom," Chan says. "I really tried to take advantage of these fieldwork opportunities abroad that I couldn't do back at Princeton, and it ended up working out in my favor."

Keo Chan, a geosciences major, spent a semester abroad studying aquaculture and fisheries in New Zealand.





Maya Wahrman '16 arrived in Camp Azraq, a Syrian refugee camp in Jordan, not knowing what to expect. In the middle of the hot desert stood miles upon miles of neatly aligned white metal barracks visually representing order and calm, in sharp contrast to the violence from which most of the camp's inhabitants had fled. Only the barbed wire fencing and Jordanian police patrolling the grounds and positioned at checkpoints indicated that the 32,000 people in the camp weren't free to leave. They were free to learn, however, which is the reason why Wahrman, a program assistant focusing on forced migration in Princeton's Office of Religious Life, and her colleagues had traveled to the refugee camp.

They were serving as peer advisors, helping to facilitate an online global history course that Jeremy Adelman, the Henry Charles Lea Professor of History at Princeton, was offering as part of a Massive Open Online Course (MOOC) and the University's Global History Lab. In addition to the Camp Azraq location, Princeton colleagues also served as tutors in refugee camps in Amman, Jordan, and in Kakuma, Kenya.

"I'm very excited to be sending this team to these refugee camps," Adelman says. "Teaching refugees reveals the possibilities and limits of universities as humanitarian agents. I want my students in Princeton, Geneva and in the refugee camps to learn from each other — to learn global history globally, in the most inclusive way imaginable."

Wahrman and her teaching partner, James Casey, a doctoral student in history at Princeton, arrived at the camp through a partnership with InZone at the University of Geneva, an organization that offers multilingual communication and higher education in communities affected by conflict and crisis, and with support from CARE International, a local NGO that facilitates education for refugees and other projects in the camp. Before leaving Geneva, Wahrman participated in a required two-week humanitarian education training program offered by InZone to prepare for the trip; Casey had previously participated.

They arrived at the camp in late August to meet their students and to get the class started. For the week or so they





were there, they set up the classroom provided by CARE, prepared their curriculum and selected their students. There was a limit of 20 students per class, so luckily all who applied – 15 men and four women, ages 18 to 45 – were admitted after passing the entrance exam. One woman approached Wahrman indicating that she wanted to take the class but would be unable to complete it because of another obligation.

"I told her that she was welcome, but that she wouldn't be able to earn her certificate of completion," Wahrman says. "She let me know that she just wanted to learn," a sentiment that was shared by virtually all of the participants, Wahrman soon discovered.

Since the students had limited English-speaking skills, classes were conducted in both English and Arabic (both Wahrman and Casey speak Arabic) and were focused on acclimating the students to the online course and providing basic information on how to learn history and read historical sources, building a foundation for learning for the rest of the course. Students used WhatsApp to communicate with each other and with Wahrman and Casey when they returned to the States. During the semester, the two communicated with the students, answering questions and helping the students work on their projects.

"The wonderful thing about going to Camp Azraq with the course was that I was given this important experience without being in the way or becoming a tourist in people's suffering," Wahrman says. "Instead, we arrived in the camp to help prepare students for this global history course, and for that reason they were excited to receive us. It is by luck of the draw alone that I am their teacher, and not the other way around. I am glad to have met these students, happy to be able to connect with them through our world's shared history and the wonders of modern technology despite the fierce constraints and regulations they live within. I am so grateful to be able to learn from them in return, while bearing witness to the cruelty and random misfortune of having to become a refugee from your home."

eaching in refugee camps is just one of many ways that Princeton is supporting, working and learning about refugee communities.

This past fall, Princeton students who enrolled in Adelman's global history course on campus had the opportunity to work with local – mostly high school students who also applied to take the course in a reduced version format. The tutoring was made possible by Princeton's Community Based Learning Initiative in partnership with the Office of Religious Life and the Global History Lab. Princeton students met regularly with the refugee students to help them learn global history while building new relationships.

ORL has been actively seeking campus partners and opportunities to support area refugee families and youth while serving as an institutional leader in bringing together policymakers and agencies to discuss important issues affecting these groups.

In addition to outreach projects such as visiting asylum seekers in detention centers and working with Central American unaccompanied minors in the English Language Learners class at Princeton High School, ORL invites refugee families and students to visit campus. The office organizes fun social

NEW MIGRATION RESEARCH COMMUNITY AT PIIRS

Last year, a new PIIRS Research Community was created to study contemporary migration issues. Initiated by Sandra Bermann, the Cotsen Professor in the Humanities and a professor of comparative literature, "Migration: People and Cultures Across Borders" brings together scholars across the university and across disciplines such as history, language, culture, religion, and many more. "Our group aims to facilitate a multidisciplinary discussion that can educate and inform, and where possible, provide new frameworks for mitigating conflict and inequities," Bermann says. The group is working to develop a team-taught course which will be a result of the research and collaboration. Visit piirs.princeton.edu to learn more about the activities of this research community.



events so that Princeton students and area refugees can meet in a relaxed environment and try to find common ground and establish new relationships.

It also works closely with local partners such as Interfaith-RISE, a resettlement site in Highland Park, and Refugee and Immigration Services at Catholic Charities, Diocese of Camden to develop programming that directly supports local refugee communities.

"We cannot think about how to respond to a problem without doing so first in a way that is intimate and local," says Matt Weiner, associate dean of ORL. "While we think about the problem of refugees in a larger intellectual, international and policy-based way, we also turn to those closest to us, and try to do so with students to model a way of responding — to learn a way of responding as we go."

On a wider scale, ORL finds like-minded partners to create conferences to discuss big ideas around migration and refugees. In the past year, the office has partnered a second time with the Community of Sant'Egidio, an international Catholic grassroots peacemaking organization, to curate a major 300-person conference, Seeking Refuge: Faith-Based Approaches to Forced Migration. It also partnered with the International Rescue Committee and the U.S. Conference of Catholic Bishops Migration and Refugee Services Department on an Interfaith Policy Forum, which brought together an intimate group of leaders and policymakers to discuss the role of religion in U.S. domestic refugee integration.

"With everything we do, ORL's overarching question is always: What does it mean to be an office of chaplains in a secular university that serves students as it responds to the world?" Weiner adds. "We are always asking how to live with and for others and responding to the refugee crises is one way to answer these two questions."

on the Front Lines of History in Greece

Alice Maiden '19 was struck by how willing the refugees in Lesbos were to speak to her classmates during a course offered last summer, "Reporting on the Front Lines of Greece."

"One man took an hour and a half train from the Oinofyta camp into Athens for a two-hour interview," says Maiden, a philosophy major from Asbury Park, New Jersey. "Another man sat and painstakingly typed his story to me through Google Translate. Some people living in Moria pulled me aside because they saw I had a notebook and was with the group of journalists visiting. People living in poor conditions wanted to be heard, especially after being in those conditions for so long."

Maiden and five classmates traveled to the island of Lesbos and to Athens, Greece, for a course led by Joe Stephens, the Ferris Professor of Journalism in Residence at Princeton and an award-winning investigative journalist with The Washington Post. The five-week course combined classroom work with field reporting to learn what it takes to cover developing world events, like the Syrian refugee crisis and the financial collapse in Greece. The students had weekly assignments that included writing articles, producing videos and taking photos.

Read more about the class and the students' reporting on their blog:

"I wanted to find a way to study the refugee crisis this summer, whether through this course or otherwise," Maiden says. "Within the 'refugee crisis' are so many complex issues overlaid across every area of study – politics, history, philosophy, anthropology, economics. In pursuing the truth as a journalist, the questions that arise are those that a humanities education tackles. 'What is a border?' 'What is the priority for those stuck in the limbo of camps?' 'What does it mean to embrace a new nation?' I can't imagine a more effective way to understand the lessons from my humanities and philosophy classes than to see their application in this world event shaping the present and future for generations of people."





Onur Günay shares how his early life in Diyarbakir has shaped his academic and artistic work.

I grew up in Diyarbakir, the symbolic capital of Kurdish insurgency. Located in southeastern Anatolia, Diyarbakir is a city that has been both politically oppressed and economically marginalized throughout its modern history. Like Palestinians, Kurds are one of the largest ethnic groups without a state. Thirty million Kurds are divided between the borders of Iraq, Iraq, Turkey and Syria.

I started my studies in business, but a radical and decisive turning point for my interest in social sciences, politics and state violence in Turkey was the street protests following the funeral of four Kurdish guerillas in Diyarbakir in March 2006. More than 300,000 people participated in these protests and took over the city for two days. The police killed 10 people whose ages ranged between 8 and 78, and arrested and tortured more than 500 people, mostly children. Justifying the killings by accusing the protestors of being "pawns of terrorism," Turkish officials explained Kurdish children's involvement in "terrorism" in terms of their "socio-economic underdevelopment" rendering the ethno-political core of the Kurdish conflict invisible. The unbridgeable discrepancy between my friends in Divarbakır, who participated in the events, and my friends in Istanbul, who were eager to see them as terrorists, motivated me to become a social scientist.

After finishing my masters in sociology, I serendipitously met two American-Armenian musicians, Onnik Dinkjian and his son Ara Dinkjian, who came to perform in Diyarbakir. They are incredibly talented musicians. Onnik Dinkjian is one of the most influential Armenian singers with his unique style of singing, evoking Anatolian Armenian sound in America. He is considered as one of the last representatives of Anatolian Armenian music. His son, Ara Dinkjian, is a highly celebrated figure of the world music and one of the top oud players in the world. The melodies they sing were those I heard in my childhood in Diyarbakir, melodies of despair and hope. We immediately became close friends.

Onnik's family fled the genocide of 1915, first moving to Syria, Lebanon, France and finally to New Jersey where they settled. While I was personally interested in documenting the afterlives of violence, Onnik and Ara wanted to tell a hopeful story. We started researching their lives, and what began as curiosity developed into a documentary that has been viewed and discussed around the world at 40 international film festivals, in universities and various film festivals throughout Europe, Turkey, the United States, Canada, and of course, at Princeton multiple times. Without funding, my co-director, Burcu Yıldız, a Turkish ethnomusicologist, and I finished the film, "Garod," after three years with the support of our friends.

It's a story of longing longing for a land that lost its people, longing for the homeland, longing for a time that is eternally lost.

It's a story of longing – longing for a land that lost its people, longing for the homeland, longing for a time that is eternally lost. The film portrays the lives and the musical stories of Onnik and Ara using their trip to Diyarbakir, the family's lost hometown, as the central narrative arc.

My doctoral research is about another story of forced migration. Throughout the 1990s, war brought about a sudden passage to urban life



for millions of Kurds. Pursuing a policy of counterinsurgency, the Turkish state evacuated around 4,000 villages and displaced more than 2 million rural Kurds in this period. Istanbul was already host to a sizeable Kurdish population that had come to the city for its economic potential, making it one of the primary destinations for the displaced. Today, Kurds make up 17 percent of contemporary Istanbul's total population, corresponding to almost 3 million Kurds. This number makes Istanbul "the world's largest Kurdish city," as the saying goes among Kurdish migrants. Today, two-thirds of the Kurdish population in Istanbul comprises the urban working class. Moreover, hundreds of thousands of Kurds move each year between the Kurdish region and Turkish metropoles in search of temporary jobs and daily wage-labor.

My dissertation is based on two years of fieldwork with Kurdish migrant workers in the service and construction sectors of Istanbul's economy. I focus on war-displaced Kurds who have settled in urban neighborhoods of Istanbul and chronicle their daily routines as they adjust to urban wage-labor. I analyze the factors shaping Kurdish migration patterns and the ways in which those migratory patterns intersect with Turkey's changing socio-political and economic landscape. My writing foregrounds how Kurdish migrant workers articulate their ethical understandings of self, community and rights in relation to their struggles for economic survival and social mobility – all this in the context of dramatic economic restructuring and the rise of political Islam in Turkey. The ethnic difference that makes Kurds into targets of political violence is made and remade through their introduction into the labor processes and class relations that fashion cosmopolitan urban spaces. My research shows how ethnic and cultural differences are recast through labor, as these differences mark migrant Kurdish men's bodies, sexualities, life prospects and senses of belonging in the city.

Onur Günay is currently a postdoctoral fellow at Harvard University Mahindra Center for Humanities where he is transforming his dissertation into a book manuscript to be submitted for review at a major academic press.

in depth

Four internationally-focused service programs offer students opportunities for learning and sharing their skills with others.

By Erin Peterson

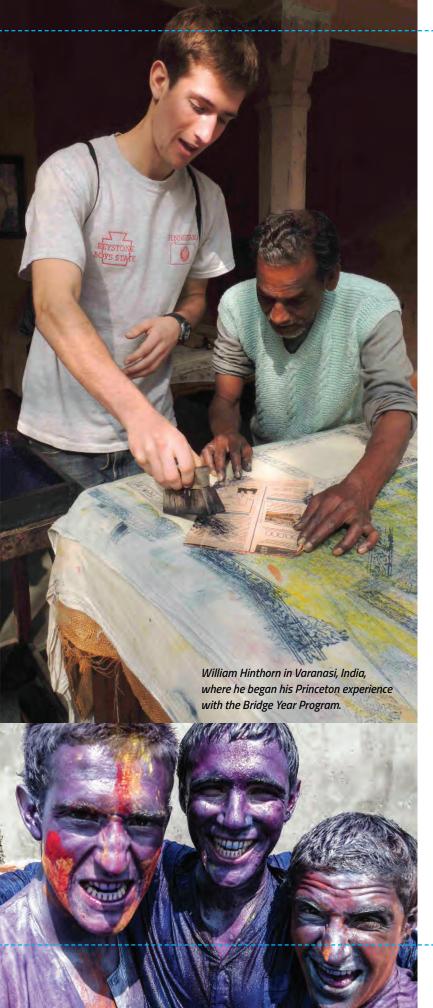
SERVICE FOCUS

Launched this fall, Service
Focus is a new program at
Princeton that bridges service
and learning across the first
two years of the undergraduate
experience. The program consists
of a funded summer service
internship, service-related
courses and opportunities to
engage with faculty and peers
to learn what it means to be
"in the nation's service and
the service of humanity."
Learn more at
focus.princeton.edu.

Collaboration isn't just important in the classroom and in the workplace. Done well, it can effect positive change in our world. These days, Princeton students are participating in an increasingly robust array of international service programs that allow them to work with others on challenging problems that communities around the world are facing.

Through these programs, students are teaching English language skills to students in dozens of countries, developing sustainable water and energy systems in drought-affected communities and bringing arts programming to larger audiences. Students bring their passions to far-flung locations and return with deeper and more nuanced perspectives about their place in the world. For many, these projects are the starting point for a career serving others.

Here, in their own words, participants in four different programs share the highlights, challenges and surprises they encountered while engaging in service abroad.



Bridge Year Program

Since its inception in 2009, the Bridge Year Program allows groups of incoming students to begin their Princeton experience by engaging in nine months of tuition-free, University-sponsored service at one of five international locations. More than 250 students have taken part in the program.

Participant: William Hinthorn '18

Project: Hinthorn taught English, math and history to elementary-age children at the Little Stars School, a facility for at-risk children in Varnasi, India.

First-day lessons: Hinthorn's teaching style didn't immediately earn rave reviews: "I drew slight interest from the front rows and complaints from the back. By the end of my first 50-minute class, two students had cried, a third had gotten a black eye and absolutely no English had been learned."

A shift in focus: His students weren't the only ones getting lessons. "A Rocky-style training montage would show me staying up late at night to prepare for lessons only to be pummeled every day by new troublemakers' tricks. It was discouraging. But then I made a mental shift. Instead of questioning why I could not successfully teach the children. I encouraged them to keep coming to classes, treasure their school books and ask good questions." Though he is hesitant to ascribe long-term student shifts based on his work, he says teachers in the program have emailed him since he returned to Princeton to let him know that students still remember his ideas.

A new approach: The real changes he made, Hinthorn says, were to himself. "I had gone into the experience hoping to gain a better understanding of the needs in a developing region, learn cultures and religions of India and discover ways I might use my interests to benefit humankind. [Some of] the most profound lessons I learned were those of patience, self-care, humility and reliance on my community. It made me realize that 'no man is an island,' and that my bullheaded approach, which academically got me to Princeton, was useless when facing real-world problems."



Projects for Peace

Through the national Davis United World College Scholars Program, Princeton students can apply for \$10,000 in funding to design their own grassroots "Projects for Peace," which promote peace and address conflicts around the world. Successful applicants work to implement their projects over the summer. Projects for Peace is administered by the Pace Center for Civic Engagement at Princeton.

Participant: Lydia Watt '18

Project: Watt worked with Alice Vinogradsky '20, Amanda Cheng '20 and Kabbas Azhar '18 to bring a "Potters for Peace" water filter manufacturing facility to a drought-affected community in Guyana. Made from clay, fine sawdust and a silver colloid solution, the filters look like large flowerpots and trap particulate matter within the structure.

From idea to reality: Getting the project up and running is likely to be a multi-year process, but Watt and fellow students laid the groundwork. "We met with in-country partners which included staff for a school run by a local non-governmental organization; business people

International Internship Program

Each summer, more than 200 students participate in Princeton's International Internship Program. Within these placements, IIP supports high-quality, carefully designed, eight-week-minimum service internships across the world. The work of the interns often becomes an essential part of short- and medium- term projects which lead to concrete positive results for local communities.

Participant: Lena Hu '20

Project: Hu spent eight weeks at the Bayimba Cultural Foundation in Kampala, Uganda, to develop a campaign plan for an \$18.6 million multimedia arts center in East Africa.

A lesson on thinking bigger: Hu analyzed Bayimba's finances and historic sponsorships to develop a list of potential sponsors, crowdfunding options and other funding opportunities for the center. She loved working in a small organization with big ambitions.

"Bayimba is a fearless nonprofit: It is a huge challenge to raise millions of dollars in a country like Uganda that has relatively few monetary resources. But Bayimba followed its mission to spread the arts to a wider African audience."

Shouldering responsibility: Hu was thrilled to be a part of the team. "We were treated like full-time consultants, and we were asked to complete major projects, like [developing] full business plans, setting up an entire charity lottery system and helping to plan out a new arts radio show. The most rewarding part of the experience was presenting our 20-page capital campaign plan to the Bayimba team. After being faced with such a daunting task, it felt amazing to finally complete our project and have a product to show our co-workers...The fundraising plan is going to be implemented by a capital campaign team that Bayimba hires in [the coming] months."

The impact of cultural contradictions:

While Hu admits there were plenty of work challenges, adapting to the culture was the most difficult part of the experience. "I had many contradictory feelings and experiences. I was touched by the warmth and hospitality of my host sister and host mother and appalled by the taunts of men on the street. I was humbled by the desolate state of the cardboard homes in the slums next to my house and stunned by the gated, Beverly Hills-level mansions built on verdant acres in the fringes of the city."



in Guyana's capital city, Georgetown; and leaders from two communities where we hope to work. Hearing their excitement made [the work] feel real. We also conducted preliminary tests on clay and observed firing procedures."

Collaborative efforts: While Watt and the rest of the Princeton team had plenty of chances to make important decisions, they relied on the expertise of in-country partners to help them develop smarter solutions. "One of the challenges we anticipated was transporting filters from [one town to another]. When we brought this up, we got many good answers from our [in-country] partners, including transporting them in the cargo of passenger buses, or striking a deal with trucks that come into the region but leave empty." Working together, she says, helped them make smarter decisions than either group could have alone.





Engineers Without Borders

Since 2004, students in Princeton's chapter of Engineers Without Borders have traveled around the world to help bring clean water, energy and sanitation systems to communities that need it most. Currently, there are active projects in three countries: Kenya, Peru and the Dominican Republic.

Participant: Alexander Byrnes '18

Project: Byrnes has traveled twice to El Cajuil, a small town in the Dominican Republic just north of the Haitian border, to help redesign an existing aqueduct system that is currently incapable of meeting the demands of a growing community. The aqueduct collects water from a spring high in the mountains and is delivered by a series of underground pipes to the community.

Built to last: Princeton students learned to work closely with the community to ensure a project's long-term impact. "We met with the community's elected water committee every day, and they would coordinate community work crews to help us with our daily tasks, whether it be surveying in the mountains or working on the pipeline in the community. Engineers Without Borders puts a large focus on community involvement, since the more a community is invested in a project, the more likely it is to succeed once we leave."

The importance of on-the-fly leadership: When plans went awry, Byrnes learned what it meant to lead. "Last year when we arrived in Santo Domingo, we needed to pick up surveying equipment and materials before we left for El Cajuil the next morning. Unfortunately, we didn't realize stores would be closed for a national holiday when we arrived. I quickly devised a backup plan to split into multiple groups to find open stores before we left in the morning. It worked. We finished just in time to make the bus."

The bridge between accomplishments and personal growth:

The lessons of international travel are often broader than students anticipate. "I went into Engineers Without Borders expecting to learn the practical applications of my classroom engineering education and to help others in need. I did not realize how beneficial the chapter would be for my personal growth. I am a much stronger and more confident leader, and I can work much better on a team. I understand how to manage a project, seek funding and prepare a budget."



PIIRS Undergraduate Fellows travel internationally to conduct research for their senior theses.

By Leda Kopach

After senior Faridah Laffan read the work of Brazilian art and architecture historian Amy Buono describing the Portuguese influence on Brazilian religious objects, she was intrigued. The history major found the relationship fascinating and was convinced that the subject matter would make a great topic for her senior thesis, especially if she could travel abroad and experience this unique part of history for herself.

In fact, she did. Laffan and nine of her classmates had the opportunity to travel internationally this past summer after applying and being accepted into the PIIRS Undergraduate Fellowship Program. While Laffan spent several weeks studying *azulejos*, or painted tiles made in Portugal, other students took on similarly unique projects such as researching refugee camps in Calais, France, and understanding travel along the Congo River.

Through the fellowship program, PIIRS provides the necessary funding for students to travel in order to really delve into their subject matter and conduct the research necessary to write their senior theses. Academic support is also part of the equation. The cohort of students and the PIIRS Fellowship adviser meet regularly before and after their travel to fine-tune their projects which often pivot after their research abroad.

"Undergraduates are at the core of what we do at PIIRS, and the students we are fortunate to fund are astonishing," says Stephen Kotkin, director of PIIRS and the John P. Birkelund '52 Professor of History. "We want them out in the field, engaged in their own research, exploring, trying to make sense of complicated places. We hope they come back with new ways of understanding not only the cultures they visit, but also, upon return, their own."

Julia Elyachar, an associate professor of anthropology and adviser of the program, likens the experience to graduate-level research. "The Undergraduate Fellows Program is distinctive because of the type of research students are conducting," she says. "They must be open to questioning their original assumptions. We want students who are highly independent learners and workers, and who are able to work together collaboratively with a cohort."



Fiona Bell '18 Slavic Languages and Literatures

I became a Slavic major at Princeton, in large part, so that I could engage with Russian poetry in the original language. Since high school, two of my favorite writers have been Anna Akhmatova and Marina Tsvetaeva. This summer I researched the biographies and writings of these extraordinary poets in Russia. For my senior thesis I will examine their relationship: Tsvetaeva greatly admired Akhmatova, and the two exchanged letters throughout their lives. I am particularly interested in how a writer's biography and environment can influence her poetry. Thanks to the support of PIIRS, I was able to spend time in the home cities of both poets: St. Petersburg and Moscow. In St. Petersburg I visited Akhmatova's apartment-museum, which includes original furniture and a collection of Akhmatova's books and manuscripts. I also saw the monument to Akhmatova across from the city prison, which commemorates Akhmatova's "Requiem," a poem that describes the hundreds of women who stood in line to hear news of their husbands and sons during Stalin's terror. In addition to my academic senior thesis, I am writing a play about the poets' lives and relationship, entitled "Letters and Dreams," which will be staged at the Lewis Center for the Arts in January 2018.

PHOTO: Sergey Grachev



Faridah Laffan '18 History

My thesis topic was inspired by the work of Amy Buono, who studies religious objects and spaces that came out of the Portuguese colonization of Brazil. She discusses azulejos, painted tiles made in Portugal that cover sacred and secular spaces in Portugal, Brazil, and other parts of Portugal's erstwhile empire. I wanted to learn more about them. What stories could they tell? Why were they packed into ships and installed in Brazil? To answer these questions, my PIIRS funding took me to three cities: Lisbon, in Portugal, and Rio de Janeiro and Salvador da Bahia, in Brazil. I visited the National Azulejo Museum in Lisbon and studied the creation of azulejos and their history, and then went on to study a selection of 18th century tiles that cover the walls of a Franciscan cloister in Salvador. What makes this selection particularly interesting is the fact that, despite their location in an inherently religious location, they show classical, secular imagery rather than biblical, religious imagery. Why would a group of 18th century Brazilian friars ask that their cloister be covered in images of classical stories? What exactly was the relationship between Catholicism art, and the Enlightenment in Brazil as opposed to in Europe? I hope to answer at least some of these questions as I continue with my research.

Lachlan Kermode '18Computer Science

My research this summer was based primarily in Berlin, where there is a thriving community of Internet artists whose work looks to visualize the Internet in a range of ways. Since the widespread adoption of the web in the 1990s, the Internet has become an increasingly complex and confused political space, where there are many issues of access, censorship, and concern the distinction between public and private zones. It came to my attention over the summer that one of the primary reasons that the Internet is an increasingly confusing and dangerous space is that very few of those who use it understand what is actually going on behind the scenes. For my senior thesis, I will be creating an animated short that tells the story of how data travels from the lid of a laptop to the gates of Google and back again, as an alternative pedagogical explanation of the technical concepts that underlie the most ubiquitous medium of data transfer in today's world. The data packet will likely be represented as a cartoon character that is advised by various protocols at each stage of its journey. The animation will be in 3D, and will ideally be 3 or 4 minutes in length. My hope is that this short offers an alternative way of understanding the Internet that is less threatening than the dense, technological explanation of its functionality.



*indepth

Nearly 40 years ago, during the summer of 1980, a Princeton University astrophysicist published a theoretical paper on galaxy formation. On the other side of the world, at nearly the same moment, an astrophysicist from Hokkaido University in Japan published a similar report. As chance would have it, both papers were non-starters, and their theories on formative intergalactic explosions were discarded. But the relationship that evolved

between the authors – Jerry Ostriker, an esteemed theoretical astrophysicist, and Satoru lkeuchi, one of Japan's foremost physicists and public intellectuals – begot a star-crossed alliance

between Princeton and Japanese astronomers that has echoed down through the decades.

Hokkaido University in Japan published a shave it, both papers were non-starters, as intergalactic explosions were discarded. En between the assessment of the starters of the

Princeton and Japanese astronomers collaborate to discover distant galaxies.

By Wendy Plump

In fact it could be said that Princeton's leading astronomical projects, such as the Sloan Digital Sky Survey (SDSS), the SEEDS exoplanet survey, the CHARIS spectrograph instrument, NASA's nascent WFirst project and the recent choice of the University of Tokyo as one of Princeton's strategic global partners, originated in part from the goodwill between two physicists.

"Those papers turned from a scientific story into a personal one when Jerry invited Satoru Ikeuchi, then a young theorist, to come and spend some time at Princeton," says Edwin Turner, a professor of astrophysical sciences and director of the Council for International Teaching and Research at Princeton. "They were both very broad in their approach, so they talked about a lot of ideas. And each one led to another, and now we have undergraduates and graduates going back and forth and multiple departments working together. What was once 'a professor here and a professor there' is now an institution-level partnership, and has been for many years."

Turner ought to know. By all accounts, his enthusiasm had a great deal to do with carrying the collaboration forward. A young professor of astrophysics when Ostriker first struck up contact with Hokkaido, Turner was part of the cooperative scaffolding. He spent a vivid week "touristing" in Japan in 1986, and found himself transfixed by the culture. He has been working collaboratively with Japanese astronomers ever since.

The relationship with Japanese astronomers, Turner adds, has been one of the most fruitful for the astrophysics department.

The Sloan Digital Sky Survey (SDSS) is but one example of its success. The brainchild of Princeton astrophysicist Jim Gunn, the SDSS was a sweeping survey of the heavens that collected enormous amounts of data. Unfortunately, the costs of the project were astronomical. Princeton needed a partner to help fund it. Quite serendipitously, the National Astronomical Observatory of Japan was simultaneously siting the Subaru 8.2-meter infrared telescope atop Mauna Kea in Hawaii. With a price tag of about \$400 million, it would become the world's most expensive, most advanced wide-view telescope. Japan had the funding but needed young astronomers with the expertise to exploit Subaru's capabilities. A plan was hatched, and a pact was struck: formally, a Memorandum of Understanding – in which the newly formed Japan Participation Group (JPG) provided partial funding for SDSS and then sent a cohort of astronomers to Princeton to learn from its observational astronomers. At that point, it was astronomy's largest ever formal, integrated international collaboration.

Gillian Knapp, emerita professor of astrophysical sciences at Princeton, remembers the excitement of the period well.

"Given that SDSS was designed from scratch, we collaborated on hardware, advising, designing and fundraising," she says. "It was one of the first projects



you might call holistic in that the science was all being thought out together."

Asked how she and the other faculty at Princeton handled the Japanese work gestalt, Knapp, who is British, laughed. "I wouldn't dream of being able to understand either the Japanese, or for that matter, the U.S. way of thinking. But I do think that the Japanese ethos of politeness and of treating each other with respect went a very long way."

More recently, the memorandum has expanded to include additional collaborative programs: the CHARIS project, the Prime Focus Spectograph or PFS, and NASA's upcoming WFirst project. A team of Princeton researchers led by Princeton professor N. Jeremy Kasdin, for example, has designed and built an instrument for CHARIS that will allow Subaru to make direct observations of planets orbiting nearby stars. And on the horizon is WFirs, which is dedicated to exoplanet detection and dark energy research. While many institutions are involved in these projects, Princeton is a key partner.

Michael Strauss, professor and associate chair of the Department of Astrophysical Sciences, says none of this would likely have happened without the relationship between Princeton and Japanese astronomers.

"Subaru is really unique at the moment, and so the data we've gathered are unprecedented," he explains. "What are we doing with this science? Looking for some of the most distant galaxies and quasars in the universe. Looking at very distant objects and what they were like soon after the Big Bang. Studying the structure of our own Milky Way galaxy, and asking fundamental questions about what the nature of galaxy formation was.

"The universe is a very big place, and we are, in a sense, just at the beginning of a grand project to map it," he adds. "Princeton has a reputation in astrophysics, and this continues to burnish it. And our students are definitely involved – undergrads, post-docs, graduate students. They are making discoveries of their own."

From left, Gillian Knapp, Ed Turner and Michael Strauss, all of the Department of Astronomical Sciences at Princeton.

interview

Creating an Arc of International Experiences

An Interview With PIIRS Director Stephen Kotkin

What are you most excited about as the new director of the Princeton Institute for International and Regional Studies?

I'm thrilled to have the honor of directing PIIRS, building on the work of my predecessors. The Institute has grown enormously since its founding in 2003. We select and support a fantastic group of undergraduate fellows across disciplines who are working on senior theses in international and regional studies. We do the same for an outstanding group of graduate student fellows who are completing their Ph.D. dissertations. PIIRS also serves as the main engine for graduate student language study and research abroad, awarding the vast bulk of funding on a merit basis.

Do all of the regional studies programs at Princeton fall under the PIIRS umbrella?

PIIRS houses the programs in African Studies; Contemporary European Politics and Society; Russian, East European and Eurasian Studies; South Asian Studies; as well as the Program in Translation and Intercultural Communication. Other regional studies programs on campus include East Asian Studies, European Cultural Studies and Near Eastern Studies. Latin American Studies and Hellenic Studies are self-standing programs.

We are also planning to expand our regional investments. The newly created Paul and Marcia Wythes Center on Contemporary China is one key example. We'll also have some exciting news soon on contemporary India.

Beyond PIIRS' signature Global Seminars and its Undergraduate Fellowship program that supports senior thesis research, does PIIRS plan to offer any other international opportunities for undergraduates?

In addition to increasing the number of Global Seminars we currently offer, PIIRS is exploring ways to connect foreign experiences with courses on campus. Swahili is taught at Princeton through our Program in African Studies, and we encourage our students to continue the coursework in Tanzania with the Program in Dar es Salaam. We are also planning to take students who study Sanskrit to Kerala on India's southern Malabar Coast to enhance their classroom learning.



How does PIIRS interact with other Princeton departments?

PIIRS aspires to find partners across the entire campus. We are sponsoring a fellow in the Princeton-Mellon Initiative in Architecture, Urbanism and the Humanities, who is teaching a course called "Interdisciplinary Design Studio." We are interested in hearing ideas for new collaborations.

How is international and regional programming for students evolving?

Along with our international partners on campus, we are investigating ways to make our programming, research and teaching cohere even more. From the Bridge Year Program to internationally and regionally themed freshman seminars, Global Seminars, study abroad, travel for language study, senior thesis research abroad and international internships, we are looking to create an arc of integrated experiences for our students.

On a more somber note, I know that you are the Ph.D. adviser for Wang Xiyue. What is his status?

Wang Xiyue, a gifted Ph.D. student working on Eurasian history under my supervision, has been suffering immeasurably since being imprisoned in Iran in August 2016. The University continues to do everything we can to support Wang's family and facilitate his release so he can return to his wife and son and continue his studies.

Stephen Kotkin is the John P. Birkelund '52 Professor in History and International Affairs and the director of the Princeton Institute for International and Regional Studies. He can be reached at kotkin@princeton.edu.



