Brown Sabbatical Research Newsletter
Foreword

This is the fourth edition of the annual Brown Sabbatical Research Newsletter published by the Office of the Dean of the Faculty. Its main focus is on the research by Brown faculty that has been made possible during the past academic year by our sabbatical program (also included are some reports on non-sabbatical research). The word sabbatical derives from the Hebrew verb shabath meaning “to rest.” In keeping with the ancient Judeo-Christian concept the academic sabbatical designates a time, not of simple inactivity, but of the restorative intellectual activity of scholarship and research.

Brown instituted the sabbatical leave in 1891, eleven years after Harvard had become the first university in the United States to introduce a system of paid research leaves (Brown was the fifth institution in the nation to adopt such a program, following Harvard, Cornell, Wellesley, and Columbia). As these dates suggest, the concept of the sabbatical emerged out of the establishment of the modern research university in America during the second half of the nineteenth century. A 1907 report by a Committee of the Trustees of Columbia University underlines the fundamental principle on which this innovation was based: “the practice now prevalent in Colleges and Universities of this country of granting periodic leaves of absence to their professors was established not in the interests of the professors themselves but for the good of university education” (cited in Eells, 253). Thus the restorative action of the sabbatical was understood to affect primarily not individual faculty members but the university as an intellectual community and an educational institution. The promulgators of the modern university believed that time for intensive focus on research contributed significantly and directly to the quality of the knowledge and methods transmitted by the university to its students and to the public in general.

For over one hundred and twenty years Brown has reaffirmed that belief by granting sabbaticals to its faculty. The following publication of sabbatical research aims to provide some indications of the results of these research leaves over the last year. The entries are lightly edited versions of the reports submitted by the individual faculty members themselves. I hope that they will be found interesting and instructive.

Kevin McLaughlin
Dean of the Faculty

Further reading:

*Special thanks are due to Associate Dean of the Faculty Joel Revill and Michelle Turcotte of Brown Graphic Services.
Elsa Amanatidou spent her semester of leave working on two different tasks, both related to issues of second language acquisition and assessment of language proficiency.

The first task was the completion of an article entitled “Re-conceptualizing Content in the Foreign Language Classroom: Why It Matters to Modern Greek Studies and the Paths to Curricular Transformation” currently revised for publication in the Spring 2018 issue of The Journal for Modern Greek Studies. The article places ongoing discussions and concerns about the place of Modern Greek language study in U.S. institutions within the larger debate on the state of the field of foreign language pedagogy. Drawing from research and practices of foreign language education that go beyond the confines of communicative language teaching (CLT), the article asserts the need for a literacy-driven curricular model for Modern Greek, one that emphasizes multi-literacies, language, content, culture, and critical thinking at all levels of the undergraduate language program.

The second task, which was the most time consuming, was one of several research projects that Amanatidou has undertaken in response to foreign language assessment reforms required by The Office of Qualifications and Examinations Regulation (Ofqual), which is a non-ministerial government department that regulates qualifications, exams and tests in England and is colloquially and publicly sometimes referred to as the exam “watchdog.” This project entailed working as part of a team of language experts on the development of an international specification, benchmarked against the Council of Europe’s Common European Framework of Reference for Languages, corresponding to levels B2/C1. Designed as a literacy-driven and content-based specification, Amanatidou’s research focused on identifying the language tasks and modules that inform the pedagogical and cultural content (ranging from history to literature and film studies) and devising the rubrics involved in assessing this content. In addition to researching and identifying curricular content, she authored sample assessment materials, a “Getting Started” guide for teachers, and weekly schemes of work to assist the delivery of the specification in international schools around the world. For a peek of these materials, visit: http://qualifications.pearson.com/en.qualifications/edexcel-international-advanced-levels/greek-2016.html
Professor Badre spent his sabbatical at Brown focused on research and scholarship. Research in Dr. Badre's lab seeks to understand the cognitive and neural mechanisms supporting goal-directed behavior. Much of human thought and action is purposive or directed toward an intended outcome. This capacity requires “cognitive control” mechanisms that leverage experience in order to influence and coordinate our diverse cognitive systems toward a particular goal. Dr. Badre's lab has gained new understanding of these mechanisms using a multiple methods approach that derives hypotheses from mechanistic models of cognitive control, and tests those hypotheses with a range of human cognitive neuroscience methods. During the leave, Dr. Badre focused on two major on-going projects in the lab. The first line concerns how people successfully learn, plan, and carry out everyday actions that are complex and unfold in time. Several projects on this line have investigated both learning and behavior of complex tasks, and indicate that this type of behavior requires dynamics of the frontal cortico-striatal system. A second line has investigated how these cognitive control mechanisms develop over the course of childhood. This project, funded by a collaborative grant from NIMH along with co-PI Dima Amso, further investigates how early-life environmental factors, like poverty, impact development of these crucial functions. Overall, the focus on research supported, in the 2015-2016 period, fourteen peer reviewed publications in journals such as *Nature Neuroscience*, *Neuron*, and *Cognition*, three book chapters, and numerous presentations at scientific meetings, including *Society for Neuroscience*, *Cognitive Neuroscience Society*, and the *Psychonomics Society.*

The sabbatical leave also permitted time for development of three new projects that will be on-going for the next several years. First, Dr. Badre established an important new research direction for his lab using direct human intracranial neural recordings. This method is at the cutting edge of human neuroscience. However, as it requires coordination and collaboration with neurosurgeons and neurologists, as well as development of sophisticated new data analysis pipelines, devoted time was required to establish this research program. This was successful, and data collection began this summer. Second, the leave permitted time to conduct scholarly research for a new book on the cognitive neuroscience of cognitive control. Dr. Badre is finalizing contract negotiations with Princeton University Press for publication of this book. Finally, Dr. Badre has co-founded, along with Professors Adam Aron at UCSD and Roshan Cools at Radboud University, a new international conference on cognitive control and executive function. The meeting, “Control Processes” controlprocesses.com, will bring together a diverse group of scientists each year addressing cognitive control function from a range of approaches and levels of analysis, including human cognitive psychology, computational modeling, neuroscience, anatomy, disease and disorder, and animal models. Dr. Badre has co-organized the first meeting that will be held at University of California, San Diego (UCSD) on Nov 10-11, 2016. The next is planned to be hosted at Brown in 2017.
Joseph M. Braun  
EPIDEMIOLOGY • FALL 2015

Professor Joseph Braun dedicated his sabbatical to enhancing his research program, which examines how early life environmental chemical exposures affect child growth, adiposity, and brain development. Specifically, he mentored two new graduate students and a new postdoctoral research associate, completed several research projects, and engaged in new collaborations with Canadian researchers in an effort to expand his research program and leverage another prospective pregnancy and birth cohort.

With the assistance of a new doctoral student, Dr. Braun published a manuscript in the *International Journal of Epidemiology* describing the details of the HOME Study, a prospective pregnancy and birth cohort designed to investigate the influence of environmental chemical exposures on children’s growth and development. Dr. Braun and his colleagues recruited 401 pregnant women from the Cincinnati area into the HOME Study and have followed them and their children from the second trimester of pregnancy until the children are eight years old. Their manuscript describes the recruitment and follow-up of mothers and their children, as well as the detailed environmental chemical exposure and child health outcomes.

Dr. Braun mentored a new postdoctoral research associate who published a manuscript in *Environmental Science & Technology* describing the variability, patterns, and determinants of childhood exposure to bisphenol A (BPA), a chemical that may increase the risk of adverse child health outcomes. This work provided information that will help researchers optimally measure childhood BPA exposure in epidemiological studies. In addition, the researchers found that BPA exposures were related to consuming food stored or heated in plastic, consuming canned food and beverages, and handling cash register receipts. These results provide crucial information that parents and policy makers can use to reduce children’s exposure.

Finally, Dr. Braun spent time collaborating and visiting with colleagues from Simon Fraser University, Laval University, and Health Canada to gain access to the MIREC cohort, a prospective cohort of ~2,000 mother-child pairs that have been followed from the first trimester of pregnancy until children are three years old. These collaborative efforts resulted in a project, led by Dr. Braun, which is examining the association between prenatal BPA exposure and child neurodevelopment. Braun is drafting a manuscript that he will submit to the journal *Epidemiology*. In addition, he is collaborating with the same colleagues on several other projects examining neurotoxicants in the MIREC cohort. Access to the MIREC cohort provides Dr. Braun and his students and postdoctoral research associates with many additional research opportunities.
Professor Eugene Charniak spent the fall semester of the academic year at the University of Edinburgh, hosted by the department of Informatics. The department there is perhaps unique in its investment in computational linguistics, Professor Charniak's research area, with at least seven professors in the field. (In contrast, it is rare in the U.S. for a department to have more than one.)

The major goal of this sabbatical was to complete a line of research on getting a machine to understand recipes. This work need not have been done at Edinburgh, but the hope was that the new environment and people to talk to would inspire new ideas. Depending on how you look at it, the research goal was or was not accomplished. It was accomplished in so far as a program was written and evaluated, as was a paper describing it. However, the paper was a bust. Charniak was never happy with it and it was rejected by the major conference to which it was submitted. It was overcomplicated, difficult to read, and had no obvious lessons on how to proceed, except perhaps, give up this line of research. Indeed, this was the lesson that was learned.

The sabbatical however turned out to be a great success, though by a route that could not have been anticipated. As with most departments, Informatics at Edinburgh is short of offices, and Eugene was not given an office for himself. Rather he shared one with one of his Ph.D. students, D.K. Choe. When Choe heard that Charniak was going to Edinburgh he asked to go as well, and both Brown and Edinburgh approved. Key to this story is the fact that computational linguistics is undergoing a mini revolution these days due to “deep learning.” Deep learning is a new name for what use to be called “neural nets,” a machine learning technique that used a computational model of neurons. It was popular back in the 1980’s, but it failed to live up to its promise, and was supplanted by other machine-learning paradigms. Since then, however, several new techniques have been added to the mix, and the greatly increased computer power now available has allowed people to try things that previously would have been thought absurdly wasteful of computational resources. With its concentration of faculty in the area, the department at Edinburgh has an invited speaker series devoted to computational linguistics, and almost all of the talks focused on applications of deep learning. Both Choe and Charniak were impressed by this, and Choe decided to try the techniques in his research, drawing in Charniak. By the time they returned to Brown, Choe (a fast learner) had already implemented one failed attempt, and Charniak (much slower) was plowing his way through on-line tutorials on the topic.

In recent months, Choe's research has flourished due to this new infusion of ideas. He and Charniak have just submitted a paper to another major research conference, and this paper is short, easy to digest, and establishes a new benchmark in the area of computer parsing of natural-language (think of sentence diagraming). Charniak is now preparing to teach a course in Deep Learning this fall.
Professor Tamara Chin spent her sabbatical leave writing chapters and conducting archival research for her second book manuscript. Provisionally entitled *Haptologies: Contact History and Transnational Thought*, this book examines key discourses, tropes, and terms through which modern scholars and writers (primarily in Asia and Europe, 1870-1970) reconstructed or imagined a more interconnected premodern world. *Haptologies* builds upon the recent wave of new scholarship across the social sciences and humanities on the regionally and temporally discrepant trajectories of globalization and premodern transregionalism. However, it focuses on a history of discourses rather than on social history per se. It traces the genealogy of key terms (e.g., contact, Silk Road, imperial cosmopolitanism) and temporal modes (e.g., progressive, allegorical, figural) that have been employed across different languages and disciplines to describe the transnational past. To help clarify our inherited approaches to the content of intercultural history, *Haptologies* brings greater attention to transnational historiography’s dominant narrative forms and lexicon.

Chin undertook archival research in libraries, museums, and archaeological sites in China, Sweden, India, and the U.K. She also submitted portions of her sabbatical research in three articles. “Figural Transnationalism and China’s Asian-African ‘Silk Road’ (1955-1972),” currently under review, examines the trope that China once shared with the decolonized Asian-African world of the modern renewal of a pre-colonial interconnected Asian-African antiquity. (See, for example, Abanindranath Tagore’s portrait of the “Chinese monk-traveller Huen-shan [Xuanzang]” who once visited ancient India, painted before Rabindranath Tagore’s 1920s visit to China). Influential during Cold War-era diplomacy, this renewable Asian-African “Silk Road” was at odds with the progressive structure of Marxist-Maoist historiography, as well as with notions of the Silk Road in Europe (or China now).
The two other articles respectively engage Greek/Latin and classical Chinese texts with questions concerning modern paradigms of ancient interculturality. “What is Imperial Cosmopolitanism? Revisiting kosmopolitēs and mundanus” is a literary-philological reexamination of the lexicon of Hellenistic and Roman cosmopolitanism that highlights the historical use of different terms in articulating oppositional attitudes to imperial rule. This study is forthcoming in Cosmopolitanism and Empire: Universal Rulers, Local Elites and Cultural Integration in the Ancient Near East and Mediterranean (Oxford UP, 2016).

“Colonization, Sinicization, and the Multigraphic Northwest” introduces the historiographic models and terms commonly used to narrate China’s past as a real and imagined part of a culturally larger history. It argues the need to pay greater attention to the diversity of ancient literatures in foreign scripts and languages that flourished alongside Classical Chinese in premodern China. This is forthcoming in Oxford Handbook of Classical Chinese Literature (1000 BCE-900 CE) (Oxford UP, 2017).

Geoffroy de Clippel
ECONOMICS • FALL 2015

Professor de Clippel took advantage of his sabbatical leave to progress on two ongoing projects:

Project 1: The Silent Treatment (joint with Kfir Eliaz and Kareen Rozen). Information overload is costly to organizations. Limited cognitive resources, multiple obligations, and short deadlines can lead a principal to overlook important ideas from subordinates. De Clippel and Eliaz propose a stylized model to highlight a remedy to this problem that should be relevant in many contexts. Since interactions in organizations are often repeated over time, there may be ways to incentivize agents to speak up only when they have something important to communicate; that is, to be discerning. One of the principal’s jobs is then to steer the organization in this direction.

In their model, a principal’s attention is repeatedly sought by multiple agents, each is eager for his ideas to be implemented. An idea’s quality stochastically affects the principal’s profit, and agents’ abilities to generate good ideas may be private information. The principal is unable to review proposals before choosing one each period. She can provide incentives only through her selection rule among proposals, but cannot commit to this rule in advance. De Clippel and Eliaz show how she may discipline agents to exercise restraint, achieving her first-best in an intuitive belief-free equilibrium. Whether first best is achievable hinges on the worst possible agent, the organization’s ‘weakest link.’

Selecting ideas in the model is reminiscent of multi-armed bandit problems, with the new feature that an arm’s availability is a strategic decision each round. Our analysis also shows that such problems admit simple, robust solutions.

Project 2: Level-k Mechanism Design (joint with Rene Saran and Roberto Serrano). Mechanism design aims at engineering rules of interaction that guarantee desired outcomes while recognizing that participants
may try to use their private information to game the system to their advantage. The design problem thus hinges upon a theory of how people make choices given the rules that are being enforced. Oftentimes the concept of Nash equilibrium is used for that purpose. However, evidence has shown that theories of level-k choice may provide a more accurate description of people’s behavior, especially when they are inexperienced.

Both approaches assume that participants are rational to the extent that they maximize their preferences given their beliefs regarding how others will play. The difference lies in how beliefs are determined. Level-k theories break Nash’s rational expectations logic by assuming people see others as being less sophisticated than themselves. Best responses then determine behavior by induction on the individuals’ depth of reasoning, starting with an ‘anchor’ that fixes the level 0 behavior. This anchor captures how people would play the game instinctively, as a gut reaction without resorting to rational deliberation.

Using one theory or the other often results in significantly different behavior and outcomes, which may have important implications for mechanism design. Though perhaps surprising at first, de Clippel and his colleagues show that only social choice functions that are implementable for level-k behavioral theories form a subset of those that are implementable for Nash’s equilibrium theory. Furthermore, for many natural anchors, the two sets of implementable social choice functions are almost identical.

Masako Fidler
SLAVIC STUDIES • SPRING 2016

During Professor Fidler’s sabbatical leave, she published an article entitled “The others in the Czech Republic: Their image and their languages” in Multilingualism and Minorities in the Czech Socio linguistic Space, a special issue of International Journal of the Sociology of Language, edited by Lida Cope and Eva Eckert. Fidler considers the issue of language and ethnic diversity in Eastern Europe important and plans to keep this line of research open for expansion in the future. With her co-author Václav Cvrček, she also submitted an article on representation of Russia for the Czech audience in the official Russian news and opinion portal Sputnik (“More than keywords: Discourse Prominence Analysis of the Russian Web Portal Sputnik Czech Republic,”) for a volume Language in Politics in Slavic-speaking Countries. The authors are not alone in studying Russian ideology and propaganda, but their analysis differs from those by sociologists and political scientists in using quantifiable and reproducible linguistic evidence to identify consistent strategy in discourse.

Fidler is finishing another co-authored article entitled “Key ‘morph’ analysis: How much do morphemes inform us of discourse?”). She proposes a new strand of statistical analysis of morphemes derived from the principle of keyword analysis. The main idea is to show that inflection (morphological markers for grammatical case, person, and tense-aspect-modality) can facilitate our understanding of how the speaker constructs the world. The study probes an area of discourse that is understudied in the mainstream discourse analysis studies, as the latter focus on English, a language with sparse grammatical marking.
Besides moving her long-term international collaborative research forward, Professor Fidler was able to help expand the scope of collaboration between Brown and Charles University in Prague with the help of the Global Mobility Program Grant Faculty Research Grant from the Brown Global Engagement Office. Meetings with the deans of the Humanities Division and the Division of Mathematics and Physics at Charles University resulted in the idea of a lecture series entitled “The Brown Lecture Series (2016-17)” supported by Charles University. Several humanities departments have already responded positively to this series and expressed their willingness to reciprocate in 2017-18. Fidler is committed to continuously serving as the liaison between the two institutions to formalize the relationship between them.

In April Professor Fidler put together the Workshop on Quantitative Text Analysis for the Humanities and Social Sciences (April 8-9, 2016) at the Brown Digital Scholarship Laboratory. The workshop featured text analysis methods and tools that are widely used by linguists, historians and literary scholars: collocation analysis, keyword analysis and topic modeling. The workshop was organized in partnerships with Elli Mylonas from the Brown Library, Jessica Metzler from the Sheridan Canter at Brown, and Václav Cvrček from Charles University in Prague.

The workshop was well attended. It was supported by the non-Brown participants’ registration fees and internal and external funds from various institutions and academic units at Brown: Charles University in Prague, the Center for Language Studies at Brown, the International Association of Teachers of Czech, the Dean of the Faculty, and the Henry Kučera Lectureship Fund from the Slavic Studies Department. The presentations, the software used and shown, and the bibliography are at, https://www.brown.edu/research/projects/needle-in-haystack/workshop-quantitative-text-analysis-humanities-and-social-sciences-april-8-and-9-2016

More than 40 participants attended the workshop, including 25 non-Brown participants. The external participants came both from universities in the U.S. (including Columbia, University of Texas at Austin, Harvard, Northwestern, Northeastern, and Colgate) and from abroad (three from the United Kingdom, three from the Czech Republic, and one from India). The audience consisted of not only graduate and undergraduate students specializing in various disciplines (corpus linguistics, media studies, political science, sociology, Slavic studies, digital humanities), but also of senior professors from the U.S. and U.K. institutions. The guest speakers were Paul Baker (Lancaster University), Václav Cvrček (Charles University), Lida Cope (East Carolina University), and Neil Bermel (Sheffield University, U.K.). Brian Croxall (Brown Library) and Fidler represented Brown. The interest and enthusiasm of the audience confirmed that quantitative text analysis is already a part and parcel of research in the humanities and social sciences.

The workshop produced two important outcomes. It became an opportunity for the deans of the humanities at Charles University in Prague (Dean Mirjam Fried and Vice-Dean Ondřej Tichý), who were aware of Fidler’s five-year-long collaborative project with Charles, to visit Brown where they started conversations with various academic units about possible research and educational exchange.

The workshop also attracted attention of the editor of the book series Quantitative Methods in the Humanities and Social Sciences from Springer and Fidler was invited to submit a book proposal, which has now been accepted, inspired by the workshop. The book will utilize quantitative linguistic data for multidisciplinary
purposes: contrastive linguistics (Czech and English), cognition (speaker perception versus corpus data),
poetry (versification), gender identity, propaganda, gun policy, and translation.

Professor Fidler is happy to report that her book *Onomatopoeia in Czech* received the best book award in
Slavic Linguistics from the American Association of the Teachers of Slavic and East European Languages.
Her research on sound and meaning still continues. She started an article on Czech onomatopoeia using
quantitative data from the Czech National Corpus, and is scheduled to present this paper at the National
Institute for Japanese Language and Linguistics International Symposium 2016 in Tokyo. NINJAL is a
prestigious academic institution in Japan and Fidler honored to be one of the invited speakers who will give
a talk on the mechanism of onomatopoeia with a comparative perspective. The paper will be subsequently
published in a conference volume.

Stephen Merriam Foley

Stephen Merriam Foley devoted his sabbatical leave to completing an article on Roger Ascham’s *Toxophilus*
and to completing two chapters in his book project, *Inaugural Forms*, in which each chapter explores how
the launching of a poetic form for the first time defines the renaissance in 16th century English culture.
Selections of this work were presented to the International Spenser Society and to the Shakespeare
Association of America.

“Who brought this rhyme about?” returns the question mark to the re-invention of rhyme in Skeltonics and
the stanzaic forms of *The Shepheardes Calendar*, considering how Spenser’s rhyme plays on the broken pipes
of Skeltonic prosody. Rhyme is a trouble spot in Spenser studies. Richard Brown finds craft in Spenser’s
rhyme, an embodied power of language that enchants and incriminates, exceeding mere will. Julian
Lethbridge argues that Spenser suppresses rhyme to a willful blank, unbinding meaning from mere form.
Lethbridge and Brown echo the sound/sense polarity that eternally confounds the study of rhyme. Let’s look
to the effective nonsense of Skeltonics for the freedom that Spenser carries from the exploratory rhymes of
*The Shepeardes Calender* into the discipline of the *Faerie Queene* stanza. Spenser’s rhyming of Skelton’s
Colin with his own – who knows not Colin Clout? – is both the compulsive echo of pseudonym, which
rhymes only with itself, and willful authorial intention. Like Skelton’s Colin, Spenser cannot help rhyming
and he means to anyway.

“Needless Alexandrine” presents a new view of the Spenser’s invention of the *Faerie Queene* Stanza that
came to bear his name. In the crowded room of the Spenserian stanza, the last line extends an extra foot,
and that slow length makes for a loud thump, a stumble, a graceful recovery from near fall, and sometimes
for a big kick. Even when it’s so smooth that we almost fail to notice, we pause to wonder where it went. It
hovers between ability and disability. With heroic hope, the line refuses to end its verse, always disabling the
full close as yet another pause, halting by on an extra foot and an extra rhyme and producing the effect of
going nowhere or backwards because we have gone too far and there is nowhere else to go. We may hope for
the teleological end, but when you listen, the alexandrine is a mutation, its extra foot extending the line
until it finally halts, haltingly, only for the poem to lurch forward again as propelled by a second wind. Like
another transgressive form in its genealogy, the elegiac distich, Spenser's alexandrine entails error. Pope's
prosodic joke compliments perfectly the relation of error and form in Spenser's own icon of form in the
serpent's tail, the visual and prosodic place where he imagines the labile instrumentality of poetry that
makes a sunshine in a shady place, shining like the brazen serpent as an image of obedience to the Word.

Baylor Fox-Kemper
EARTH, ENVIRONMENTAL, AND PLANETARY SCIENCES • SPRING 2016

Professor Fox-Kemper spent the spring semester at the University of Cambridge as a Beaufort Visiting
Scholar of St. John's College and visitor at the Department of Applied Mathematics and Theoretical Physics
(DAMTP). Professor Fox-Kemper's interests are ocean physics and the role of the oceans in earth's climate
and environmental challenges. He works on theory, numerical models, and remote and autonomous
observations, especially those that are revealing of the longest and shortest timescales in the ocean –
paleoclimate and turbulence.

Professor Fox-Kemper's visit strengthened collaborations with researchers in Cambridge and the U.K.,
particularly his host Dr. John Taylor of DAMTP. Working together with Cambridge colleagues from the
BP-funded Consortium for Advanced Research on Transport of Hydrocarbon in the Environment, one
long-term project was brought to completion. It synthesizes theories about symmetric instabilities – a form
of upper ocean turbulence that develops on scales of 100m and over hours. The paper encapsulates the
behavior of these instabilities into a form where they may be easily incorporated into a variety of numerical
and climate models. These phenomena have long been studied, but this formulation allows the first
quantitative assessment of their effects on regional and global scales. That assessment – and other new ideas
from the sabbatical – will occupy part of the Fox-Kemper group in coming years.

A second project with Cambridge collaborator (and former Ph.D. advisee) Scott Bachman and Brown
research associate Brodie Pearson improves our ability to perform Mesoscale Ocean Large Eddy Simulations
(MOLES). This class of climate simulations directly resolve the largest turbulent eddies in the ocean, which
evolve on scales of 100km and months. These eddies are dynamically similar to atmospheric weather
systems, are among the most energetic features in the ocean, and are important agents in the transport of
heat, salt, nutrients, and other properties. Even the world's fastest computers can resolve only the largest
eddies in global simulations, smaller eddies are not resolved and must be represented parametrically with a
sub-gridscale model. Over the past year, Fox-Kemper, Bachman, and Pearson have developed and vetted a
new sub-gridscale model that significantly improves the fidelity of Mesoscale Ocean Large Eddy Simulations.
Many climate modeling centers worldwide are developing simulations in this class, including researchers from the U.K. Met. Office Hadley Centre for Climate Science and Services and the National Oceanography Centre in Southampton. During the sabbatical, Fox-Kemper was able to meet often with these groups and collaborate on implementation and testing of sub-gridscale models.

Fox-Kemper has made progress on a textbook to accompany his course for mid-level undergraduates, "Mathematical Methods of Solid and Fluid Geophysics." This book introduces essential mathematical techniques for oceanography and climate as well as solid earth and mantle dynamics and seismology. Much inspiration for the book comes from the DAMTP approach to geophysics and geophysical fluid dynamics. Discussions with faculty and students at DAMTP have broadened and sharpened this manuscript, and these improvements will receive a trial in the fall semester.

Fox-Kemper maintained contact with his group in Providence throughout the sabbatical. Two papers led by Brown research associate Nobu Suzuki were completed during the sabbatical. These quantify the effects of ocean surface waves on larger scale turbulence, such as Langmuir cells, eddies, fronts, and filaments. The papers derive and illustrate a new way of writing the equations and analyzing simulations of these effects in terms of energy, angular momentum, and vorticity budgets. These techniques will enable rapid progress in understanding and simulating the interactions between waves and other larger scale phenomena. Professor Fox-Kemper will teach the course “Geophysical Fluid Dynamics” at Brown in the fall semester with specific emphasis on these new techniques.

Fox-Kemper enjoyed the opportunity to visit researchers in Europe. He gave seminars at Cambridge, Oxford, Imperial College, Reading, Leeds, the U.K. Met. Office, and at conferences in Liege, Belgium and Vienna, Austria.

Leela Gandhi
ENGLISH • 2015-2016

In her sabbatical year Professor Gandhi worked on two research projects. The first is a revised edition of her book, Postcolonial Theory: A Critical Introduction to be published by Columbia University Press in 2018. This edition (with a substantial new introduction) takes stock of developments in the field over the last two decades and across multiple disciplines, including the effect on postcolonialism of queer theory, affect theory, neo-cosmopolitanism, neo-communitarianism, and postsecularism. It gives special attention to three emerging branches of study or topics: imperial studies (ancient, medieval, and contemporary empires, both western and non-western, and across multiple geographical and cultural axes), ecology and nonhuman life, and ethics.

The main part of Gandhi’s sabbatical was taken up with preparing the groundwork for a second research project that considers postcolonial thought as the placeholder (in critical theory) for a philosophy of
magical – specifically non-secular – materialism, tethered to the concepts of sacrifice, correspondence/resemblance, and solidarity. So as to identify the intellectual histories and genealogies for thinking through this project and working out its stakes Gandhi did intensive research in various archives and special collections in the United Kingdom, including at the British Library, The Natural History Museum and Library, The Tate Library and Archives, and the London Zoological Society Library and Archives.

In 2015-16 Gandhi delivered several lectures on previous and evolving research. She lectured at Goldsmith's College and King's College in London, and led master classes as a visiting Professor at the University of Trento, Italy, and at the Royal College of Art, London. A highlight among these talks was a keynote address delivered to the Italian Parliament Chamber of Deputies in Rome to mark the coming into force in Europe of the Istanbul Convention on violence against women and domestic violence. Gandhi also addressed the Lahore Biennale in October 2015, and spoke at the 2015 Times of India Literary Festival in Delhi.


Yan Guo
APPLIED MATHEMATICS • 2015-2016

Supported in part by a fellowship from the Simon Foundation, Yan Guo spent his sabbatical leave studying certain partial differential equations arising in mathematical physics. He has made the following progresses in his research:

Discovery of Stable BGK Waves in Collisionless Plasma: A plasma, the ‘fourth state’ of matter, is a collection of fast moving charged particles. Plasma study is important to the understanding of nuclear fusion, which may lead to new and clean energy resources in the future. The dynamics of a collisionless plasma is described by the Vlasov-Poisson equations, in which ions and electrons interact only through their own electrostatic field. In 1957, Bernstein, Greene, and Kruskal constructed a family of exact steady solutions to the Vlasov-Poisson system, known as BGK waves. These BGK waves play an important role in the long time dynamics of a collisionless plasma as potential ‘final states’ or ‘attractors,’ thanks to many numerical simulations and experimental observations. Despite their importance, the existence of stable BGK waves has been an important open question since their discovery in 1957. Yan Guo and Zhiwu Lin (Georgia Tech)
have constructed the first stable BGK waves, settling this long-standing open question in affirmative. Their result opens a new line of research in the field.

Stability of Contact Line in Fluids: Contact lines (e.g., the coffee edge at the wall of a coffee cup) play important roles in many fluid problems. They have been well-understood for more than two hundred years for cases in which there is no fluid motion. On the other hand, the study of dynamic motion of these contact lines is still a subject of active research even today. In an effort to study the time evolution of contact lines in fluids, together with Ian Tice (CMU), Yan Guo has established the first dynamical stability for these contact lines for a two-dimensional Stokes flow. New mathematical tools have been developed to study more general flows in the presence of three-dimensional geometry.

Derivation of Steady Flows from Boltzmann Theory: One of the major research programs in mathematical physics is to derive macroscopic laws as certain scaling limits of more fundamental microscopic laws. A particular active research program is to derive the macroscopic Navier-Stokes equations from more microscopic Boltzmann equation for gases. Despite many major advances, it has remained an open question to derive steady fluid flows from the Boltzmann theory. In a joint work with R. Esposito (University dell’Aquila), C. Kim (Wisconsin, Madison) and R. Marra (Roma 2), Professor Guo has resolved this open question in affirmative for steady flows inside in a bounded region. New mathematical framework has been developed, and they are applying it now to study classical steady flows passing an obstacle.

Roee Gutman
BIOSTATISTICS • SPRING 2016

Professor Roee Gutman's sabbatical leave in the spring semester of the 2016 academic year was spent primarily on writing and mentoring students in the area of causal inference in randomized and non-randomized trials and developing methods to impute multiple missing ordinal data. The sabbatical also involved service to the profession.

A large part of the sabbatical was spent on a paper called “Estimation of policy effect using potential outcome framework with application to nursing homes bed-hold policy.” This paper investigates some properties of the commonly used Difference-in-Difference method from the potential outcome framework. In the paper, the authors develop a statistical procedure that identifies nursing homes that were not impacted by the policy, but had similar trends in terms of the outcomes of interest before any policy was implemented to nursing homes that were impacted by the policy. They then compare the performance of the two sets of facilities after the policy implementation. The authors did not observe any significant impact on the number of deaths or the number of patients that were using the nursing homes in states that implemented the bed-hold policy. However, they saw a significant increasing trend in the rate of hospitalization. This trend continues to increase even four years after the policy was implemented. This
analysis could inform policy makers on the effectiveness of the law as well as the possible costs. The authors developed both a full Bayesian procedure and an approximation procedure that would allow other researchers to learn about the effect of policies with longitudinal studies.

Professor Gutman also spent the sabbatical working with current and former Ph.D. students on devising methods to estimates causal effects when comparing more than two treatments in observational studies (e.g. comparing non-insulin classes of drugs for diabetes mellitus). In another project with a current student, Professor Gutman developed new methods that combine Item Response Theory models, which are used extensively in education and psychology, with missing data imputation to enable follow-up of post-acute patients across different types of health providers. Lastly, Professor Gutman worked with former undergraduate student and a master student on developing computational methods for estimating sample size in clustered randomized trials and efficient methods to impute missing data with large datasets.

Professor Gutman also worked with multiple doctors on projects that include trends in the number of multiple births due to a mothers' increasing age, the association between chronic lymphocytic leukemia and axial fractures, and the effects of opioids vs. NSAIDS on pain after motor vehicle crashes.

In terms of service to the community, Professor Gutman served on two review panels (PCORI, CDMRP). He also organized a session and presented at the New England Statistics Symposium. Professor Gutman developed and taught a short course on causal inference with observational studies for the next generation of producers and consumers of Comparative Effectiveness Research and Patient Centered Outcomes Research.

Overall, the sabbatical has been a huge boost for his research. It allowed him to finish existing projects, develop new ones, and start new collaborations.

Beverly Haviland
AMERICAN STUDIES • SPRING 2016

Beverly Haviland’s primary work during her sabbatical leave was on the volume she is preparing for the Cambridge University Press edition of The Complete Fiction of Henry James (34 volumes). This ambitious, prestigious project will publish new standard editions of all of James’s novels and tales, as well as his “Prefaces” and Notebooks. Beverly Haviland is editing one of James’s two unfinished, posthumously published novels, The Sense of the Past.

The work that goes into making a critical edition is traditional scholarship at its best. Providing authoritative texts is fundamental to the later work of criticism and literary history. In addition to collating all published editions of the texts in both serial and book form, the editor collates all manuscript materials to provide a source for scholars to consult. Because Henry James generally destroyed manuscripts after
publication, the situation with The Sense of the Past is unique. At the time of his death in 1916, James was actively working on The Sense of the Past; thus, there are several manuscript versions available, including the original 1900 version of this novel. Beverly Haviland wrote about these two versions of the novel in her monograph, Henry James’s Last Romance: Making Sense of the Past and the American Scene. (Cambridge: Cambridge University Press, 1997).

This editorial work will provide scholars with a unique insight into James’s processes of composition because of the variants in the text of the novel proper and because of his frequent interruptions of the “story” to dictate to his typist his reflections on the composition of his narrative. These “discarded pages” (which obviously were not, in fact, discarded) are in the Houghton Library at Harvard, where most of the materials relevant to this project are held. This edition will be the first to contain these “working notes,” which provide a unique insight into James’s methods of composition. They supplement the “Notes” that were published with the first edition of this posthumously published novel in 1917. Contemporary reviewers were astonished to see the mind of a great artist at work in this close range in the Notes to The Ivory Tower and The Sense of the Past: “to read it is like watching a day being born … bright with the joy of creation.” (Robert Lynd, “Henry James’s Ear: How He Wrote His Novels,” The Daily News and Leader [London] (6 September 1917), 2.) The “working notes” provide a yet closer degree of intimacy with the creative process.

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In addition to producing the text and variants, the edition contains a textual introduction (2500 words), an historical introduction to the novel (35000 words), and explanatory notes (15000 words). The textual introduction traces the material text from composition to publication. The historical introduction considers the historical, biographical and literary circumstances of its production; the contemporary reception of the novel when it was published posthumously in 1917; and the critical heritage from then to the present, a record that has not previously been compiled in the collections of reviews and essays and scholarly articles about James fiction. These introductions will be finished in the summer of 2016. The explanatory notes and textual variants have been completed.

Haviland has presented some of the material from these introductions at two international conferences in Rome in 2011 and London in 2012. Since then, she has presented material from the historical introduction at two other international conferences: at the University of Aberdeen in 2014 at the Sixth International Conference of the Henry James Society: The Real Thing: Henry James and the Material World (“The Uncanny Thing in The Sense of the Past”); in London in 2016 at the British Library’s centenary conference, Henry James and Memory (“Why remembering is not time travel: Memory Theory, The Sense of the Past, James’s Autobiographies”). In April 2016, Haviland presented another part of the historical introduction at the Seventh International Conference of the Henry James Society held at Brandeis University, Commemorating Henry James/Commemoration in Henry James (“Monuments, Memorials, and Memoirs: Taking Liberties with the Past,”); and she will be presenting another part of this introduction at the MLA 2017 panel sponsored by the Henry James Society devoted to the posthumous James, Dead Letters, (“Time Travel and Posthumous Publication; or: Is there Revision After Death?”).

In addition to her work on the James volume, Haviland has continued to work on her book project, Shameless and Blameless: Representing Childhood Sexual Abuse in Literature. A condensed version of the first chapter on The Scarlet Letter was published as part of a symposium in the journal Common Knowledge that is dedicated to the topic of peacemaking and conflict resolution. Haviland’s essay argues that Hester Prynne’s recovery from her sexual abuse and shame provides a representation of psychological and social processes of healing, and that Hawthorne’s engagement with the reader strategizes the transformations of meaning that are necessary for such a resolution of conflict. See “What it Betokened: Waiting for Hester in The Scarlet Letter,” Symposium: Peace by Other Means, Part 4, Common Knowledge 21:3 (2015): 420-436.

Also in relation to this book project, Haviland will be presenting a paper in October 2016 at a conference at George Washington University “Listening to Trauma: Insights & Actions” that develops her reading of Lolita and the representation of the sexual predator by focusing on the value of point of view and comparing that first-person focalization by the perpetrator to that of a first-person focalization through a minor character, such as we find in Dostoyevsky’s Demons, in which the predator, Nikolai Stavrogin, confesses his pleasure and shame in have raped and driven to suicide an 11-year old girl. This argument is the core of Part II of Shameless and Blameless.

Along a different track that is closely related to her teaching, particularly her course on “Early American Film,” Haviland will be presenting a paper at the Modernist Studies Association meeting in Pasadena, CA November 17-20 on a panel “The POOL Film Group and Beyond: Modernism’s Media.” Her paper, “Being Black and White in Black and White: Visibility and Race in Borderline and Body and Soul,” focuses on the
roles that Paul Robeson plays in these silent films made by the POOL group (Kenneth MacPherson, H.D. [Hilda Doolittle], Bryher [Annie Winifred Ellerman]) in 1930 and Oscar Micheaux in 1925, respectively.

In addition to this scholarly work, Beverly Haviland has been engaged with a group of clinicians and scholars who have created the Consortium for Psychoanalysis in Higher Education. The purpose of this group, which has drawn people from the greater New England area, is to promote the study of psychoanalysis by students who put this theory and practice to a variety of uses in clinical, academic, and community settings. Suzanne Stewart-Steinberg and Beverly Haviland organized the meeting of the group in November 2015 at the Pembroke Center, and they plan to organize a public panel in the spring of 2017 that will bring together psychoanalysts, psychiatrists, academics, and community health workers whose work makes use of psychoanalysis. The Consortium organized such a panel at Mount Holyoke College in April 2016 (see figure).

Haviland has also begun to serve on the Programming Committee of the Rhode Island Association for Psychoanalytic Psychologies (RIAPP), which is the official chapter of the Division of Psychoanalysis (39) of the America Psychological Association.

Bonnie Honig
POLITICAL SCIENCE AND MODERN CULTURE AND MEDIA • FALL 2015

Professor Bonnie Honig spent her fall semester working on her new book, Public Things. The argument of Public Things is that democratic life, as such, requires public things to care for, argue about, use together. This means that although there may good reasons (efficiency) or bad ones (race or class segregation) to privatize (e.g. schools, parks, monuments), the specific requirements of democracy depend on there being public things – infrastructure, monuments, libraries – that citizens must use, care for, be gathered up by. This last phrase, by which to be “gathered up”, is a reference to the work of child psychologist D.W. Winnicott who, writing at midcentury, popularized the idea of “transitional objects” – the toys, teddy bears or favorite blankets by way of which infants are gathered up, and come to understand themselves as a unified selves with an inside and an outside in relation to others. The wager of Public Things is that the work that is done by transitional objects for infants at certain stages of development is analogously performed for democratic citizens by public things, which press us into object relations with others and with ourselves. Without public things, democratic citizens lose the opportunities for equality upon which democracy is premised. This is what Tocqueville had in mind, or something like it, when he said: “The art of pursuing in common the objects of common desires [is democracy’s] highest perfection” (1840, 115).

Winnicott’s work in child psychology dovetails with the political theory of Hannah Arendt, which says nothing about children but does emphasize how things that are fabricated by humans lend their stability to the human world. In other words, both Winnicott and Arendt think about object permanence as an important part of modern life together, though Winnicott’s register is psychological and Arendt’s political.
One of the examples Honig looks at are three famous images of the great vocalist Marian Anderson singing at the Lincoln Memorial on two separate occasions. Looked at in sequence, they seem to represent the combined Arendt/Winnicott trajectory – from being held as an infant to being able to express concern for others (by holding them, in Winnicott, or by caring for the world, in Arendt) to being part of a collective action in concert, larger than ourselves – all in relation to a public thing: the Lincoln memorial. The object does not change in these images but Anderson’s relation to it, and our relation to it as viewers, does.

The occasion of the first two images is this: in 1939, the DAR (Daughters of the American Revolution) denied Marion Anderson the use of Constitution Hall for a performance. The great African American vocalist (the artist’s “haunting, impassioned singing prompted the great maestro Arturo Toscanini to proclaim, “A voice like yours is heard once in 100 years”) performed instead at the Lincoln Memorial for an integrated audience. Eleanor Roosevelt, First Lady at the time and herself until then a member of the DAR (she resigned over this), helped arrange the free concert, held on Easter Sunday, 1939, and attended by over 75,000 people. Walter White, then executive secretary of the NAACP, had suggested an outdoor venue, perhaps to facilitate attendance by an integrated audience. And, since the Lincoln Memorial is a national monument, Secretary of the Interior Harold Ickes was also involved in the planning. Photographs (above) of the event depict Anderson from one angle as if she were seated in Lincoln’s great lap, held by him; from another angle, she can be seen holding together a great crowd with her presence, with the Lincoln statue invisibly behind her. Handled and held. Holding. She opened with “My Country, ’Tis of Thee.” As she sang, she emphasized the words liberty and freedom and “[i]nstead of ‘of thee I sing’ she sang ‘to thee we sing.’” In so doing, she and everyone there made of the Lincoln Memorial (a public thing) a live holding environment for democratic citizenship and action in concert.

Twenty-four years later, Anderson appeared again on the same stage at the 1963 March on Washington, a photo of which (the third photo) actually combines the handling and holding noted above, but also goes beyond them. In this image, Anderson is surrounded by others on stage and Lincoln is almost obscured, his lap is not
visible; the monumental size of his statue is diminished. He is now one among others, part of an African American collective action, absorbed into an action in concert whose fundamental traits are, on Arendt’s account, equality and plurality.


2. See https://www.youtube.com/watch?v=mAONYTMf2pk/.

3. Why did she change the wording? To reflect the fact that “‘We cannot live alone,’ she said. ‘And the thing that made this moment possible for you and for me, has been brought about by many people whom we will never know’” (Stamberg, “Denied A Stage”).

4. Winnicott’s reading of the story of Humpty Dumpty as a child grown too big for the mother’s lap (hence his “great fall”) led me to see the Anderson image this way. Winnicott refers to the period of the child’s growing independence from the mother in the holding environment as “the ‘humpty-dumpty stage’” and notes: “the wall on which Humpty Dumpty is precariously perched [is] the mother who has ceased to offer her lap.” (The Maturational Processes and the Facilitating Environment (London; New York: Karnac, 2007) 75.

Justin Izzo
FRENCH STUDIES • SPRING, 2016

During his semester off, Professor Justin Izzo put the finishing touches on the draft of his book manuscript, provisionally titled Experiments with Empire: Anthropology and Genre in the French Atlantic World. This project examines how anthropologists and literary writers from France, West Africa, and the Caribbean experimented at the intersection of ethnography and fiction in order to make sense of the French empire’s political contradictions. The book offers a theory of ethnographic fiction and, at its broadest level, argues that generic creativity produces and responds to new forms of geographic connectivity. Genre functions as a metaphor for the geographic vectors that underpin and promote formal experimentation and its political reverberations. Once this manuscript was complete Professor Izzo sent it to several university presses for consideration.

He used the remainder of his sabbatical leave to complete work on two article-length publications. The first of these is a critical introduction to a reissue of a 1930s French colonial novel, Jean d’Esme’s L’Homme des sables. This novel is about colonial Djibouti and pre-World War Two imperial rivalries, and Professor Izzo’s introduction connects its themes and concerns to global economics and twenty-first century anxieties about militant Islamic movements. This new edition of L’Homme des sables has been published by L’Harmattan in their “Autrement Mêmes” collection, a series that brings colonial-era texts to new contemporary audiences.
The second publication is a chapter for the upcoming collection, *The Reader in African Cinema*. This volume is devoted to new critical approaches to African cinema, and Professor Izzo's contribution studies how African film captures “the now” in post-millennial narratives about economic precarity and war. By examining recent films by Francophone directors Abderrahmane Sissako (Mauritania/Mali) and Mahamat Saleh Haroun (Chad), this chapter asks how African film periodizes the contemporary by communicating intense experiences of the now in visual narratives. Sissako and Haroun tell stories about debt; globalization and development; and conflict/reconciliation in order to thematize the contemporary as a narrative problem that possesses special urgency.

Professor Izzo also led a seminar at the American Comparative Literature Association annual meeting, held at Harvard University. This seminar was titled “Aesthetic Distance in a Global Economy” and brought together papers studying the economic dimensions of cultural movements that are estranged from traditional geographic centers of literary or cinematic production. His contribution to this seminar was a paper on two volumes of memoirs by Franco-Congolese writer Alain Mabanckou.

**Lynne Joyrich**

*MODERN CULTURE AND MEDIA • FALL 2014*

Lynne Joyrich spent her sabbatical working on her current book project, *Knowing Looks: Epistemologies of Gender and Sexuality in U.S. Television*, which focuses on the construction of gender and sexuality in contemporary U.S. television. The book explores how television, through its specific media and textual conventions, produces not only particular knowledges of gender and sexuality but also particular means and methods of coming to know (or not know) certain identities, bodies, and cultural formations. With chapters on various programs, genres, and channel formats, it considers such issues as televisual formations of gender and genre, the treatment of gay and lesbian subjects on television, televisual narration and sexual violence, the intersection of media flows with social formations, and the relationship between the identities of media forms and the identifications of gendered, raced, classed, and sexualized subjects in our culture.


As she worked on her own research projects, Professor Joyrich also continued her work as a member of the editorial collective of the feminist media and cultural studies journal *Camera Obscura*. In particular, she co-edited a special issue of the journal titled *Project Reality TV* (co-edited with Brenda R. Weber and Misha
Kavka, *Camera Obscura 88*, Duke University Press, 2015), which includes her co-authored introduction, “Project Reality TV: Preshow Special” (https://www.dukeupress.edu/project-reality-tv-1). This special issue focuses in on reality television, analyzing how this “televisual project” itself projects, promotes, and produces certain ways of seeing, knowing, feeling, and being for its viewers and for our society as a whole. Its contents consider various reality television formats’ textual and ideological formations, industrial and affective economies, constructions of celebrity and sociality, ethics and aesthetics. In this way, this issue unpacks one of the most significant media phenomena of our era, allowing us better to understand and productively engage with today’s mediatized culture.

**Christopher W. Kahler**

**BEHAVIORAL AND SOCIAL SCIENCES • SPRING 2016**

During his sabbatical leave, Professor Christopher Kahler traveled to Hong Kong and China to follow through on collaborations he has initiated through pilot project funding from the Lifespan/Tufts/Brown Center for AIDS Research. He worked with Dr. Joseph Lau and Dr. Phoenix Mo from the Chinese University of Hong Kong to finalize their project on positive psychology interventions to reduce depressive symptoms in HIV-infected Chinese men who have sex with men. He also served on the organizing committee for the 2016 International Behavioral Health Conference at which he was a keynote speaker. Based on these collaborations he contributed to two grant proposals to the National Natural Science Foundation of China. Additionally, he submitted a grant application to NIH as PI to continue his work on examining how counselors effect change in heavy drinkers who are living with HIV or at risk for HIV and published the first paper from this project in the journal *Patient Education and Counseling*. He also completed work on a paper examining alcohol’s effects on health in patients living with HIV which will be published in *AIDS & Behavior*. During the Spring, he was awarded an R34 from the National Institute of Alcohol Abuse and Alcoholism (NIAAA) to develop a website for heavy alcohol drinkers who want to quit smoking. He traveled to Washington, DC to work with collaborators on this project which builds off of his pioneering work to integrate interventions to reduce drinking into smoking cessation treatments. He also worked with collaborators in Miami and Boston to begin implementation of his NIAAA-funded study to test behavioral and technological interventions for reducing drinking in people living with HIV. He worked with Dr. Michael Littman on a project funded by an OVPR seed fund grant that creates the prototype for a voice-based computerized counseling program for college students who drink heavily. That project started recruitment during the latter part of the spring. Finally, he contributed to combination of eight additional K, R, and T applications to NIH during the semester.
Richard Kenyon
MATHEMATICS • FALL 2015

Professor Kenyon was on sabbatical for the fall semester at University College of London. During this sabbatical he worked on several research projects with co-authors Aaron Abrams (Washington and Lee University), Jason Miller (Cambridge), Scott Sheffield (MIT), David Wilson (Microsoft research), and Charles Radin, Kui Ren and Lorenzo Sadun (University of Texas). Kenyon visited Cambridge several times to work with Miller, and gave two seminars there. In addition he gave seminars and colloquia at University College, University of Lancaster, Warwick University, Tel Aviv University, and the Fields Institute in Toronto.

He completed a paper with Abrams “Fixed-energy harmonic functions” (submitted) and two papers with Miller, Sheffield and Wilson “Bipolar orientations on planar maps and SLE(12)” and “The six-vertex model and Schramm-Loewner evolution” (submitted). Another work was a paper with C. Radin, K. Ren and L. Sadun “Bipodal structure in oversaturated random graphs” on the structure of large random graphs having an atypically large number of copies of a fixed subgraph.

In the paper with Abrams they answered a basic question on purely resistive electrical circuits: can one adjust the resistances on the edges of a resistive network in such a way that the energy dissipated on each edge (when one attaches a battery across two fixed nodes) is the same? The surprising answer is yes, and the number of choices of resistances is precisely enumerated by the set of possible directions of the current flow: for each feasible choice of current flow directions there is a unique choice of resistances realizing the equal-energy condition. Aside from the “network” application this problem has applications to both statistical mechanics (the underlying enumeration problem is related to the so-called Ising model for magnetization) and number theory, that branch of mathematics dealing with numbers and polynomials.

During this semester he was also able to interact extensively with his Ph.D. student Sanjay Ramassamy who accompanied him to the U.K. as a visiting student at Cambridge.
Professor David Kertzer spent the bulk of his sabbatical leave completing the archival research for, and then drafting, his book, *The Last Pope-King: Pius IX, the Roman Revolution of 1848, and the Emergence of Modern Europe*. The book examines the overthrow of the Papal States in 1848, the proclamation of the Roman Republic, and the efforts of Pope Pius IX, from exile, to convince the Catholic powers of Europe to send their armies to restore him to power. It also looks at the paradoxical role played by the new French Republic in crushing its sister republic in Rome to restore the Papal States, while unsuccessfully trying to prevent the pope from following a reactionary path once back in power.

Pius IX would be the last of the pope-kings, a position that for a thousand years was central to Church doctrine and to Europe’s political order. The demise of the last great divinely ordained political ruler in the West would mark an important moment in the transformation of Europe, a revolution begun a century earlier with the spread of radical notions of consent of the government and separation of church and state. But such a fateful change would not come easily, nor would it come without the shedding of much blood.

The book is based on thousands of primary documents from both Church and secular sources. Having completed the Italian and Vatican archival work earlier, as well as work with hundreds of published primary sources, Kertzer spent the fall of 2015 working in the French diplomatic archives outside Paris and in Nantes. He then spent February to June in Rome where he wrote a first draft of the book. The book is under contract with Random House in the United States.
Stephen Kidd  
CLASSICS • 2015-2016

Professor Stephen Kidd’s sabbatical year was spent in Berlin on a grant from the Alexander von Humboldt Foundation and a Wriston Fellowship from Brown. His main research was for his next book tentatively entitled *Paidia: The Concept of Play in Ancient Greek Thought*, which considers the relationship between play and aesthetics for Plato, Aristotle, and other thinkers of the period. Play-theorists today grapple with the question of how to fit games into traditional aesthetic theories, but the question of this book is how did the two become separated in the first place?

Much of the year was spent on a first chapter that investigates the root of the Greek word for *paizo*, namely the *pais* or “child.” Play was conceived of as the characteristic mode of being for a child, but, more importantly, “being a child” characterized the act of play. What does it mean to be a child and how is this different from the normative adult mode of being? Looking at discussions of child psychology and psychophysiology (including Diogenes of Apollonia, medical texts, Aristotle, and others), Kidd came to the conclusion that the perceived mode of “being a child” is the pursuit of immediate pleasure. This is, in a sense, what it is to “play” (*pais-do*) in Greek. Because the child lacks the rational capacity of adults – a universal view of children for the period – they are left with the immediate presentations and pursuits of the moment.

One important consequence of this is that play was not conceived of as an essentially mimetic act – an inescapable position from a modern ethological standpoint – but rather as a pursuit of immediate pleasure of which *mimesis* was often treated as a sub-category. Kidd’s second and third chapters on Aristotle and Plato, which he also worked on during his leave, continue his argument and take note of the strong break between the two thinkers, where *mimesis*, not play, becomes the dominant theoretical tool for thinking about art, literature, and music. Work was also done on the second half of the book, “The Objects of Play” (the first half is “The Subjects of Play”), which asks questions about toys or “playthings” (*paignia*) as pleasure-objects. “What is a toy?” is a question Kidd posed in a lecture at the University of Florence. In another conference paper delivered at the University of Leuven, he explored ancient dicing as an activity done for its own sake and so often included in depictions of the good life.

Along with work on the book, Professor Kidd also wrote and submitted two solicited articles: one called “Sound: An Aristotelian Perspective” for a book on Sound in Antiquity the other called “Play in the Ancient Novel” for a journal issue devoted to play in ancient literature. Kidd submitted three other journal articles: one on the meaning of the Greek verb *kubeuo*, which he argues often means “gamble” and has nothing to do with dice (something which has caused a great deal of confusion not just in interpretations but in textual editions since at least the nineteenth century), a smaller note on the so-called “Euripides Throw,” and an article on the scholia of Greek comedy; Kidd also wrote a book review. He gave invited lectures on ancient gambling at St. Petersburg University in Russia and Humboldt University in Berlin. And he also worked on a short translation and commentary on the second-century C.E. Julius Pollux’ important discussion of ancient Greek games, which he plans to include as an appendix to the book.
Virginia Krause

FRENCH STUDIES • SPRING 2016

During the first part of her sabbatical, Professor Krause completed work on a critical edition of Jean Bodin’s *De la démonomanie des sorciers* (1580), co-edited with Christian Martin and Eric MacPhail. A massive undertaking spanning more than ten years of collaborative work, their edition has just been published by Droz. It is the first modern edition of a treatise written by a prominent intellectual at the beginning of the most intense period of persecution in early modern France’s witch-hunts.

Professor Krause was also able to begin work on a new research project on Epicurism and Natural Theology in Montaigne Essais, which she presented at *Happiness in the Early Modern Period*, a conference at the University of Wisconsin–Madison. She also continue to work on the rise of the novel in early modern France, the subject of her current book-project.

Finally, Krause is currently serving on the *Sixteenth Century Studies Conference* Roelker prize committee, which will grant an award to an outstanding article on early modern French History published in 2015.

Joachim I. Krueger

COGNITIVE, LINGUISTIC, AND PSYCHOLOGICAL SCIENCES • SPRING 2016

While on sabbatic leave, Professor Krueger’s priority was to move forward with the writing and submitting of original research papers. Today, two papers are under review. The first is a paper (co-authored with Patrick Heck, Ph.D. candidate) describing experimental studies on how people perceive individuals who do or do not self-enhance in terms of their competence and morality. The second paper (co-authored with Heck and Derik Wagner, an ex-undergraduate) describes experimental studies designed to distinguish between choice strategies in the volunteer’s dilemma. Four papers will be submitted soon. The first of these (with Heck) presents a simulation-based evaluation of Null Hypothesis Significance Testing. The second (with Heck) is a follow-up paper, which responds to specific criticisms of Significance Testing. The third is a paper describing a series of experiments on interpersonal trust, and specifically the role of expectations of trustworthiness. This work is done in collaboration with Tony Evans, a former graduate student who is now a professor at Tilburg University in the Netherlands. The fourth paper is the result of collaborative work with legal scholars and psychologists at the University of Graz, Austria. The paper describes the first round of results obtained with a large-scale investigation of how people make choices in an information-rich environment. Three additional papers are in the early stages of development. The first (with Heck) describes the results of a study designed to see how people perceive agents in the volunteer’s dilemma. The second describes a series of studies on the role of expectations and social distance in the decision to volunteer (in the eponymous dilemma). This work is done with Johannes Ullrich, who is a professor at the University of
During the semester, Professor Krueger spent a few weeks in Europe. In Berlin, he was a visiting scientist in the Max Planck Institute for Human Development, the Department of Adaptive Rationality and Cognition. He had discussions with the director Ralph Hertwig and his team, gave a talk, and overall felt pretty good about himself. Krueger travelled to Zürich to discuss the life-span and the volunteer’s-dilemma work with Professor Ullrich. He travelled to Graz in Austria to work on the collaboration with the law scholars and the psychologists, gave a talk, and overall felt pretty good about himself. (Again.) He also gave a four-day seminar in Graz, in which he taught the students the secrets of book reviewing, which he describes as “fun.” Now, Krueger has begun preparatory work for a course on strategic decision-making to be taught as part of the EMSTL master’s program.

A less formal view of this sabbatical (and sabbaticals in general) may be found in this link: https://www.psychologytoday.com/blog/one-among-many/201604/radical-sabbatical
In addition to conducting much of the background research, Professor Lewis delivered several papers related to the project, including invited lectures at Vassar College, Princeton University, and the Political Concepts conference here at Brown. These venues provided excellent opportunities to work through some of the fundamental concepts at play in the project and to focus on the contributions of Mary Wollstonecraft in particular. Two of the resulting papers should be submitted for publication by the end of the summer. More significant than these individual papers, however, have been the time and intellectual space afforded by a year of leave; these have enabled the wide reading and reflecting necessary to conceptualize a large-scale project reexamining a decisive moment in the emergence of modern ethical thought.

Evelyn Lincoln took the calendar year 2015 as a sabbatical year, although she spent the fall semester as Resident Director of the Brown in Bologna Program in Bologna, Italy. In the spring semester she was resident in Providence, using the time to complete an article on the Parasole family, artists, publishers and printmakers engaged with most of the large printing projects and other foundational Counter-Reformation visual programs in late sixteenth-century Rome, including the founding of the Oratorian order, the Accademia dei Lincei, and the decoration of the dome of St. Peter’s. She also began to research the Mascardi Press, one of the busiest publishing and printing houses in 17th-century Rome, which serviced the Accademia dei Lincei as well as providing the Jesuit and Dominican orders with elaborate illustrated books on everything from the art of dying well to a taxonomy of Mexican plants and animals, and the inscriptions on ancient obelisks present in Rome.

Over the summer Professor Lincoln worked on her digital humanities website, *The Theater that was Rome*, which is a research site for the study of Roman printed books. She teaches with the site, which also is a repository for information about Roman illustrated books, primarily in (but not limited to) the History of Science and Technology. This work enabled her to teach a graduate seminar with the site in the spring semester, 2016, and was fundamental to her current research on Roman publishing, the subject of an article currently in preparation for the Brill publication, *A Companion to Early Modern Rome: 1492-1712*.

In the fall semester Professor Lincoln decamped to Bologna to administer the Brown program there in tandem with the permanent staff of the program and collaborators at the University of Bologna. This is a flagship program for international studies and one of the oldest Study Abroad programs (in its 35th year). Besides advising Brown students on course selection, she also administered an exchange program that brings Bolognese professors, researchers and graduate students to Brown for periods ranging from one to three months. While in Bologna she was able to plan a new course on art and food (*Dreaming of Food in Early Modern Italy*, to be taught spring, 2017) and to incorporate Bologna more firmly into lecture courses she teaches at Brown.
Professor Loury spent the academic year on sabbatical leave, as a Fellow at the Center for Advanced Studies in the Behavioral Sciences at Stanford University. His project for the year was to write a memoir reflecting on his life as an academic social scientist and public intellectual working on issues of race and inequality in America over the past four decades.

The Center (CASBS) is a semi-autonomous research institution which houses several dozen scholars from the social sciences and humanities who spend anywhere from a semester to a full year in residence to pursue their various interests. Fellows participate in weekly research seminars, where they present and discuss their ongoing work, and in a variety of workshops, conferences and symposia which are organized by current and former fellows, and by the staff of the center, to examine broad themes – everything from emerging work on Confucian philosophy and political ethics in China to informed speculations about the implications of changing technologies for the future organization and regulation of work.

Professor Loury contributed to this wide-ranging intellectual smorgasbord in a number of ways: he made the keynote lecture at one of the quarterly symposia (under the title, “Racial Inequality in the 21st Century: Where Do We Go from Here?”) and he presented at talk on his memoir project for one of the weekly research workshops (entitled “Changing My Mind: Identity, Authenticity and the Politics of Race in the American Academy”). Here is a link to a video of his symposium presentation: https://casbs.stanford.edu/second-2015-16-casbs-symposium-series-features-glenn-loury-video

Over the course of ten months, basking in the California sun, Professor Loury made significant progress on the first draft of the memoir, which he expects to complete by start of fall semester, 2016. In addition to his formal presentations at CASBS, Professor Loury presented readings from his work-in-progress at Stanford University’s Ethics and Society Program, the Berkeley Law School, the University of Chicago Law School, Johns Hopkins University, the University of San Francisco, the University of Santa Clara, and at the annual meetings of the Southern Sociological Society.

As capstone to his sabbatical year, Professor Loury traveled to the United Kingdom, where he was received at All Souls College, Oxford University, to present the Lee Lecture in Political Science and Government. His Lee Lecture, based on his memoir draft, was entitled: “When Black Lives Matter: Race, Crime and Punishment in America Today.” Here is a link to the text of his Lee Lecture: http://www.brown.edu/Departments/Economics/Faculty/Glenn_Loury/louryhomepage/Lee%20Lecture.pdf

Over the course of the year Professor Loury also published several essays and a number of commentaries in popular venues and on social media, critically assessing the contemporary movement for diversity and inclusion in American higher education. Some of this critical commentary was recorded at Professor Loury’s video blog, to which he made nearly two dozen original posts over the course of his sabbatical year. These online video conversations are archived at this link: http://bloggingheads.tv/programs/current/glenn-show
Finally, Professor Loury participated in a number of civic forums while on the West Coast. Three of these were informal social gatherings where ideas were exchanged with Silicon Valley entrepreneurs and philanthropists – at the invitation of Joshua Cohen, publisher of the Boston Review magazine. Professor Loury, while on leave, also met on four separate occasions with community organizers and activists working on social justice issues in Los Angeles and in Oakland. These meetings took place under the auspices of the Southwest Industrial Areas Foundation, and at the invitation of SWIAF leader and fabled community organizer, Ernesto Cortes.

Amanda Lynch
EARTH, ENVIRONMENTAL, AND PLANETARY SCIENCES AND THE INSTITUTE AT BROWN FOR THE STUDY OF ENVIRONMENT AND SOCIETY • 2015-2016

Amanda Lynch spent her sabbatical leave as a Visiting Fellow at the Cooperative Institute for Research in Environmental Sciences at the University of Colorado in Boulder. While in residence, Lynch collaborated with colleagues old and new on research supporting her focus on developing actionable knowledge at the Arctic ice edge. In the most recent decade, Arctic sea ice extent has retreated to levels not seen since the beginning of the satellite record (Fig. 1). With their geographic proximity to ice edge areas, the development of Arctic coastal communities – from Inuit Nunangat (homeland) to whaling station to national security frontline – continues to be contested. Low global oil prices, along with technological and security challenges connected to production, may render Arctic fossil fuel reserves economically nonviable for the foreseeable future. But even without significant natural resource development, industries such as freight, tourism and commercial fishing may benefit from lower ice area, thickness, and concentration. These activities have a critical reliance on shipping in the Arctic, but because of the present low predictability of the navigable season, economic benefits have not accrued at the expected rate. Low predictability has also led to ongoing safety and reliability concerns. Indeed, even though summer sea ice is projected to have substantially retreated by as early as 2035, operators will face continued hazards from drift ice, icebergs and potentially increased storminess.

Figure 1. Sea ice concentration (%) in September 2015 as a difference from the 1981-2010 average. Typically September, at the end of northern summer, has the lowest sea ice extent of the seasonal cycle. The year 2015 recorded a total of 1.5 million square kilometers less ice than the 1981-2010 average.
Professor Lynch and her colleagues discovered structural breaks in the records of sea ice measurements derived from microwave images from satellite (Fig. 2). These structural breaks are robust to the choice of algorithm used for deriving sea ice concentration from microwave imagery, and are also apparent in other quasi-independent measures, such as operational ice charts and shipping records. The breakpoints appear to be associated with concomitant shifts in average ice age, and tend to be associated with changes in Arctic circulation regimes. These results support the thesis that Arctic sea ice may have tipping points beyond which a return to the previous state is unlikely.

*All data used in the analysis are freely available from the National Snow and Ice Data Center.*

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**Brandon Marshall**  
**Epidemiology • Spring 2016**

Professor Marshall dedicated his sabbatical leave to his research program at Brown University. During this time, Professor Marshall submitted a U-01 co-operative research grant to the Centers for Disease Control and Prevention (CDC). The project, entitled *Mapping trajectories of opioid pain reliever use, misuse, and heroin initiation among young adults in New England*, proposes to enroll 500 young adults residing in the Providence metropolitan area to study novel risk and protective factors for heroin initiation. The application was reviewed favorably by the CDC, and if successful will begin recruitment in the fall of 2016.

Professor Marshall also spent sabbatical time working on a collaborative overdose “dashboard” project with the Rhode Island Governor’s Office and the Rhode Island Department of Health. This project, funded by the CDC, supports the development of a drug overdose “dashboard” surveillance website. The project will allow...
stakeholders and members of the general public to monitor all overdose surveillance activities in the state of Rhode Island, and to track progress of the Governor’s Strategic Plan to Address Overdose & Addiction in Rhode Island. Professor Marshall was a co-author of this strategic plan and is leading the development efforts of the dashboard website. During the spring sabbatical Professor Marshall worked with students and his research team at Brown University to develop the website and test its functionality with key stakeholders. A public launch is scheduled for June of 2016.

During the spring sabbatical Professor Marshall also further developed his research collaborations with investigators at Yale University and the Connecticut VA Healthcare System. This research seeks to investigate substance use trajectories and their effects on HIV disease progression among US veterans. Specifically, data from the Veterans Aging Cohort Study (VACS) was used to examine the extent to which unhealthy alcohol use influences long-term HIV disease burden. This work was presented at the 20th International Workshop on HIV Observational Databases in Budapest, Hungary in April.

Finally, Professor Marshall used his sabbatical time to grow his research program that seeks to use agent-based modeling techniques to examine HIV transmission dynamics among people who use drugs. As part of this program of research, a total of 12 articles were submitted for publication during his sabbatical. As an example of this work, Prof. Marshall and his team used the disease transmission model to examine the effects of improving the HIV care continuum in correctional settings on HIV incidence in the broader community. This research was submitted to the 21st International AIDS Conference, which will take place in Durban, South Africa in July 2016.

**Anastasios Matzavinos**  
**APPLIED MATHEMATICS • SPRING 2016**

Professor Matzavinos spent most of his sabbatical leave in Switzerland, visiting the Computational Science and Engineering Laboratory (CSE Lab) in the Department of Mechanical and Process Engineering at ETH Zurich.

In the spring, Matzavinos gave two invited talks; one at a workshop on Multiscale methods for stochastic dynamical systems in biology at the University of Edinburgh and one at a workshop on Modeling and inference from single molecules to cells at the Ohio State University.

At ETH Zurich, Professor Matzavinos established new collaborative projects with the members of CSE Lab at
the interface of high performance computing and Bayesian uncertainty quantification. He also continued publishing on existing projects on (i) evolutionary game theory and (ii) computational modeling of chemotactic phenomena in random heterogeneous domains.

New projects on Bayesian uncertainty quantification include the development of efficient methodologies for identifying the nonlinear terms in semi-linear parabolic systems of partial differential equations: an example being the identification of the chemical reactions in a pattern-forming reaction-diffusion system exhibiting a specific pattern, such as the one shown in Fig. 1. A similar project focuses on the identification of biophysical parameters in molecular dynamics simulations, such as the one shown in Fig. 2.

The visit of Professor Matzavinos to ETH Zurich facilitated the leverage of the expertise of the CSE Lab members in developing Bayesian methodologies that are amenable to parallel computations, and hence can efficiently handle the complexity of biological and biochemical systems.

During his stay at ETH Zurich, Matzavinos published two papers investigating the effect of substrate heterogeneity on the Keller-Segel model of chemotaxis. He submitted a third paper for publication on evolutionary game theory, which is currently under review. Evolutionary game theory is a mathematically accessible way of modeling the evolution of interacting groups of individuals, where each group exhibits different behavioral traits. In this context, Matzavinos and collaborators used probabilistic techniques to derive explicit Moran-type bounds for the probability of extinction of a group that evolves according to a Wright-Fisher-type Markov process with a frequency-dependent fitness.

Stelios Michalopoulos
ECONOMICS • 2015

Professor Stelios Michalopoulos was on an unpaid academic leave during the spring of 2015 and on junior sabbatical the subsequent fall. While on academic leave he was a Visiting Assistant Professor at Harvard Business School in the Business, Government, and the International Economy unit where he taught in the core curriculum of the MBA sequence. During the fall he was a Visiting Scholar in the department of
economics at Harvard University. Over this period he presented in various seminars including Harvard University, University of Pennsylvania, University of Toronto, University of Montreal, University of Copenhagen, Clark University, Syracuse University, UNU-MERIT, World Bank - MENA Chief Economist Office as well as workshops like the Warwick Summer Workshop in Economic Growth, NBER Political Economy Summer Institute Meetings, XVIIth World Economic History Congress, NYU Development Research Institute Conference, Berkeley Center for Economics and Politics "Political Economy and Governance,” and at Yale Economic History Program on “The Political Economy of Social Conflict.”

Most importantly he continued his research on the political economy of development and used his time to complete two research papers and begin two new ones. “Ethnic Inequality,” now forthcoming in the *Journal of Political Economy* with Elias Papaioannou and Alberto Alesina, explores the consequences and origins of between-ethnicity economic inequality across countries. First, combining satellite images of nighttime luminosity with the historical homelands of ethnolinguistic groups they construct measures of ethnic inequality for a large sample of countries and compile proxies of overall spatial inequality and regional inequality across administrative units. Second, they uncover a strong negative association between ethnic inequality and contemporary comparative development; the correlation is also present when they condition on regional inequality, which is itself related to under-development. Third, they investigate the roots of ethnic inequality and establish that differences in geographic endowments across ethnic homelands explain a sizable fraction of the observed variation in economic disparities across groups. Fourth, they show that ethnic-specific inequality in geographic endowments is also linked to under-development. The *Economist* magazine covered the results of this study in the May 2015 issue (http://www.economist.com/news/finance-and-economics/21651284-growth-suffers-when-there-inequality-between-different-ethnic-groups-ins-and).

Moreover, Stelios along with Elias Papaioannou completed work on “The Long-Run Effects of the Scramble for Africa” where they uncover evidence that brings to the foreground the detrimental repercussions on ethnic conflict and well-being of ethnic partitioning, a neglected aspect of the scramble for Africa. This research is now forthcoming in the *American Economic Review*.

Among the projects he initiated one regards the “Consequences of the French Revolution in the Short and Long Durée” with Raphael Franck. In this study they trace the impact of the émigrés’ exodus during the Revolution on economic performance at the local level. Instrumenting the flow of émigrés with local temperature extremes (and their resulting poor harvests and peasant uprisings) on the eve of the Second Revolution in the summer of 1792, a period marked by major political events like the abolition of the Constitutional Monarchy and bouts of violence, they find that émigrés have a non-monotonic effect on comparative development unfolding over the subsequent 200 years. During the 19th century there is a significant negative effect that turns positive during the 20th century. The reversal can be partially attributed to the decline of the local elite and a change in the composition in agricultural land holdings. High-emigration areas have few large landowners and more small ones. This reduction in the share of wealthy individuals in the local population and the fragmentation of agricultural property is consistent with studies arguing for a non-monotonic role of equality in the process of development.
The second project that Stelios worked on during his time away from Brown regards the impact of demining on economic development (with Giorgio Chiovelli and Elias Papaioannou). This study is funded by a CEPR-DFID Major Research Grant on Private Enterprise Development in Low Income Countries. According to U.N. reports land mines are a uniquely savage artifact in the history of modern warfare not only because of their appalling individual impact but also their social and economic destruction. As minefields often remain on the ground long after the cessation of hostilities they have an enduring legacy. Despite their importance for understanding post-conflict recovery and the billions of dollars spent on clearance, little research exists on the consequences of demining. This study focuses on Mozambique which was declared land-mine free in the fall of 2015, 23 years after the end of the civil war that left the country contaminated with hundreds of thousands of explosive remnants of war across its territory. After documenting the spatial distribution of land mines and the timing of their removal across 1200 Mozambican districts, the authors exploit time variation in demining that appears to be largely non-coordinated, to assess its impact on local economic activity. The difference-in-difference specifications reveal significant positive impacts. They then apply a “market access” approach to examine the general equilibrium consequences of these interventions and find strong positive aggregate effects of demining via the transportation network. Finally, to improve on identification they show that the market access – development nexus is also present for districts that were not directly affected by the placement of landmines. The results highlight the importance of coordination among development actors, in presence of strong spatial externalities.

Finally, during the summer of 2015 Stelios was awarded the Excellence Award in Global Economic Affairs by the Kiel Institute (https://www.ifw-kiel.de/events-1/excellence-awards-in-global-economics-affairs/excellence_award/prize-winners).

Kiri Miller
MUSIC • 2015-2016

During her sabbatical Professor Kiri Miller completed her third monograph, *Playable Bodies: Dance Games and Intimate Media*, which will be published by Oxford University Press early in 2017. This research project built on her previous book *Playing Along: Digital Games, YouTube, and Virtual Performance* (OUP 2012). Standing at the intersection of media studies, performance studies, and ethnomusicology, these two books attend to interface affordances, designers’ perspectives, participants’ practices, and related discourse across multiple platforms. To quote from the introduction to *Playable Bodies*: “This book is about machines that teach humans to dance, and how the game of learning choreography is also the labor of developing an intimate relationship with interactive surveillance technologies. I embarked on this project with two broad questions: what happens when players learn an embodied repertoire from a virtual instructor, and what can motion games tell us about the enculturation of new interfaces as technologies of the body? Dance games make it possible for players to learn a physically demanding, minutely codified repertoire without ever
interacting with a physically present teacher. They also offer opportunities for players to experiment with movement styles that don’t match their own sense of self. The dance styles in these games incorporate performative markers of gender, race, sexuality, class, age, and able-bodied fitness, intertwined with received ideas about discipline, morality, virtuosity, natural talent vs. learned skill, and creative agency vs. compliant repetition.

_Playable Bodies_ explores five major thematic areas: surveillance and control; performativity and embodied difference; kinesthetic listening; the virtual transmission of embodied practice; and choreographic labor. Each of these themes affords different insights into how dance games function as intimate media—that is, how they configure intimate relationships among humans, interfaces, musical and dance repertoires, and social media platforms....Dance offers a powerful model for thinking about intimacy in terms of multisensory experience and the materiality of human bodies. Dance games link those sensing, material bodies to interactive technologies that cultivate new techniques of moving, listening, seeing, and being seen. They teach players to regard their own bodies as both interfaces and avatars, a radical change from the established gaming paradigm of using a game controller to direct the actions of an on-screen avatar. Dance games offer object lessons on the affinities of choreography and programming code—as interactive and archival media, as technical practices, and as metaphors that people use to make sense of relationships among humans and machines....They also continually reassure players that choreography does not function like code, and that playable bodies are not automata.”

In addition to completing _Playable Bodies_, during this sabbatical year Miller presented a paper on “Intimate Media” at the 2015 meeting of the Society for Ethnomusicology; gave keynote lectures for the International Forum of Post-Graduate Studies in Music and Dance (University of Aveiro, Portugal) and the North American Conference on Video Game Music; presented a master class lecture on “Dance Games and Body Work” for the Interactive Entertainment Design program at Glasgow Caledonian University (U.K.); and served as invited respondent for the panel “On the Subject of Hearing: Audio, Identification, and Address in Moving Images” at the 2016 meeting of the Society for Cinema and Media Studies. Professor Miller also presented her work as part of the AHRC Research Network “Guitar Heroes in Music Education? Music-based video-games and their potential for musical and performative creativity” (2015 network meeting in Glasgow) and was an invited panelist at the Conference for Research on Choreographic Interfaces here at Brown.

During this year Miller continued to serve on dissertation and Ph.D. qualifying exam committees in Ethnomusicology and American Studies, mentored a Tougaloo College student participating in the Leadership Alliance Mellon Initiative summer program at Brown, peer-reviewed two monographs, and served on my department’s Diversity and Inclusion Action Plan (DIAP) Committee, among other service commitments.
As Professor Monti’s sabbatical leave came in the final year of his K05 Senior Career Scientist and Mentoring Award that is funded by the National Institutes of Health, he found it difficult to travel as much as he might like to have. Nevertheless, he did travel to Cape Town, South Africa where he consulted with members of the Medical Research Council in order to facilitate research collaborations with junior faculty members of his research team. While there he presented a lectured titled “Brief Intervention in the Emergency Department for Alcohol and HIV/Sexual Risk Behavior.” The lecture drew an audience of approximately 200 people and has resulted in additional potential collaborations. During the course of his sabbatical, two of his mentees, Drs. Celio and Monnig, received positive feedback on their respective grant proposals, and Dr. Celio’s proposal was funded last month. Dr. Monnig’s proposal is likely to be funded July 1, 2016. Both mentored awards are in the area of alcohol and the HIV epidemic.

In addition to forging new collaborations for his enter grant and mentees, Dr. Monti made good progress on the second edition of his book Adolescents, Alcohol and Substance Abuse, Monti, Colby and Tevyaw. A complete draft of the manuscript is due to the publisher September 7, 2016. Finally, Dr. Monti has 13 peer reviewed manuscripts either “in press” or published over the course of this sabbatical.

Background
During this sabbatical leave Dr. Mor focused on integrating a variety of different ideas he’d been working with over the past several decades on the role of universal health records in managing health care systems. These were examined both the U.S. and the international perspective. The applicability of this issue was considered in relation to the world of long term services and supports for the elderly. Dr. Mor presented various versions of his thinking on the topic at a series of lectures on the topic in a variety of different formal and informal venues in the U.S. and around the world. The paragraphs below provide a brief overview of the issue and a summary of the insights gained from lecturing and learning on the topic.

Sidney Katz, MD, a leader in the early years of geriatrics and gerontology and a former Associate Dean of Medicine here at Brown University, believed that structuring the way clinical information is gathered and recorded shapes the way in which it is used and helps shape how clinicians arrive at a diagnosis. Furthermore, this same clinical assessment information could have additional uses ranging from measuring patients’ outcomes to regulating quality and reimbursing providers. This paradigm has been central to much of health policy since the early 1980’s. No where has this been more visible than in the case of long term care.
Emerging from an Institute of Medicine Committee on the quality of long term care in America that was chaired by Dr. Katz were a series of recommendations that were adopted wholesale into law in 1986 as the "Nursing Home Reform Act". Among the many recommendations was the provision that nursing facilities be required to conduct clinical assessments of residents' impairments and needs. This recommendation resulted in the Minimum Data Set (MDS) for nursing home resident assessment which was required of all U.S. nursing homes as of 1991 and subsequently universally computerized as of 1999. These assessments are routinely merged with other data into a comprehensive clinical, diagnostic and utilization data base on the population of Medicare beneficiaries and the institutional and medical providers serving them.

Over the past several decades Dr. Mor and his colleagues have conducted a wide variety of research using observational methods on this longitudinal and hierarchical data structure. Examining the effect of selected drugs on the outcomes of Medicare beneficiaries is a whole series of pharmaco-epidemiological studies. Since the MDS data include many indicators of care quality, changes in some of these indicators were tracked, thereby assessing how the quality of care in U.S. long term care settings has changed. Additionally, these data made it possible to examine the impact of states' changes in Medicaid payment policies by comparing the impact of changes in states that made them relative to those that did not. Finally, the impact of federal changes in Medicare policies in the long term care field were tested by examining trends before and after the introduction of the changes.

More recently, Dr. Mor and his colleagues have used data coming directly from nursing home systems and national Medicare repositories in order to assess the impact of treatment innovations using large scale, cluster randomized clinical trials. The interventions tested using this approach range from changing care processes to substituting one FDA approved influenza vaccine for another. The availability of a backdrop of detailed, longitudinal and person level data greatly enhances the power of such studies at a much lower cost than would otherwise be possible.

Promulgating and Refining the Concept during the Sabbatical

During Spring 2016 sabbatical, Dr. Mor traveled to New Zealand to work with collaborators there on data on elders' long term care home care, institutional and hospital care use that is derived from a system similar to that which exists in the U.S. Dr. Mor lectured at Canterbury University and the Otego Medical University campus in Christchurch, discussing issues related to the capture and use of health care system wide data. Dr. Mor also spent time working with and advising the new quasi-governmental entity responsible for managing the new assessment data system, developing data stewardship rules, internal quality measures and opening the door to discussions about public reporting of long term services provider quality. Both working with researchers and government officials greatly enhanced his understanding of the issues surrounding access to population based health data.

The one grant that Dr. Mor continued to be charged to during sabbatical is a large scale cooperative study funded by the NIH Common Fund out of the Director's office. There are multiple additional pragmatic cluster randomized trials that are funded under this vehicle and several working groups have attempted to identify common lessons learned from this cooperative effort. Dr. Mor lectured to a large group webinar attended by members of this "Collaboratory" and associated scientists in and outside the NIH. He described the transformation of research on long term care in the U.S. made possible by a universal assessment system
in the form of a history documenting the evolution of an idea from clinical assessment to “real time” cluster randomized clinical trials.

Later this past Spring Dr. Mor lectured on the same topic in Israel where the health plans all use a common electronic medical record that permits population health management. Insights from the Israeli system have particular application to the emerging growth of Medicare Advantage Plans in the U.S.

Finally, Dr. Mor lectured at Uppsala University in Sweden on broad ranging issues pertaining to variation in the OECD in the approach to long term care regulation. The audience was particularly intrigued by the model we’ve adopted in the U.S. focused on measuring and reporting care process and outcomes experienced by service recipients.

Epilogue

Dr. Mor was recently voted to receive the Kleemeier award from the Gerontological Society of America in honor of outstanding contributions to the field of Gerontology. He will be giving a lecture at the 2017 International Association of Geriatrics and Gerontology in recognition of that award. The sabbatical focus on the transformation of an idea to a reality and its implication for the acquisition of knowledge and changes in practice in the field makes the topic of the Kleemeier lecture obvious. This lecture will be prepared for publication in a journal such as the “Milbank Quarterly” which is the perfect venue for such broad conceptual monographs.

Elias Muhanna

COMPARATIVE LITERATURE • 2015-2016

With the support of a fellowship from the American Council of Learned Societies as well as a junior sabbatical leave, Professor Elias Muhanna devoted the 2015-16 academic year to completing three book projects. His monograph, The World in a Book: Encyclopedic Knowledge in the Mamluk Empire, explores the emergence of a golden age of Arabic encyclopedic literature in the Egyptian and Syrian territories of the Mamluk Empire (1250-1517). Widely considered by historians to be the Islamic world’s preeminent “Age of Encyclopedias,” the 13th-15th centuries witnessed the production of multi-topic compendia on a scale unprecedented in Islamic history. These works covered a vast array of subjects, from literature, history, and geography, to law, theology, and exegesis, and assumed diverse forms and generic models. Professor Muhanna’s monograph, which is currently under review with a university press, explain the rise of the encyclopedic movement, exploring the social, intellectual, political, and material factors that promoted the composition of this literature.

The second project that came to fruition during the sabbatical was an abridged translation of a thirty-volume Arabic encyclopedia, composed in the 14th century by an Egyptian bureaucrat named Shihab al-Din al-Nuwayri. The work, entitled The Ultimate Ambition in the Arts of Erudition, is a vast record of
literary, scientific, religious, and historical knowledge, and contains entries on everything from medieval moon-worshipping cults, sexual aphrodisiacs, and the substance of clouds, to how to get the smell of alcohol off one's breath, the deliciousness of cheese made from buffalo milk, and the nesting habits of flamingos. This translation had been in the works for three years, and Professor Muhanna was grateful for the opportunity to complete it during the first few months of his research leave. The book will be published in August 2016 by Penguin Classics.

In the spring of 2016, Professor Muhanna published an edited volume entitled The Digital Humanities and Islamic & Middle East Studies (Berlin: De Gruyter). It contains several essays drawn from a conference held at Brown in 2013. The first collection of its kind in Islamic studies, the volume brings together a variety of methodological approaches and digital tools for the study of social and intellectual history, manuscript and print culture, anthropology, art history, and other fields.

In addition to working on his book projects, Professor Muhanna wrote two pieces for the New Yorker’s online edition, as well as a review essay and biographical profile for The Nation about the life and work of his late professor, Shahab Ahmed.
Itohan Osayimwese
HISTORY OF ART AND ARCHITECTURE • 2015-2016

Professor Itohan Osayimwese spent the academic year completing her book *Colonialism and the Archive of Modern Architecture in Germany*. During this period, she was an external faculty fellow at the Newhouse Center for the Humanities at Wellesley College. The book will be published in the University of Pittsburgh Press series, “Culture, Politics, and the Built Environment,” in 2017. It discusses the effects of colonialism, travel, and globalization on the development of modern architecture in Germany from the 1850s until the 1930s. Specifically, it proposes that the new language of architecture that emerged during this period was shaped by Germany’s colonial and neo-imperial entanglements especially in Africa, Asia, the Pacific. On one hand, official German colonies like Tsingtao (China) and Southwest Africa (Namibia) served as mirrors that magnified the problems with blindly imitating historical styles in contemporary contexts and encouraged the search for something different. On the other hand, travel and access to imagery and artifacts from regions under German influence provided an archive of source material – both ideas and actual forms – that was cannibalized in the quest for a new, modern, German architecture. *Colonialism and the Archive* reveals a crucial moment in the history of German architecture – the advent of modern architecture at the end of the nineteenth century – as a product of Germany’s participation in the modern world order rather than an expression of the individual artistic genius of an insular nation. Since architectural developments in nineteenth-century Germany are typically understood as crucial to the evolution of modern architecture worldwide, this book globalizes the history of modern architecture at its founding moment.

Osayimwese conducted research at various archives in Germany, Tanzania, Canada, and the United States, including the Federal Archives in Berlin, the German Architecture Museum in Frankfurt, the Moravian Archives in Herrnhut, the Tanzania National Archives, and the Canadian Center for Architecture. A final research trip to the Moravian town of Niesky in eastern Germany in July 2015 provided new material for the fifth and final chapter of the book, which she drafted and revised in Fall 2015. In addition, she wrote an introduction and conclusion, revised four existing chapter drafts, and sourced 80 illustrations for the book. She submitted the complete book manuscript to her publisher in February 2016. Osayimwese then turned her attention to several smaller projects. She completed and submitted a journal article about representations of African material cultures at zoos in Europe and the United States. In March 2016, she went on a retreat with members of the Global Architectural History Teaching Collaborative in order to develop material for a joint course. She participated in a Cornell University symposium about the teaching and writing the history of modern architecture in Africa. Finally, she presented her initial research on the role of architecture in the European migration crisis at the Joukowsky Institute in April 2016 and at the European Architectural History Network annual meeting in June 2016.
Lucas Rieppel
HISTORY • 2015-2016

Professor Lukas Rieppel spent the academic year as a visiting scholar at the American Academy of Arts and Sciences in Cambridge, MA. In addition, he was also a fellow of the Charles Warren Center for American History at Harvard University, where he participated in a yearlong workshop on the history of American capitalism. The bulk of the year was spent working towards the completion of Professor Rieppel’s book manuscript, which is under contract with Harvard University Press. Tentatively entitled Assembling the Dinosaur: Science and the Culture of Capitalism in America’s Long Gilded Age, this project uses the history of dinosaur paleontology to ask how the ideals, norms, and practices of modern capitalism shaped the way scientific knowledge was made, certified, and distributed in late nineteenth and early twentieth century America. In addition, Professor Rieppel also completed an essay on the concept of “Nature” for the online journal Political Concepts: A Critical Lexicon. Finally, and in collaboration with Professor Will Deringer (MIT) and Professor Eugenia Lean (Columbia), he organized a workshop on the theme of “Science and Capitalism: Entangled Histories” at Columbia University’s Heyman Center for the Humanities. The essays presented in this workshop – including Professor Rieppel’s piece on “Organizing the Marketplace,” which traces how the logic of organization served as a structuring agent in the discourse of biology and political economy during the long nineteenth century – are scheduled to be published in the 2018 issue of Osiris, an annual journal published on behalf of the History of Science Society by the University of Chicago Press.

Felipe Rojas Silva
ARCHAEOLOGY AND EGYPTOLOGY AND ASSYRIOLOGY • 2015-2016

Professor Rojas Silva spent the year at the Institute for Advanced Study in Princeton, NJ. His main objective there was to work on a monograph entitled Inventing the Past in Roman Anatolia. The book examines how people who lived during the first few centuries CE in what is today the Republic of Turkey interpreted and manipulated things that they understood to be the remains of antiquity. The book’s core chapters are driven by the following questions: What did people in Roman Anatolia consider to be meaningful traces of the past? Who cared about such traces and how did they make sense of them? And, finally, what moments or periods in their past did those people choose to envision when interacting with antiquities?

Throughout the year, Rojas Silva submitted for publication several articles that deal directly with key topics of Inventing the Past, although at times or in places not covered in the book. In “Asianics in Relief: Making Sense of Bronze and Iron Age Monuments in Classical Anatolia” (co-authored with Valeria Sergueenkova and forthcoming in Classical Journal), he examined in detail Greek interpretations of Bronze and Iron Age rock-cut reliefs in western and southern Anatolia. The article aimed to show that in Greek antiquity there was intense discussion and debate about the meanings and origins of such remains, and that many observers associated them with non-Mediterranean, and, in fact, specifically “Oriental” heroes and kings.
Ultimately, this article counters two influential ideas among classicists: Elias Bickerman’s notion that the only “prehistory” available to the Greeks and their neighbors was that imagined by the Greeks themselves, and Arnaldo Momigliano's rigid distinction between antiquarianism and history.

In “Persia on their Minds: Achaemenid Memory Horizons in Roman Anatolia” (again co-authored with Valeria Sergueenko and forthcoming in Oriens et Occidens 25), Rojas Silva examined the seemingly paradoxical decision of some communities in Roman Anatolia to celebrate the local Achaemenid past even as Rome was at war with the Parthians. In brief, he argued that antiquity trumped Persianness, in other words, that the cultural value of claiming deep local history and being able to substantiate such claims (e.g. by pointing to ancient Achaemenid buildings, monuments, and rituals) was great and widely acknowledged to the point where ancient Achaemenid documents were almost certainly fabricated. By contrast, the risk of seeming to sympathize with Parthia was minimal, even if the Achaemenids were often imagined by Rome to be the direct cultural ancestors of the Parthians.

Professor Rojas Silva also gave lectures on different chapters of the book that he is writing at Princeton University, the University of Cincinnati, the University of Austin, TX, and at the Theoretical Archaeology Group meeting in Boulder Colorado. Last November he hosted an interdisciplinary symposium entitled Antiquarianisms across the Atlantic, which was jointly sponsored by the John Carter Brown Library and the Joukowsky Institute for Archeology and the Ancient World. With co-organizer Benjamin Anderson, Rojas Silva invited a group of archaeologists, art historians, and anthropologists working in the so-called “Old and New Worlds” to discuss antiquarian traditions, especially as practiced in periods before the Renaissance or in places other than Western Europe. The organizers are currently editing a book to be published by Oxbow later this year with the title Antiquarianisms: Contact-Conflict-Comparison. Rojas Silva is contributing a chapter, “Archaeophilia: a Diagnosis and Ancient Case Studies,” which uses evidence from the Greek and Roman Mediterranean to call attention to insufficiencies in conventional narratives in the history of archaeology and antiquarianism. He argues that many of those shortcomings are a result of imposing modern western expectations and epistemological categories on ancient evidence, and attempts to show that it is possible and useful for historians of archeology to study traditions that are radically different from our own.

With a colleague, John Cherry, Rojas Silva edited the book Archaeology for the People, which compiled several essays on varied archaeological topics aimed at non-specialized audiences. These essays were selected from over 150 entries to an international competition which Cherry and Rojas Silva organized at the Joukowsky Institute. The book also includes reflections on how and why to engage in dialogue about archaeology with non-specialists as well as a series of interviews with leading archaeologists who have written successfully for “general audiences.”

Finally, Professor Rojas Silva published a review of Elspeth R. M. Dusinberre's Empire, Authority, and Autonomy in Achaemenid Anatolia Cambridge (2013) in the Bryn Mawr Classical Review.
During his sabbatical leave, Professor Rozovsky worked on finishing the textbook book “Stochastic Partial Differential Equations” to be published by Springer (joint work with Professor S. Lototsky, University of California, Los Angeles).

The objective of this text book is to discuss as much of the SPDE-related material as possible. The authors’ hope is that this book can help the reader not only to understand the proofs of existing theorems about SPDEs, but also to formulate and prove new results. Most of the book is about linear equations; a separate volume, dealing with nonlinear equations, is planned for the future.

Another important direction of Rozovsky’s work was development of universal methodology for analysis and computations for linear SPDEs. Historically, the algorithms for solving SPDEs were design separately for each type of the randomness involved.

In the recently published joint paper with Professor R. Mikulevicius (USC) (Stoch PDE:Anal omp., June 2016) Rozovsky designed a universal algorithm for analysis and computations for SPDEs with arbitrary probability distributions. The main advantage of the proposed methodology is that the related algorithms do not depend on the types of randomness involved. This methodology leads to very substantial reduction of complexity for the related computational algorithms.

During the sabbatical leave Rozovsky participated in and gave presentations at two international conferences on stochastic and computational issues:
2. SPDE conference at Simons Center for Geometry and Physics, Stony Brook, 2016

Hilary Silver spent her year of leave in three stages. First, she took up her Fulbright fellowship at Tel Aviv University where she analyzed the City Survey data to study urban diversity and fear of crime. With Tel Aviv University sociology graduate student Guy Shani, she drafted a paper demonstrating neighborhood effects of social composition on various residents’ feelings of security. The surprising finding was that fear of crime was greatest among religious Jews, especially in secular neighborhoods of Tel Aviv-Jaffa. This was true even after controlling for neighborhood crime rates, perceived disorder, presence of Arab Muslims or Christians, Sephardim, or concentrations of Eritrean refugees and other non-Jewish racial minorities.
During the summer of 2015, Silver also wrote a commissioned paper for the United Nations, “The Contexts of Social Inclusion,” in the run-up to the Sustainable Development Goals, released in the fall. It was used as input to the first chapter of the UN Report on the World Social Situation 2015, entitled, “Leaving no one behind: Progress towards Achieving Inclusive Development.” The paper was peer-reviewed and published online as a Working Paper of the UN Department of Social and Economic Affairs. A related paper is under revision for a peer-reviewed journal. Silver also wrote a conference proposal to the International Social Science Council’s CROP program and was awarded a grant to hold a workshop on “Social Inclusion and Poverty Eradication” at Harvard in fall 2016.

Silver also updated her lead book chapter on “Obama’s Urban Policy” for a University of Minnesota Press volume released in 2016. In July, she gave an invited lection on “The Contexts of Social Inclusion” at the Hebrew University School of Law, Center for Multiculturalism. And in July, Silver travelled to Europe to conduct interviews on the reception of new migrants to Berlin and met with graduate student and co-author, Svenja Kopyciof. They polished off their paper, “The Cost of Being Muslim: National Variation in Religious Income Disparities,” and then presented it at the Paris meetings of the Council for European Studies. At the end of the summer, Silver received a special service prize from the Community and Urban Sociology Section of the American Sociological Review for completing two terms as editor of the Brown-based journal, City & Community.

The second part of her Sabbatical was spent back in the United States while her research visa application to India was under review for almost three months. During this time, she edited, shortened, and oversaw postproduction work on her film, “Direction Home” (earlier, “Last Resorts”) which was finished just in time to broadcast before Thanksgiving, when donations to homeless shelters are greatest. The hour-long film, supported by the RI Council for the Humanities and NEH, was broadcast multiple times in November and again in February 2016. The film culminated seven years of research, following chronically homeless individuals in RI until they found stable housing (or died). During this stage of her leave, she was awarded a fellowship at the Ash Center of the Kennedy School for Government at Harvard University to work on the integration of low-income housing and homeless policies.

In November, just before leaving for India, Silver gave an invited lecture on “inclusive urban development” in Mexico City at the International Seminar on Urban Renewal, Metropolis Regional Training Centre for the Americas of the Ministry of Housing and Urban Development of Mexico City and The School of Public Administration of Mexico City. She was one of only two academics at this meeting of high-level urban development directors of the largest cities in Latin America.

The third stage of her leave began on December 1, when Silver took up a fellowship from the American Institute of Indian Studies. For the first month, she was in residence at the Jawaharlal Nehru Institute for Advance Study at JNY, finishing up an earlier fellowship and offering a fellows lecture on “The Exclusion of Muslims in India.” This was the main topic of her research in New Delhi. While working as a Visiting Research at the French Centre des Sciences Humaines, Silver read a great deal about Indian Muslims, interviewed officials of the Minorities Commission, and collaborated with economist Ashwini Deshpande on a statistical analysis of the latest National Social Survey. Expecting to find wage discrimination, they drafted a paper only to find that the wage gap between Hindus and Muslims closed when education and
other characteristics were controlled. They are now working on a new frame for the paper before submitting it for publication. Silver also led a workshop on developments in affirmative action policies at the Indian Institute of Dalit Studies.

On previous Sabbaticals, Silver learned new languages (Korean, Spanish, German, French), and this one was no exception. She engaged a Hindi teacher, and to great effect. While the educated classes in India speak English, the lower castes and the poor do not. Her elementary Hindi enabled her to engage with normal people — from domestic servants to auto-rickshaw drivers to vegetable vendors. It also helped her break the ice and learn more about slum-dwellers, replacement housing, and pavement dwelling in India. She not only attended a monthly urban seminar at the Center for Policy Research, but also drafted a paper comparing the human experience of homelessness in the U.S. and India.

The Indian Census defines the homeless as people living in a structure without a roof. By this definition, the Census of 2001 enumerated 1.94 million homeless people in India. Estimates of the Delhi homeless population range from 17,000 to 150,000 (or one percent of the city’s total population).

In 2010, the Indian Supreme Court ruled that the poor dying on the streets violated the constitutional “right to a life of dignity” (Article 21) and directed city governments to construct one homeless night shelter for every 100,000 residents. Delhi complied, but these men’s shelters along the Yamuna River are crowded, mosquito-infested, and mix people with tuberculosis and other diseases with other homeless individuals.
This collaboration with a young scholar of homelessness in India arose serendipitously out of the first screening of her film on homelessness, followed by a panel discussion of experts he had assembled. Then a similar screening and panel discussion took place in the planned city of Chandigarh, and a third in Mumbai, accompanying an exhibition on sidewalk dwellers. In connection with all three screenings, Silver took field trips with housing experts and NGO leaders to meet with Indians living in insecure housing. She battled the mosquitos along the Yamuna River, toured the insides of slum replacement dwellings, and met with three-generation families of street dwellers in Mumbai.

Joseph H. Silverman
MATHEMATICS • 2015-2016

Professor Silverman spent the fall term of his leave as a visiting researcher at ICERM, Brown's NSF-funded mathematics research institute. He participated in the semester activities, gave a talk, and co-organized a workshop. He also gave talks at UConn and the University of Michigan and served on a cryptography panel at WPI. During the spring semester he attended a number of conferences and visited several colleagues. These trips included the annual meeting of the AMS in Seattle (co-organized a special session, gave an invited talk), work with Michelle Manes at University of Hawaii (three talks), Chris Hall at University of Wyoming, Kate Stange at University of Colorado (one talk), Rachel Pries and Jeff Achter at Colorado State (two talks), a workshop at Oberwolfach in Germany (one talk), Marc Hindry at University Paris VII, co-organized a workshop at AIM in San Jose (one talk), and the Canadian Number Theory Association meeting in Calgary (plenary talk).

Project 1: (joint with Michelle Manes) This project initiated a detailed study of degree 2 dynamical systems on $P^2$ possessing non-trivial automorphisms. The authors now have a complete classification of such systems having symmetries of type $C_2 \times C_2$, $C_4$, $C_5$, and $C_7$, and are currently completing the case of $C_3$. This long paper will provide new paths into studying higher dimensional arithmetic dynamics.

Project 2: (joint with Chris Hall and Marc Hindry) In this project Silverman and his colleagues are combining two earlier pieces of work in order to prove that the Tate conjecture is true for a large number of elliptic surfaces of Kodaira dimension 1. The first result that they use is due to Hall and gives an unconditional proof of the Mordell-Weil rank of elliptic surfaces in certain families. The second result is due to Rosen and Silverman and says that, conditional on the Tate conjecture, a certain rank estimate conjectured by Nagao is true. They are taking the conditional proof of the Nagao formula, running it backwards, and combining it with Hall's result to obtain an unconditional proof of Tate's conjecture.

Project 3: (joint with Greg Call) In this project Silverman and Call study a new type of unlikely intersection in dynamical systems. A rational function $f$ has an associated quantity called the dynamical degree $D(f)$ that measures the complexity of the iterates of $f$. They consider a family of rational functions $f_T$ and study the
set of $t$ values such that the element $f_t$ in the family satisfies a strict inequality $D(f_t) < D(f_T)$. For certain non-trivial such families, we prove that the set of such $t$ is small (has bounded height) or, in some cases, is finite.

Other research activities included publication of the second expanded edition of the book *Rational Points on Elliptic Curves*, Springer, 2015, and in joint work with Professor Jeff Hoffstein, development of a new type of homomorphic encryption scheme (patent pending) and a related digital signature scheme.

**Bhrigupati Singh**  
**ANTHROPOLOGY • 2015-2016**

In the course of finishing his first book, *Poverty and the Quest for Life* (2015), Bhrigupati Singh realized that many of the interests that he had been approaching from within anthropology and philosophy – vitality and the loss of vitality, spiritual healing, the place of doubt and suspicion in social relations, forms of wellbeing, the movement between different ontological systems, the relationship of reason and affect – were also central concerns of psychiatry. In order to pursue these interests further, Bhrigupati Singh spent the year beginning an engagement with the field of psychiatry and conducting ethnographic research on mental health and illness, as a Visiting Faculty member of the All India Institute of Medical Sciences (AIIMS, Delhi). AIIMS is considered by many to be the most prestigious place to study medicine in India, while also being a leading hospital, one of the few remaining such institutions that caters to a diverse population of rich and poor patients from all over north India. This phase of research was supported by grants from the

_Bhrigupati Singh (center) with AIIMS psychiatrist, Dr. Ankit Gupta (right) and a spiritual healer, Sufiji (left)_
Wenner-Gren Foundation for Anthropological Research and the American Institute of Indian Studies. The animating concern shared by many of Singh's hosts in the Psychiatry Department of AIIMS, was to intensify the relationship between anthropology and psychiatry, at a time when psychiatry worldwide, as well as in India, is seen as having very little space for cultural specificity, at times to the detriment of patient experience and voice. As a Visiting faculty member, Singh was granted access to ward rounds, allowed to interview patients, caregivers, doctors, staff, and junior and senior residents. He was invited to attend psychiatry classes, lectures, and occasionally asked to comment on and to add “cultural and social context” to particular cases.

While Singh's research proposal was tightly framed around the cultural life of diagnostic categories such as depression and anxiety, the actual research (as often happens in the case of any research, but particularly with ethnographic research) became wider and more varied than initially planned. Along with research in the outpatient department (OPD) and psychiatry ward, Singh also began to spend substantial portions of time in a community clinic run by AIIMS Psychiatry in the lower-income neighborhood of Trilokpuri (famously called a “riot laboratory” by Indian news media) in East Delhi. Living and conducting research in Trilokpuri brought Singh back to many of the themes of his book Poverty and the Quest for Life, that may seem distant but on closer scrutiny are related to issues of mental health, distress, and illness, including caste, violence, poverty, and Hindu-Muslim relations. In Trilokpuri, in continuation with his previous research on popular religion, in the midst of interviews and household surveys, Singh also began to spend significant amounts of time with spiritual healers in the neighborhood. One particularly talented healer, popularly known as “Sufiji” took Singh to a leading Sufi Muslim shrine in north India particularly oriented towards the healing of mental illnesses, in Badaun (in Uttar Pradesh, roughly five hours away from Delhi). There are, at a rough estimate, around a hundred thousand people residing within or visiting the shrine at any given time. A few months after this initial visit, Singh returned to Badaun with Sufiji and a team of psychiatrists and medical students from AIIMS (and one from Brown!), to understand what the patient population at this shrine might look like from a clinical perspective, in terms of psychiatric diagnoses, while also following other patients back to their everyday life in neighborhoods of Delhi including Trilokpuri.

Gradually, Singh realized that this ethnographic journey between AIIMS, Trilokpuri and Badaun was not random. Rather, in what is globally beginning to be called the “post-asylum era”, this journey between hospital, home and shrine (in no particular order) is quite common and may even be the norm for mental health trajectories in India. Further, in order to understand cultural definitions of normalcy and psychopathology, Singh also received funding from the Humanities Research Fund at Brown to create an archive of film and media material related to mental health, which he did, in collaboration with a graduate student from the Film Studies program of the School of Arts and Aesthetics, Jawaharlal Nehru University (JNU), Delhi. Focusing particularly on Bombay cinema, this archive shows how often mental health and illness has been part of cinematic conversations, at times explicitly, but also, often, implicitly, in ways that cinema can be seen as a “poor man's couch”, as Felix Guattari called it. This archive is now available for viewing at the open source website, indianscine.ma

Singh is now beginning the first set of writings from this phase of research, some of which is in collaboration with psychiatrists from AIIMS, while other material will grow into articles and a book project over the next two years. Singh also hopes to create a formal institutional partnership between Brown and AIIMS
since some of the work from this sabbatical year will grow into longer-term collaborative research and longitudinal tracking of patient trajectories and particular households in Trilokpuri, linked to the AIIMS community clinic.

This year also saw the release of the South Asia version of Singh’s first book *Poverty and the Quest for Life*, published by the University of Chicago Press in the U.S., and by Oxford University Press in South Asia in 2015. The India book launch was held in January 2016 at the India International Center (Delhi) hosted by the American Institute of Indian Studies and Oxford University Press, with responses to the book by leading contemporary artists, writers and scholars. Singh also gave book talks in Delhi, Mumbai and Bangalore during his time in India. In terms of writing, Singh completed the first two chapters of his next book, tentatively titled *Lunar Enlightenment: Essays on Life-Force*. The first chapter, titled “Anthropological Investigations of Vitality: Life-force as a Dimension distinct from Space and Time” is currently under review with *HAU: Journal of Ethnographic Theory*, as part of a Special Issue titled “Anthropology and Life Itself” that Singh is co-editing with Robert Desjarlais, Clara Han, and Giovanni da Col. The second chapter of this book project, titled “Photography and *Prana* (Life-force)” focusing on the work of the photographer Dayanita Singh, appeared in an edited volume titled *Origins* (eds. Raahab Allana and Nandita Jaishankar) that accompanied an art show hosted by the British Council (India) and the Alkazi Foundation for the Arts (Delhi). Lastly, drawing on an undergraduate seminar on the History of Anthropology that Singh teaches at Brown, he co-edited (with Jane Guyer) and wrote the introduction to a Special Issue, titled *A Joyful History of Anthropology*, currently also under review at *HAU*, which suggests new ways to bring the disciplinary past of anthropology to bear on the contemporary moment. Singh also wrote two essays, called “Writing with Love and Hate” that appeared in *Somatosphere* in December 2015, and another essay titled “The Lives of Others, as a Preparation for Our Own,” forthcoming in the journal *Religion and Society*.

### Prerna Singh

**POLITICAL SCIENCE AND INTERNATIONAL AND PUBLIC AFFAIRS • 2015-2016**

Under the auspices of the Harvard Academy for International and Area Studies Professor Prerna Singh spent much her sabbatical year working on two research projects – completing a comparative historical analysis of social welfare across Indian states; and making progress on a new project that seeks to understand the differential success of campaigns against diseases in China and India.

The beginning of each of Singh’s two sabbatical semesters were marked by publications from her long-standing research on comparing social welfare across Indian states. In July 2015 Singh published an article entitled, ‘Subnationalism and Social Development: A Comparative Analysis of Indian States’ in *World Politics*. This article won the Leubbert prize for the best article published in Comparative Politics in the last two years, and the Mary Parker Follett prize for the best article published in Politics and History in the last
year, both awarded by the American Political Science Association; and the best article prize in the Sociology of Development awarded by the American Sociological Association.

January 2016 saw the publication of her book, *How Solidarity Works for Welfare: Subnationalism and Social Development in India* by Cambridge University Press in their flagship series, Studies in Comparative Politics. The book was awarded the Woodrow Wilson prize by the American Political Science Association for the best book published in politics and international relations in the last year, and the Barrington Moore prize by the American Sociological Association for the best book published in comparative historical sociology in the last year.

The starting point for this project is the following puzzle: Indian states are bound by the same legal, financial and electoral institutions. Yet some provinces have attained levels of social development, conceptualized in terms of the education and health of population, approaching those enjoyed by industrialized countries, while other states have fared worse than countries in sub-Saharan Africa. Women born in the state of Uttar Pradesh (which has a larger population than Russia), for example, are expected to live twenty years less than women born in Kerala. A child born in Orissa (which has a larger population than Canada) is five times less likely to survive through infancy than a child born in the state of Manipur. A girl in Bihar (which has a larger population than France) is half as likely to be literate as one in Himachal Pradesh. What are the causes for these striking variations?

The answer to this puzzle, Singh argues in the book and the *World Politics* article, lies in understanding how a shared solidarity can generate a politics of the common good. She seeks to show how differences in the strength of affective attachment and cohesiveness of community can be a key driver of subnational differences in social policy and welfare. A shared solidarity fosters a communal spirit and ethos and encourages a perception of not just individual but also collective interests. Emotional bonds of oneness promote a sense of mutual obligations. Elites bound by such solidaristic ties are more likely to push for progressive social policies that further the welfare of the subnational community, as a whole. State emphasis on the social sector is a necessary condition for, and primary driver of social development. A feeling of belonging to the political unit in which they reside also tends to foster greater socio-political consciousness and engagement on the part of the people, which increases the likelihood of popular monitoring of the social services provided by the state. Such popular involvement can supplement the effects of state action as regards social welfare. Among the political units in a country that have primary jurisdiction over social policy, those with a stronger collective identification are therefore, more likely to institute a progressive social policy and have higher welfare outcomes than those that are characterized by a more fragmented subnational identity.

Through much of her sabbatical year Singh was working on a new project that is driven by the following puzzle. Historically, one of the greatest threats to mankind has come from the tiniest of creatures – disease-causing microorganisms. Epidemics of infectious diseases have not only been a singular cause of human morbidity and mortality since the beginning of humankind, they have also critically influenced the trajectory of world politics. Today despite remarkable advances in medical research and treatments during the twentieth century, we continue to confront a grave human, economic and political challenge from infectious diseases in the form of the reemergence of old infectious diseases (such as tuberculosis and
malaria); the emergence of new infectious diseases (such as Zika, Ebola, H1N1, SARS and AIDS); and the potential use of deadly pathogens (such as smallpox and anthrax) as agents of bioterrorism. Infectious diseases do not respect political boundaries. This is the reason why, as the recent outbreaks of the Zika and Ebola viruses clearly demonstrate, they hold the potential to spark intense international anxiety and trigger global panic. Yet historically an individual’s vulnerability to an infectious disease has depended critically on the political boundaries she has resided within. Polities with similar epidemiological, socioeconomic and demographic conditions have been characterized by strikingly different levels of effectiveness in countering equivalently severe challenges posed by a disease. Why?

Singh seeks to examine this question through subnational and national comparisons of the differential effectiveness of the control of smallpox through the nineteenth and twentieth centuries in China and India. The public health field, as well as popular attention, has tended to be focused on the importance of new biomedical breakthroughs for countering diseases. Yet the global challenge of countering diseases today is less about the existence of a technological solution as the effective diffusion of an already existing biomedical intervention. A large and important body of social science scholarship explains the provision of public services such as health in terms of the motivation and capacity of state and non-state actors, which are in turn seen to be a product of the nature and ideology of the political regime, economic development, nature and extent of political competition, the strength of social solidarity, and perceptions of risk associated with the disease. In contrast this project seeks to shift analytical attention down to the grassroots level – to how the disease-controlling technology is received at the grassroots level by local service providers and the people. Singh argues that an important if underemphasized factor in understanding the differential control of infectious diseases is the extent to which a disease-controlling technology is accepted by the agents delivering the technology and the people to whom the technology is being delivered. This popular mobilization around a disease-controlling technology is more likely occur if the technology is embedded and thus, accessible within a shared socio-cultural framework.

Singh’s research for this project took her to archives across the U.S., U.K., China and India, where she was drawing on a range of textual and visual material. Some of these archives were in better shape than others. (See Image 1).

Through the analytical prism of campaigns to counter disease, this project seeks to shed light on the

Image 1: Photo of the ‘archive’ of the Central Health and Education Bureau of the Ministry of Health, Government of India in New Delhi; a sad commentary on the present regime’s active neglect and even destruction of valuable historical material.
fundamental, empirically urgent question of why developmental projects succeed, and equally if not more often, fail. It aims to theorize the relatively underemphasized role that means for culturally embedding and affective tools of persuasion and motivation can play in inciting popular mobilization, which lies at the core of the success of public health and other developmental projects.

Singh wrote and rewrote an initial paper from this project that undertakes a comparative historical analysis of the introduction of the Jennerian vaccine against smallpox in the early years of the nineteenth century in the matched port cities of Canton and Calcutta. In this paper she traces the relatively rapid spread of vaccination in Canton to its more positive popular reception, which was in turn a product of the way in which the new intervention was actively embedded within the indigenous system of medical knowledge and treatment and cultural norms. (See Image 2)

Image 2: Scan of one of the most influential Chinese medical books of the nineteenth century, the Yindou Lue (1817) by Qiu Xi in which he cleverly disguises the smallpox vaccine introduced by the British East India Company in the language and theory of traditional Chinese medicine, creatively justifying the new method of incision with reference to meridian acupuncture.

Singh delivered talks based on this new project at the University of Chicago; the Fairbank center at Harvard; Azim Premji University in Bangalore; the New School for Social Research; the Canadian Institute for Advanced Research in Montreal; the University of Oslo and the Sun Yat Sen University in Guangzhou. Pursuing an interest triggered, in part, by this scholarly project, Singh also took the opportunity of being in India to complete the first year of an advanced diploma in Ayurveda and Integrative Healing.
In addition, during her sabbatical, Singh worked on a co-edited special issue of the journal, *Comparative Political Studies*, which brings together leading scholars across political science and sociology to challenge the conventional wisdom that ethnic diversity negatively influences the provision of social services and public goods. The special issue is scheduled for publication in July 2016. Singh and her co-editor, vom Hau have together written the conceptual introductory article to this special issue.

Daniel Jordan Smith  
ANTHROPOLOGY • 2015-16

During his sabbatical year Professor Smith focused on writing a new book, provisionally entitled *To Be a Man Is Not a One-Day Job: Masculinity, Money, and Intimacy in Nigeria*. Drawing on 25 years of work in Nigeria, the book argues that money and intimacy are deeply bound together in men’s lives and that unraveling these connections enables a better understanding of both masculinity and Nigerian society. Scholars have long recognized that in Africa affection and social connection are concretized through the provision of material support. Providing for others is seen as an essential and integral part of caring, especially for men. This is certainly still true in contemporary Nigeria. But the intersection of economics and sociality is increasingly difficult to navigate. Monetary pressures are placed on men by girlfriends, wives, children, extended families, friends, political clients, and even their churches. Further, in Nigeria’s still-ubiquitous male-dominated social settings men reinforce among themselves the idea that “money makes a man.” What matters is not just how much a man has, but how much he is willing and able to spend on others. Yet even as money is necessary for every relationship in a man’s life, it symbolizes suspicions about men’s motives, threatening both emotional intimacy and moral sociality.

The book examines the challenges of masculinity in Nigeria as men traverse the deeply intertwined arenas of economics and social relations, wherein the tyranny of money transects transformations of intimacy. *To Be a Man Is Not a One-Day Job* focuses on the complex ways that Nigerian men are simultaneously aspirants, accomplices, and resistant participants in the country’s changing material, emotional, and moral economies. Even as monetary needs and desires seem to permeate every corner of social life and new configurations of intimacy appear to transform previous practices of sociality, the book shows that distinctly Nigerian values are still at stake. Much of the ambivalence Nigerian men feel about contemporary masculinity – and many of the ways they deal with it – reflect these enduring values, but also entrenched gender inequalities, that do not vanish under the crush of powerful new material and social forces. Smith completed a full draft of the manuscript in May 2016 and submitted it to the University of Chicago Press for peer review.
Richard Snyder
POLITICAL SCIENCE • SPRING 2015

Richard Snyder used his one-semester sabbatical to make significant progress on a new edited volume about the increasing use of subnational analysis in the field of comparative politics. The book, *Subnational Research in Comparative Politics*, grows out of a conference held at Brown and organized by CLACS in 2013, with a follow up conference at Harvard in 2014. The contributors are all junior colleagues doing cutting edge research across the Global South that shows the substantive, theoretical and methodological contributions of subnational perspectives. National-level research has been the dominant approach in modern comparative politics, and this will be the first book to focus on the contributions of scaling down to subnational units and levels of analysis. Snyder the senior co-editor of the book, with Agustina Giraudy (Assistant Professor, American University) and Eduardo Moncada, Snyder’s former Ph.D. student at Brown and now an Assistant Professor at Barnard, also serving as editors.

Professor Snyder met with the senior acquisitions editor for political science at Cambridge University Press, Robert Dreesen, and he is enthusiastic about reviewing the manuscript. After multiple rounds of sending detailed comments and suggestions to the contributors over the past year, they now have strong and “review-ready” versions of nearly all the chapters. The co-editors drafted a framing introductory chapter which traces the roots of subnational research back to one of the founding texts of political science, Aristotle’s *Politics*, which compared the constitutions of some 130 cities across Ancient Greece, and through classic works of social science by Alexis de Tocqueville, Seymour Martin Lipset, and others. The chapter also documents the striking increase of research in comparative politics with a subnational focus over the past twenty years, and it explores the substantive, theoretical and methodological contributions that a subnational perspective brings to the study of politics. Snyder and his co-editors are now putting the final touches on their chapter, and they expect to submit the whole manuscript to Cambridge University Press by the end of this semester.

Because this was a one-semester sabbatical that fell in the middle of Snyder’s continuing appointment as Director of CLACS, he continued to perform some administrative duties. In addition, Snyder organized a major international conference, held in April 2015, on the topic of inequality in the Global South. Although he was on leave, he agreed to take on the responsibility of organizing this two-day conference, because it marked the end of the former president of Chile, Ricardo Lagos’s, appointment at Brown as Professor-at-Large. In addition to a distinguished set of scholars and practitioners, including many from Latin America, the conference featured a team of embedded journalists from *The New York Times, Reuters, The New Yorker,* and *CNN* who shared insights about the role of the media in covering inequality in Latin America. The conference commanded a wide international audience via live streaming, and a “white paper” summarizing the main policy-relevant conclusions of the conference will soon be published by CLACS.
Cole Swensen

Cole Swensen spent her sabbatical leave continuing research on a river in the south of France, the Gave de Pau, in its relationship to the city of Pau itself and used the information to write a book-length collection of poetry that engages the history of the river as well as its contemporary uses and conditions. The city of Pau first emerged in the 12th century, when a castle was built to protect the ford there, the only fordable spot along the river for some 30 miles, thus the river is the very source of the city, and it continued to determine its industries, its relations with the outside world, and most other aspects of its life for centuries.

Long fascinated by the role of rivers in human society, especially those in urban areas, Swensen became interested in this particular river during two residencies in the city of Pau in 2014 and 2015. Using documents and maps from the city’s archives and images from the archives and the mediathèque, she took specific historic events and wove them in with invented events that take historical time as the present instance, thereby infusing a statistically-based history with interpellations of potential human experiences in an effort to imagine the facts into affective human lives. She blended this variegated prose with passages of lyric poetry to create a hybrid genre work.

One of the principle goals of the project was to try to make two very different types of writing—documentary prose and sound poetry—come together in a single work in which each type retains its distinct characteristics while their interplay accentuates those distinctions as it also reframes them.

Fifteen poems from the book have appeared in five different literary journals, and the book, titled *Gave*, will be published by the California literary press Omnidawn in the spring of 2017.

Swensen also worked with the Béarnaise poet Didier Bourda and sound engineers in Pau on a sound piece that blends her text with a poetic text of Bourda’s based on his research along the Saint Lawrence River in Canada. The mirrored nature of the two projects is accentuated by the juxtaposition of two languages, French and English, and the resulting 30-minute sound work uses fragmentation and repetition to build up a layered work that echoes both texts and underscores their common themes.
Professor Lai-Sheng Wang used his sabbatical leave to strengthen and establish a number of international collaborations, lecture broadly at international conferences and academic institutions, and finish two major review articles.

In the fall semester, Professor Wang wrote an invited perspective article on “Electrospray Photoelectron Spectroscopy: From Multiply-Charged Anions to Ultracold Anions” published in the Journal of Chemical Physics. Electrospray is a soft-ionization method developed for mass spectrometric analyses of biological molecules. The Wang lab pioneered the application of electrospray in photoelectron spectroscopy, that allowed solution phase molecules to be investigated spectroscopically in the gas phase. The perspective article reviewed the technical development and recent advances in the Wang lab and provided perspectives for future directions in this field.

Another major research topic in the Wang lab involves the investigation of atomic clusters, which are aggregates of atoms consisting of a few to few hundred atoms. The size-dependent properties of atomic clusters provide the foundation for nanoscience. Atomic clusters also provide a rich platform to discover new molecules with novel structures and chemical bonding. The Wang lab has pioneered the investigation of the size-dependent properties of boron clusters that has led to the discoveries of borophenes (new forms of two-dimensional boron materials) and borospherenes (all-boron hollow cage clusters). In the fall semester, Professor Wang completed a timely review article about the research progress on boron clusters that will serve as a major reference in this rapidly developing field. The article entitled “Photoelectron Spectroscopy of Size-Selected Boron Clusters: From Planar Structures to Borophenes and Borospherenes” was published in the International Reviews in Physical Chemistry.

During the fall semester, Professor Wang also gave invited lectures at the third International Conference on Correlation Effects in Radiation Fields in Rostock, Germany; the fourth Symposium on Boron, Boron Compounds, and Boron Nanomaterials: Structure, Properties, Processing, and Application, Materials Science & Technology in Columbus, Ohio; the International Symposium on Clusters And Nanomaterials in Richmond, Virginia; and the International Chemical Congress of Pacific Basin Societies in Honolulu. In addition, Professor Wang gave the 19th Annual Lyle Ramsay Dawson Lecture at the Department of Chemistry, University of Kentucky.

In the spring semester, Professor Wang was traveling in Europe during February. He was invited to participate in two international conferences in Italy and Switzerland. In addition, he lectured at the Technical University of Berlin, University of Birmingham, and Oxford University.

During April and May, Professor Wang was traveling and lecturing in China. He visited and lectured at seven universities and two research institutes of the Chinese Academy of Science. He also gave an invited lecture at the Symposium on Crystalline Materials, Chinese Chemical Society in Xinxiang, China, and co-organized the inaugural International Symposium on New Molecules and Clusters in Shanghai, China.
Li-Qiong Wang
CHEMISTRY • SPRING 2016

During her sabbatical leave in spring semester of 2016, Li-Qiong Wang used her time to strengthen the research project on Li ion battery, and presented several invited lectures on her research findings.

In early spring semester, she revised and published an article “Development and Implementation of a Simple, Engaging Acid Rain Neutralization Experiment and Corresponding Animated Instructional Video for Introductory Chemistry Students” in Journal of Chemical Education. This article describes an acid rain neutralization laboratory experiment and its corresponding instructional video. This experiment has been developed and implemented for use in the teaching laboratory of a large introductory chemistry course at Brown University, and provides a contextually relevant example in which to introduce beginner-level students with little or no acid-base chemistry background to the basic theories of solution chemistry. An instructional video containing animated features was created and utilized in order to engage students in learning new chemistry concepts, relating chemistry to their daily life, and helping them visualize experimental setups. Significantly, the experiment has been adapted to include the use of a pH probe or multimeter to make it more accessible to K-12 classrooms and teaching laboratories without access to conductivity probes.

In addition, she was able to spend more time on the Li-ion battery project funded by DOE. In March 2016, she submitted another paper “Probing Porosity and Interconnectivity in Mesoporous Silicon Sponge Materials Using Hyper-Polarized 129Xe NMR Spectroscopy” to the Journal of Micro and Mesoporous Materials. In this paper, temperature dependent (173–353 K) hyper-polarized (HP) 129Xe NMR is applied to investigate the structure and porosity of four mesoporous silicon sponge (MSS) materials with varying pores (20 nm, 50 nm) and particle sizes (5 μm, >50 μm). The temperature dependent HP 129Xe NMR data from this study show that each MSS material has its own characteristic pore environment with a varying degree of non-uniformity and interconnectivity, whereas nitrogen adsorption data only show contrasting pore size distributions between 20 nm and 50 nm pores regardless of particle size. Furthermore, the temperature dependent HP 129Xe NMR data reveal irregular pore structures with the presence of micropores inside the larger meso/macropore channels. The information obtained from the HP 129Xe NMR data is useful for a better understanding of the relationship between porous structures and their corresponding electrochemical properties in the design of future novel electrodes. This study has demonstrated that HP 129Xe NMR is extremely sensitive to pore structure, connectivity and uniformity of the pores, providing a fingerprint of the structure and interconnectivity of the pores for each material, complementary to other characterization techniques.

Wang presented two invited seminars in April 2016 on “Probing Structures and Porosity in Novel Nanostructured Electrode Materials” in Wuhan Geology University and Shanxi University, in China. Both talks were well attended by both undergraduate and graduate students. During her visits, she also made an effort to recruit good students and encourage them to apply for the Brown undergraduate and graduate programs.
Professor William Warren spent his sabbatical in Paris, France, in order to collect data on human crowds in one of the largest motion-tracking laboratories in the world. The project, supported by a grant from NSF, aims to understand the emergence of collective behavior in human crowds, analogous to schooling in fish and flocking in birds. Warren takes a bottom-up approach to this problem, starting by modeling the behavior of an individual pedestrian. In previous work, he and his students studied how an individual visually controls their locomotion and interacts with other pedestrians. Armed with a vision-based ‘pedestrian model’, they hope to explain how local pedestrian interactions give rise to collective crowd dynamics. The acid test of the model is to see whether it can reproduce behavior of real crowds.

Thus, Warren traveled to the Laboratoire M2S at the Ecole Normale Supérieure Rennes, to record real crowds in a large hall with 36 motion-capture cameras. Together with Julien Pettré, a computer scientist at INRIA, Rennes, Anne-Hélène Olivier, a movement scientist at the University of Rennes, and Cécile Appert-Rolland, a physicist at the University of Paris, Orsay, the team prepared five experiments on crowds of 40 volunteers, to study phenomena such as the onset of collective motion, information flow during collective motion, lane formation in crossing groups, and behavior at a bottleneck. Two Brown graduate students flew in for the big week of data collection, and will begin processing the data this summer. This research has practical applications to improving crowd simulations for evacuation modeling, architectural design, and urban planning.
Warren also pursued collaborations with Isabelle Siegler, an engineer and movement scientist at the University of Paris, Orsay, on the dynamics of a rhythmic visual-motor task; and with Reinoud Bootsma, a movement scientist at the University of Aix-Marseille, on modeling locomotor interception.

The rest of his time was devoted to writing research articles. By the end of the summer, Warren and his students will have completed seven manuscripts, currently in various stages of the submission and revision process.

In addition, Warren gave six talks at the Institute of Vision, Paris; EuroMov Center, University of Montpellier; Max Planck Institute for Biological Cybernetics, Tübingen, Germany; Collective Animal Behavior lab, CNRS Center for Research in Animal Cognition, University of Toulouse; Workshop on Virtual Humans and Crowds, IEEE-Virtual Reality Conference, Greenville, SC; and the First International Navigation Symposium, Bad Gastein, Austria. He also returned to Brown twice during the semester to supervise two undergraduate Honors projects, three graduate students, and a post-doc.

Arnold Weinstein
COMPARATIVE LITERATURE • SPRING 2016

The bulk of Professor Arnold Weinstein’s sabbatical semester was spent in Stockholm, Sweden. Weinstein regularly teaches courses on Scandinavian culture, and one of his recent books is Northern Arts: The Breakthrough of Scandinavian Literature and Art from Ibsen to Bergman (Princeton UP, 2008).

Some of Weinstein’s Swedish research focuses on the painter Eugene Jansson whose fin-de-siècle cityscapes have long been known for their moody, atmospheric qualities, but whose rather neglected scenes in male bathing establishment, brilliantly sunlit, have only recently been recognized for their value. Weinstein sees
a dialectic between the hidden and the overt – inverted, as it were, since the homoerotic body-in-action shimmers with light as well as secrets, whereas the depictions of the city-on-the-sea have an impressionistic Whistler-like quality. Weinstein teases out the strange complementarity on show here, as Jansson’s spectral art investigates the libidinal power of seeing.

Some of Weinstein’s time this spring was also spent writing pieces that appeared in major newspapers. His op-ed, “Don’t turn away from the art of life,” appeared in the New York Times on February 24, and his piece on “Shakespeare and the Other: Othello and O.J. Simpson” appeared in Stockholm’s Dagens Nyheter on May 9. The NYT piece generated very considerable commentary, and it confirms my belief that the Humanities are less ‘dead’ than often claimed.

Weinstein is working, finally, on a book manuscript entitled Working for Your Bread: The Value of the Humanities, and is in communication with a number of presses about a possible advance contract. A good bit of his free time this semester has been spent on this major project which sketches an argument about literature harking back to Pascal and Kierkegaard, but which attempts as well to fold into its overarching vision the significance of teaching literature, with its emphasis on the unfurling life of interpretation (as generations of readers discover and keep alive the works of the past). The larger thrust of this study is to mount a challenge to our current data- and information-obsessed culture, where our electronic forms of retrieval play us false, when it comes to the experiential dimensions of literature and art (and much else). This is something of a ‘plenary’ volume for Weinstein, since it consciously draws on his teaching as well as writing, and it enlists the insights he has gained in creating lectures for The Teaching Company and doing a MOOC for Coursera.

On a different note, some time was also spent putting the final touches on two invited articles that are to appear in 2016-17: one on literary representations of ageing, in a volume put together on that topic by professionals in the mental health field, and another on Ibsen’s Hedda Gabler in a forthcoming Oxford UP volume on that play.

A final interest this past semester has been Weinstein’s effort to craft an eventual course on ‘literature and business.’ Such interdisciplinary forays have always appealed to Weinstein – his current ‘literature and medicine’ course as well as his ‘city and the arts’ course explore the ‘subjective’ testimony of art and literature in seemingly ‘objective’ fields – and he feel that notions of entrepreneurship, debt/credit and business-logic have been with us for centuries, as far back as Shakespeare’s Merchant of Venice and Molière’s l’Avare. Weinstein had many conversations in Stockholm with faculty people at the prestigious Stockholm School of Economics; their President, Lars Strannegård, is a passionate believer in the liberal arts’ potential contribution to business education, and Weinstein sat in on several of the Seminars at SSE, to see how they go about articulating these connections. Weinstein envisions a Brown undergraduate course on this material in 2017-18.
Gregory A. Wellenius

Epidemiology • 2015-2016

Professor Wellenius spent the sabbatical year as a visiting researcher at the Centre for Research in Environmental Epidemiology (CREAL) in Barcelona, Spain. CREAL is perhaps the world’s leading research center in this field with approximately 110 faculty and staff focused on understanding the impacts of the chemical and physical environment on human health. This was an incredibly productive and rewarding professional development experience for Wellenius, leading to completion of a co-authored textbook, publishing of several peer-reviewed papers, and development of a number of new research initiatives.

First, during the summer and fall of 2015, Wellenius had the opportunity to work intensely and closely with Dr. David Savitz (Brown University) to finish their co-authored textbook “Interpreting Epidemiologic Evidence: Connecting Research to Applications.” This textbook aims to provide epidemiology students and practitioners with the tools that they need to critically evaluate the available evidence and make clear connections from research findings to practical applications. The two are happy to have this book published in June, 2016 and eager to see how it is received in the classroom and across the epidemiology community.

Second, Professor Wellenius was able to make significant progress on a number of ongoing research projects ranging from gaining new insights into the effects of ambient air pollution on cardiovascular risk across the U.S. to evaluating the potential benefits of altering the threshold at which heat advisories and warnings are issued in Southern New England. He is particularly proud of the work he has done in partnership with the departments of health in Rhode Island, New Hampshire, and Maine to evaluate the impact of moderate and extreme heat on deaths and emergency department visits across these three states. Based on the results of this work, several National Weather Service regional offices from New York to Maine are working to modify the threshold at which heat advisories are issued in order to more optimally protect the public’s health. This seems like a rare example of a specific program of research directly influencing policy.

Third, this was an unprecedented opportunity to launch a number of exciting new and highly collaborative research projects. Perhaps the most notable was the opportunity to join the team of the Human Early LIfe eXposome (HELIX) Project, a novel, multinational, European Commission-funded study which aims to characterize the joint health effects of a wide-range of chemical and physical environmental stressors on maternal and child health in approximately 30,000 mother-child pairs across Spain, France, Greece, United Kingdom, Lithuania, and Norway. In addition to leading and participating in some of the existing projects within this study, Wellenius submitted a collaborative application to secure funding from NIH for a follow-up study children through early adolescence.

Finally, there have been a number of less tangible but likely more impactful benefits of his stay at CREAL, including learning different philosophical and technical approaches to epidemiologic research, gaining a
better appreciation of the need and process of translating research findings into public health practice, and working with a uniquely collaborative and passionate group of colleagues. Wellenius could not have asked for a better host city than Barcelona for the past year, whose people have provided a very warm welcome to him and his family. Wellenius enjoyed experiencing a new (and often better) way of life and sharing in the many adventures (and challenges) of his young children, especially watching them overcome the challenge of quickly becoming fluent in two new languages (Catalan and Spanish). He have enjoyed tremendous professional and personal growth in the past year and he look forward to sharing his experience and insights with students, friends, and colleagues at Brown University.

Michael White
SOCILOGY • FALL 2015

Professor Michael White took advantage of his all sabbatical to finish off a major edited volume; pursue international collaborations in China and South Africa; and give several public talks.

After working on it for several years, Professor White used his sabbatical to complete final details for his edited volume, The International Handbook of Migration and Population Distribution (Springer 2016). The Handbook includes 27 chapters (636 pp.) contributed by accomplished scholars around the world. The Handbook content covers theory, methods, key substantive topics, and world regions.

In addition, White travelled to Shanghai, prompted by the invitation to join the advisory board of the newly constituted Asian Demographic Research Institute and participate in the inaugural board meeting. While in Shanghai he made progress on a collaborative study of Chinese urbanization, in which White, with a co-author, has been looking at the demographic features of the extraordinary urbanward migration in China in the past few decades. After travelling to Beijing, he began a new collaboration on the adjustment of migrants in China's large cities. White's co-author in this project also visited Brown in April 2016 as their work continued.

White also visited the University of the Witwatersrand School of Public Health (South Africa) and its Population program. It is this group with whom he has been working for several years and with whom he submitted an application (R01) to the National Institutes of Health (NIH). Their meetings concerned contingency planning for our collaboration on the health and socioeconomic consequences of rural-urban migration. They were fortunate to hear in early 2016 that the application – built around a new five-year panel survey – will be funded by the NIH. While at Wits, Professor White also struck up a new collaboration with another group (Gauteng City-Regional Observatory) and began a study of changes in residential segregation in South Africa. The timing of the visit allowed him also to participate in an important quadrennial conference organized by the Union for African Population Studies.
While in China White spoke on the topics of urbanization and migration to scholarly audiences at Shanghai University, East China Normal University, Fudan University, Peoples (Renmin) University, and the China Women’s Research Institute. In South Africa at the African Population Conference he participated in multiple capacities, including the presentation of new research results.

Paul Williard

CHEMISTRY • SPRING 2016

The Fulbright Fellowship in France that Professor Paul Williard took in the spring of 2016 was the most memorable and productive sabbatical leave of his thirty-five years as a faculty member at Brown. It started on a positive note with an enthusiastic endorsement and support letter from Williard’s host at the University of Rouen with some unexpected additional research support in the form of a joint post-doctoral fellow funded by the erstwhile Region of Haute Normandie. As an added bonus to his particular situation, Williard’s host in Rouen, Professor Maddaluno, is a group leader in the CNRS – COBRA institute located at this institution. He also currently serves as the chemistry director of CNRS for all of France. Hence Professor Williard gained terrific insight into both the organization and structure of the CNRS as well as some day to day observations of how the organization functions and their priorities. As far as Williard is aware, such details are largely if not completely unknown to almost all academic physical scientists within the U.S. other than only those few who have spent some time in France working in a CNRS lab. Given Dr. Maddaluno’s current position within the CNRS, this has provided Williard with the unexpected opportunity to visit most all of CNRS centers within France in which organic chemistry research is being conducted. Professor Williard hopes to continue collaborative research with chemists whom he met at Rouen as well as initiate some new projects with scientists at Aix-en-Provence/Marseilles University. He will also continue to interact with the post-doctoral fellow who is currently working under his direct

Palais de Justice in Rouen.
supervision in Rouen. A few weeks ago the postdoc was notified that he has been offered an extremely competitive, permanent CNRS research position to begin in approximately six months at the Ecole Polytechnique in Palaiseau just outside Paris. Williard plans to attempt to establish an exchange program for masters and Ph.D. students between Brown and Polytechnique through this connection.

While in France, Williard lived in a gite and the direct contact an interaction that he had with the owner was terrific. Professor Williard was told by his hosts that this living arrangement would provide a real French living experience and their words proved prophetic. Starting from the very first week he arrived in Rouen at the end of January, Williard have had the most pleasant experiences in dealing directly with neighbors, local merchants and others. Williard related one, perhaps low brow, story from the very first few days after his arrival:

“I lived about a fifteen walk from the Rouen Rive Droite SCNF station and about a 30-minute walk from the university located in Mont Saint Aignan. I’ve even learned how to pronounce Aignan – even though it sounded a lot like onion to me at first. It is quite a pleasant walk to the university when it’s not raining. The first half of the trip proceeds through a really nice old Rouen residential neighborhood with very tiny cobblestone streets and 100-year old or more houses. The other half of the walk is quite a trek directly uphill between a cemetery and a cow field. The very last quarter mile or so is through the woods on a dirt path. The trip home at night in the dark is especially amusing as it’s wet, muddy, and slippery. I had an interesting experience on my way home my very first week there. It was a Friday and I stayed late in the lab until about 9:00 or 9:30 because I had to Skype with my research group at Brown so as usual I decided to walk home – down the very muddy path to a farm house then down a very steep hill past the cemetery – no lights but the ghosts are friendly – past or slightly through the cow field and then you finally hit civilization where the
paved road begins after about halfway home. Well, I am going down the big hill sideways because it’s drizzling and slippery pretty much in total dark and I hear what sounds like a bunch of kids and loud music having a ruckus down where the houses, paved street and civilization begins. I’m thinking to myself about whether I should continue on or just turn around and hope that I get back to the University before the buses stop running. Given that I have no idea whatsoever about the local bus schedule since I’ve just been here a week and everyone has told me that it’s really relatively safe to walk around Rouen, I decide that I can negotiate my way. So I continue on because I really didn’t want to walk back up the hill in the dark and mud. It turns out the noise is from a couple of neighbors having an outside party on their little patio – a bunch of young guys and gals in their twenties, all from Mayotte, none of whom speak any English whatsoever, and their neighbor who is a thirty-something, very French woman with a child, also really friendly. Of course I have to walk right by their houses and they decide that it is absolutely necessary for me to join their party because no one in their right mind would be walking past their house at about 9:30 on the edge of the city of Rouen in the cold rain and snow flurries on a Friday night in the end of January. Mind you it is about 35-40 degrees Fahrenheit and drizzling outside – but apparently in Rouen the party on Friday night goes on outside no matter what! So they insist that I join them for a glass of wine (or two) and we all speak to each other in broken English and even more broken French as I try to explain what I do here, why I am here and what a Fulbright Fellowship is and where Brown University is located. Finally, they stuff my pocket with a cold beer for the rest of the walk home and I conclude that if the rest of the stay here is going to be anything like this, then this is really going to be enjoyable sabbatical and also a useful exchange of cultural information and learning experience both scientifically and culturally.”

Perhaps this is not exactly what the Fulbright Foundation seeks to foster, but this experience was indicative of Professor Williard’s stay in France. In the end, he is sure that all people involved learned something about each other. During his stay he also subsequently enrolled in and participated with a group of folks of all ages averaging about 50-60, both professional and amateurs, studying wood carving with a retired master carver, maitre sculpture sur bois, and furniture restorer. They exchanged information about their respective backgrounds, Williard’s visit to Rouen, and many other subjects. These several hour classes approximately every other week provided him with a terrific opportunity to interact with people outside the university and academic establishment.

Finally, Williard also acknowledged the fantastic opportunity provided by the Franco-American Foundation in organizing the mid-year meeting for Fellows just very shortly after they arrived at the Hotel-de-Ville in Paris, which included a private tour. This is an opportunity that practically no one with whom he worked in France has experienced.
During Professor Sandy Zipp's leave, he split his time between two bodies of research on two significant figures from the cultural and political history of the mid-20th century United States.

Over the past several years Zipp has been working with a colleague and former student, Nathan Storring of Project for Public Spaces in New York (MA, Public Humanities, 2014) on Vital Little Plans: The Short Works of Jane Jacobs, an edited volume that will bring together for the first time a selection of essays, articles, speeches and interviews by the late Jane Jacobs, the well-known writer, urbanist, and unconventional economic thinker.

For many readers, Jacobs is known solely as the author of her first book, The Death and Life of Great American Cities (1961), which has been translated into six languages, has never been out of print, and sold at least a quarter of a million copies worldwide. Some of her more challenging ideas about economic life, the wealth of nations, the proper relations between government and private enterprise, inequality and ethics, and the forms of social and political organization that shape human life remain less understood. This collection, which features pieces from the 1930s through the 2000s, will offer readers a chance to see her literary and intellectual legacy as a whole for the very first time.

2016 is Jacobs's centennial, so last year Zipp and Storring decided to get serious about making the book happen. In June, Zipp sent the proofs back to the editor. Random House will publish the book in the U.S. and Canada in October. A Japanese edition is planned for 2017.

The other piece of work, Zipp's primary undertaking this year, is a body of research on popular internationalism, empire, and race in the United States during World War II and the “postwar moment” – those years around the war when the United Nations was forming and the Cold War looming. This work was inspired by Zipp's earlier research on urban renewal in New York City, of all things, and in particular a chapter of his first book, Manhattan Projects: The Rise and Fall of Urban Renewal in Cold War New York, that dealt with the building of the United Nations headquarters complex. That research suggested that there was more to say about popular investment in internationalism during and just after the war. In the last few years, and during this leave, the work has primarily taken the shape of an investigation of the late career of the politician and public figure Wendell Willkie, who traveled around the world in 1942 and wrote the bestseller One World in 1943.

As part of this project, Professor Zipp has primarily been working on two things: a scholarly article about Willkie's geographic and spatial imagination and its fraught relationship to the changing shape of American imperial power during the war and a book manuscript that tells the story of Willkie's trip, the debates surrounding his book, and the rise and fall of his vision of a more interdependent, anti-imperial role for the U.S. in the world. The book will be a cultural history of midcentury U.S. internationalism, written with scholarly and public audiences in mind, and told through the lens of the public attention surrounding
Willkie. It follows Willkie through the Middle East, the Soviet Union, China, and back to the United States, where he tried to rally Americans to embrace greater world cooperation.

This has been fascinating work, requiring Zipp to draw on the rich historiographies of the three regions he visited, keeping one eye on the problems of nationalism, empire, race, and modernization that Willkie confronted along the way, while also staying attuned to the arc of his personal story and the texture of American politics and culture during the period. Willkie has often been dismissed as naïve, and while there’s no doubt that he was an idealist, Zipp believes his geopolitical vision of the emerging world picture of the 1940s has been underappreciated. Willkie offered a prospect for global interdependence that hoped to head off competition between the U.S.S.R. and the U.S., recognize impending decolonization, and led towards an alternative global future in which the U.S. acted in cooperation with an emerging multi-polar, decolonized world. He died early however, in 1944, and he did not live to see his vision falter on the rocks of the looming Cold War.

Professor Zipp has been writing about Willkie’s trip this year. He hopes to bring the book to a close next year, at which point Harvard University Press will publish it under a still-undecided title.