Best first-year experience: Moving into a 100-year-old building on Waterman Boulevard! It's called the Little Tennis Club and is full of transfer students like me. My first roommate was a California native psychology major and a Chinese student studying biomedical engineering. This friendly atmosphere was a wonderful introduction to Wash. U.

Photo and text by Christian Heselmety (See “11 on ’11,” page 22)
First Words
A welcome to friends and alumni from Dean Gary S. Wihl and a roundup of A&S facts and figures.

The New Ecology
Jon Chase and Tiffany Knight combine sophisticated computational modeling with extensive field work.

No Private Matter
Religion and politics can and should be discussed in polite company, says Marie Griffith, new director of the John C. Danforth Center on Religion and Politics.

The Lady Anatomist and the Literary Scholar
Rebecca Messbarger studied anatomy in order to better write about 18th-century wax model-maker Anna Morandi Manzolini.

Service at the Center
An exceptional record of academic achievement and service won alumna Priya Sury a Rhodes scholarship. Now a medical student in Minnesota, Sury has dedicated her life to serving others thanks to the support she received at Washington University.

New Perspectives:
International graduate students in Arts & Sciences
Three graduate students on how they found their intellectual home away from home.
10 Submersed in Earth: The catastrophic floods of ancient Sanyangzhuang
Archaeologist T.R. Kidder uncovers the past in China's Pompeii.

12 Microbes: Little answers to big questions
David Fike once considered becoming a chef. He now studies a kind of “microbial lasagna” in his quest to understand how the ecology of Earth has changed over time.

16 The Steward of Statistics: Andrew Martin parses the political world
The Center for Empirical Research in the Law brings together political scientists and legal scholars.

24 Around the Quad
Share in a collection of highlights, adventures and notable stories in a look back at the 2010-11 year in Arts & Sciences.

28 Achievements and Honors
30 Selected Publications
32 Selected External Grants and Fellowships
35 A&S Distinguished Alumni Awards
36 Major Gifts
37 New Faculty
Anne Carson is one of my favorite writers, and this quote comes from one of her most extraordinary works, a wry, original and fascinating exploration of an ancient Greek poet, Simonides, and a 20th-century German-language poet, Paul Celan. The father’s position is extreme, Carson points out, but it is not so uncommon. Her own early efforts as a poet met with a similar disapproval. Perhaps poets are ones who waste words and make up stories. But the telling and retelling of stories is fundamental to the way we express ourselves as human beings and, more importantly, to how we share knowledge. If we don’t tell our stories, what then? We risk losing what is most precious: Possibility. Discovery. Connection.

I believe the best way to connect the people of this community is through our stories, and so I am pleased to present you with the second edition of A&S Magazine. I want to thank you all for sharing your thoughts on the first edition and hope that you will continue to give me your input. The medium of print may be under siege, but the tangible pleasure of holding and handling a print publication is something I don’t think we should give up prematurely. On the other hand, it would be foolish to ignore the creative potential and ease offered by digital media. My communications team has therefore made an extra effort to provide you not only with an improved electronic version of the magazine but expanded online content. Do look for companion pieces to our feature articles and highlighted links to Arts & Sciences people and projects on our website.

This has been another tremendous year for me as dean and I am eager to share the highlights with you in these pages. We are under way with ambitious plans to improve our academic excellence. We have made a number of exciting new hires, and stand poised to recruit more of the very top-ranked faculty next year.

Significant faculty achievements for the year include a Guggenheim fellowship awarded to Matthew J. Gabel for his work on comparative judicial politics. Sarah C. R. Elgin continues her innovative work in science education research with another generous and pivotal institutional grant from the Howard Hughes Medical Institute. Scholars in the humanities also have had a particularly strong showing this year with four fellowships from the National Endowment for the Humanities, three fellowships from the American Council of Learned Societies and a very exciting multi-year grant from the Mellon Foundation.

A trove of 72 books from Thomas Jefferson’s library was recently identified in the Washington University rare book collection, reminding us that where exceptional people and places are involved, the most unexpected discoveries can happen. Following the daily discoveries of the WUSTL community is a constant source of delight. The creativity and productivity of our students, teachers and scholars never ceases to amaze me. From Packard fellowship recipient David Fike to our Rhodes Scholar, Priya Sury, we have a wealth of talent, commitment and drive among our faculty, students and alumni. To my mind, their passion for discovery and social engagement exemplifies what is so very special about the community that I am honored to serve.

Gary S. Wahl
Dean of the Faculty of Arts & Sciences
Hortense and Tobias Lewin Distinguished Professor in the Humanities
DEAN’S BEST READS 2010

As an English professor, avid reader and frequent traveler, I eagerly collect book recommendations for airplane reading from anyone who crosses my path. This year I have been pleasantly surprised by the quality of the selections that have come my way. I share my current favorites with you below. Please keep the suggestions coming, as I have an active year of travel ahead!

The Things We Used to Say
by Natalia Ginzburg
Recommended by Rebecca Messbarger, Associate Professor of Italian

Sacred Hearts
by Sarah Dunant
Recommended by Harriet Stone, Professor of French and Comparative Literature

The Dr. Siri Paiboun Crime Series
by Colin Cotterill
Recommended by Kent Syverud, Dean of the School of Law

A&S Magazine Spring 2011
Chase and Knight head up ecology research at Washington University, each pursuing unique and innovative research programs that underscore a simple premise: Nature's living organisms depend on one another for survival. This "web of life" concept is the foundation of ecology, the scientific study of the relationships among living organisms and their surroundings. It's a quantitative science that applies theory and mathematical modeling to critical real-world problems of the environment. Or, as Chase puts it, ecology is "where the ivory tower meets the muddy boots."

Combining sophisticated techniques with extensive field work, and forging collaborations across Arts & Sciences and the university, the new ecology is tackling some of the toughest issues in our human-modified world, including preserving biodiversity for the benefit of all life, preventing species extinction and restoring lost habitats.

Tipping the scale for biodiversity

Jon Chase, professor of biology and community ecologist, needs space — lots of space. Forget a 24 x 12 lab. His kind of space is measured in acres. Through work that ranges across the Missouri Ozarks, the islands of Hawaii, Canada and Bolivia, Chase has unearthed a fundamental concept: "Most of the biodiversity we see isn't what's in one small pond, forest or patch of prairie. It's about the differences among those patches." According to Chase, this "beta-diversity," or the variation in the types of species that live in different places, underlies our global diversity.

Conservation and restoration of degraded ecosystems is informed by beta-diversity. "When we want to re-create a community that's been degraded, we are interested in making it as close as possible to what it was historically," Chase says. "Usually, we come at it with a Field of Dreams hypothesis: If you build it, they will come back." A dominant school of thought in ecology called "niche theory" maintains that environments with a certain mix of habitat, species and resources will produce predictable results. Understanding the impact of spatial scale is fundamental to understanding the processes that create beta-diversity. Chase illustrates this point with a thought experiment: What happens to plant diversity when you add a lot of nitrogen to an old field? This question has profound implications because nitrogen compounds — byproducts of the burning of fossil fuels and the use of nitrogen fertilizers — are increasingly adding acidity to our soil and water and are helping to deplete ozone in the atmosphere. It's essential to know the effects of an oversupply. Measuring plant diversity in a 1-meter plot produces results very different from those of a 10-meter area. Researchers may completely miss beta-diversity by focusing only on the smaller scale. That's why Washington University’s Tyson Research Center (see sidebar) offers such a unique opportunity and is crucial to Chase’s ecology research.

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Scale also plays a part in Chase’s overall approach to developing general theories. In one research project with a postdoctoral associate and collaborators from the Missouri Botanical Garden, he is comparing tree communities of “tens of species” in the Ozark forests of Tyson and nearby areas with the thousands in the tropical rainforests of Bolivia. He asserts that ecologists are doing pretty well at the largest scales and are capable of delving minutely into the physiology of a particular plant, learning its function in detail. Chase’s work takes place at the complex nexus between these extremes.

Chance plays an important role as well, Chase says. An alternative view to niche theory known as the “neutral theory” states that niche thinking cannot explain all variations and, in fact, may not always help in restoring a denuded community. In his experimental ponds at Tyson, Chase has demonstrated that chance may play a greater role in small areas with few individuals, while areas of larger species density may see more predictable effects from species’ niches and selection. Through mathematical modeling he can forecast when randomness in the ponds will play a larger role. In essence, he’s learning to predict the degree of predictability.

Balancing plant science with human interests

Tiffany Knight is performing work that further establishes the study of ecology as essential to the continuation of life on Earth and that highlights its interdisciplinary nature. Knight, associate professor of biology and plant population ecologist, is also building a crucial new collaboration: the integration of science with social research to address the increasing peril of our planet’s flora at the hand of humanity. “Preserving forests is necessary for all of humanity and for the livelihoods of people in forested communities; we need to work with people and find solutions that sustain both human livelihoods and trees,” she says.

Knight’s work focuses primarily on “biodiversity hotspots” where there are an unusual number of rare plants or there is great biodiversity. Her most recent and most interdisciplinary collaboration came out of a serendipitous decision to sit in on a campus seminar hosted by a faculty member in the George Warren Brown School of Social Work. The topic was poverty and the environment, and the collaboration launched that day has the potential to alter how humans perceive and use natural resources.

In his talk, Gautam Yadama, associate professor of social work, presented a model of a social system in southeastern India, exploring the policies and economics of subsistence living. Villagers in rural areas within the state of Andhra Pradesh, living on the equivalent of less than $1 per day, use the local forests as an important source of sustenance. By cutting trees for shelter, using or selling their limbs for fuel and frequently burning forested areas to create temporary grassland for grazing livestock, the people in this area are taking advantage of the only resource available to them, but contributing to its destruction in the long term.

Figuring predominantly in Yadama’s presentation was the need to understand more about the plant population dynamics in these forests, and Knight saw an opportunity. “It is clear that chopping branches and burning the forest annually will negatively affect its long-term viability,” she says. “What I could contribute from my research is what level of harvesting and fire is sustainable for the trees.” That is, how much can people take before the ecosystem can no longer survive?

Despite the cultural and practical challenges of working in remote India, Knight and Yadama have won funding for a pilot project from the university’s International Center for Advanced Renewable Energy and Sustainability (1-CARES). They made a preliminary trip to the site in 2009, and they plan to return in the summer of 2011. If this
proof-of-concept phase is successful, the team hopes to secure additional funding to allow extension of the project and expansion to other areas in Asia. Says Knight, “If we want to solve these problems, we need to find a solution that works for people.”

Human influence on the environment, including the destruction of habitat and removal of plants from their natural environments, has put a startling number of life forms at risk: 20 percent of the Earth’s plant species and nearly 30 percent of amphibians are threatened with extinction in the next few decades, and almost one-fifth of known mammal species face the same danger, according to the International Union for the Conservation of Nature’s “Red List.” Despite grim forecasts, Chase and Knight remain optimistic about the progress made by ecology and its continuing development as a rigorous and far-reaching discipline. Knight characterizes the field’s future as increasingly focused on areas adversely affected by humans “since these are the majority of environments on Earth.”

Chase offers an insight into the impulse to investigate our complex world: “There is an inherent value in difference — our species is attracted to it. We like to know that crazy things exist, whether in language, in culture or in species. Diversity has evolved in our psyche and it’s fundamentally human to want to conserve and restore it.”

Read more about how science and life go together for husband-and-wife duo Jon Chase and Tiffany Knight.

The Living Learning Building at Tyson Research Center: An environmental praxis

The Tyson Research Center — directed by Jon Chase and consisting of 2,000 acres of woods, prairie, ponds and savanna — is highlighted by the Living Learning Center (LLC), among the first two “Living Buildings” in the world honored for their net-zero impact on the environment.

In October 2010, the International Living Building Institute announced full certification of the LLC under the world’s most rigorous green building performance standard: the Living Learning Challenge. A structure that aspires to “living” status — light years beyond Leadership in Energy and Environmental Design (LEED) certification, which awards points for efficiencies in water use, sustainable-energy sources and other categories — must meet the most advanced sustainability requirements, effectively existing in symbiosis with the environment. A living building must produce no wastewater, use no more energy that it can produce for a period of one year and include “design features intended solely for human delight.”

Constructed largely of locally sourced or sustainably produced renewable materials as required by the challenge guidelines, the LLC creates its own electricity by means of multiple photovoltaic solar panels, two of which automatically track with the daily path of the sun. It uses a roof rainwater collection system, including a melodious recycled aluminum rain trellis to help slow and direct runoff, with a filtering system and cistern for harvesting fresh water. A rain garden and permeable pavement return water gently to the soil. Composting toilets use no chemicals and almost no water in a completely natural process. Invasive Eastern red cedar, selected by Associate Director Kevin G. Smith and others for clearing as part of habitat restoration on the grounds, was milled right on the construction site for siding. As a bonus, the rustic planks are naturally pest-resistant, and they help to assimilate the center visually into its wooded surroundings.

Washington University to study the environment. Smith says that the greatest achievement of Tyson and the living building is that they provide visible proof that “ecology is not just a philosophy or an aesthetic, but a critical field of study with its broader environmental mission. “We operate as sustainably as our research indicates everyone should in order to counter human impact on the planet,” Smith says. A showcase for campus sustainability efforts, the Living Learning Center has also inspired additional green thinking at Tyson; recently, its administration building was converted to geothermal heating and cooling, which leverages energy exchange with the Earth’s own internal warmth, the first such system at Washington University.
There’s no doubt that religion plays a big role in shaping our views. For instance, in the Pew Research Center 2010 Religion and Public Life Survey, more than a third of respondents (both supporters and opponents) said that religion is the main factor in shaping their thinking about same-sex marriage. For those who are opposed to same-sex marriage, religion holds even greater sway: 60 percent cited it as their top influence.

The political effect of those beliefs reverberates in legislation across the country. In the case of same-sex marriage, these often religiously inspired viewpoints have helped pass legislation banning it in 29 states. But how much religion in politics and policymaking is too much, too little or just right? When does it illuminate an issue, and when does it become divisive?

“For really devout people in any religious tradition, faith is simply not a private matter, something that they leave at home when they go to work or to the voting booth,” says Marie Griffith, the newly appointed director of the John C. Danforth Center on Religion and Politics. Griffith is the outgoing John A. Bartlett Professor at Harvard University and will begin her appointment at Washington University on July 1. “Religion is about many things, but one thing it is certainly about is morals and values; and the values we hold inevitably influence how we want the world to be and how, therefore, we vote.”

Religion and politics mix in varying intensity in today’s most vital issues: stem-cell research, immigration, the death penalty, evolution, the size and role of government, foreign diplomacy. Sometimes, debate turns to shouting, and respect for those with opposing views is replaced with stereotypes and caricatures. Attention-seeking media types and unscrupulous political operators have been quick to capitalize on the passion these issues evoke, capturing ratings and votes while chipping away at our common ground.

“We’ve arrived at a point where it is extremely difficult to find fair and nuanced coverage of religion in American politics, and the current lack of empathy and understanding has rather dire consequences for our common life together,” Griffith says.

The 1980 presidential election provided Griffith, a scholar of American religious history, with an early lesson in tolerating religious and political difference. Her mother (a feminist, a theologically conservative Southern Baptist, and a politically liberal Democrat) and her father (a theologically liberal Baptist, and an economically conservative Republican) held completely opposing views of who should win. “During dinnertime conversations, I would lean one way and then the other, depending upon which of my parents was speaking at the moment,” Griffith says. She realized that “very, very good people could hold utterly disparate political views, without needing to disparage one another as ignorant or immoral.” That lesson, she says, shaped her in a deep way.

Therein lies the mission of the Center on Religion and Politics. “Most people find it difficult to talk about their own religious views with people who don’t share them, and perhaps especially when religious differences are compounded by political differences,” Griffith says. “Our goal is
to foster critical, humane engagement across political and religious differences – to get people thinking about the contexts and circumstances in which certain beliefs are nurtured, to stretch themselves into better understanding the values, interests, hopes, fears and ideals that may be motivating people on the other side of an issue."

Through programming and publications, "we will connect people who need to be hearing one another," says Wayne Fields, the Lynne Cooper Harvey Distinguished Professor of English and the center’s founding director. Under Fields’ direction, the center’s first year has focused on promoting this kind of dialogue (much of it available on the center’s website, rap.wustl.edu) to full-house crowds.

In October, journalist Jon Meacham delivered the center’s inaugural address, "God and Politics: From George Washington to Barack Obama.” In November, the center hosted a panel discussion with nationally known academic scholars on the role religion played in the contentious 2010 midterm elections. In February, the center hosted a bipartisan discussion featuring members of the U.S. House of Representatives’ Center Aisle Caucus. In March, commentator Ray Suarez delivered a speech on "The Holy Vote: The Politics of Faith in America.” In April, the center co-hosted a discussion on the future of interfaith cooperation with Rabbi Steve Gutow, president and CEO of the Jewish Council for Public Affairs, and Rev. Dr. Michael Kinnamon, general secretary of the National Council of Churches of Christ in the USA. A series of Danforth Dialogues, forums held in conjunction with the Brookings Institution, will feature national figures representing opposing, impassioned views and will demonstrate how to talk through differences.

Equally significant is the center’s scholarly and educational mission. The center will provide a research community for four additional scholars in the area of American religion and politics, whose work will complement that of WUSTL’s current faculty. "We build on the fact that we have strong research programs already in political science, history, religious studies, law," says Dean Gary S. Wihl, the Hortense and Tobias Lewin Distinguished Professor in the Humanities. "The center is in an excellent position to pull together these different areas of research.” The center will also offer a minor in religion and public life, which will prepare students for the national conversation about legislation and morality.

"We are finding ways to cross boundaries, boundaries between disciplines but also between the academy and public life,” Fields says. "Washington University is becoming an agent to connect and inform all who are interested in the discussion,” he says.

Washington University presents an ideal location for these investigations, Wihl says. Established in January 2010 with a $30 million endowment from the Danforth Foundation, the center is grounded in a university with no traditional association with a religious organization. Former U.S. Sen. John C. Danforth cites the university’s location in the middle of the country as an apt metaphor for the common ground the center seeks to nurture. These factors, in addition to its public outreach and educational mission, combine to create a center that’s unique in its mission.

In a speech before 500 people gathered in Graham Chapel at the center’s inaugural event, Jon Meacham, who co-chairs with John Danforth the center’s national advisory board, cited the potential for good and bad in the intermingling of religion and politics. "Our finest hours – the Revolutionary War, abolition, the expansion of women’s rights, hot and cold wars against terror and tyranny, the battle against Jim Crow – can be partly traced to religious ideas about liberty, justice and charity,” he said. "Yet theology and scripture have also been used to justify our worst hours – from enslaving people based on the color of their skin to treating women as second-class citizens.”

Meacham added, “How much religion is too little, just right or too much in politics and legislating and policymaking? I do not know, and I am very much hoping that the work of this place, in the center of the country, will show us the way.”
On a late summer day 2,000 years ago in north-central China, the infamous Yellow River began to spill over its banks. Fifteen miles away, in the fields surrounding the village of Sanyangzhuang, a farmer may have noticed rivulets starting to form in the furrows between lush rows of wheat and millet. At the farmhouse, a woman working at her loom could have spied a growing puddle of water at her feet. The children, tending pigs in the sty, might suddenly have found themselves ankle-deep in water. Hour after hour, the water continued to rise. In half a day’s time, the water would have submerged their homes.

While the residents of Sanyangzhuang fled for higher ground — which in this low, flat part of northern Henan Province, was likely 30 miles or more away — the slow-motion flooding eventually buried the village in 15 feet of silt. It happened so fast that they didn’t have time to gather their possessions, but it was so gentle, “like water filling up a bathtub,” that the water’s thick sediment simply settled on everything in its path instead of washing it away.

“You can literally lift the flood mud off of the original ground surface,” revealing preserved impressions of grass, leaves, human and animal footprints, and carriage-wheel ruts in their roads, says T.R. Kidder, a Washington University geoarchaeologist. Kidder is well known for his work in the geomorphology of large river systems and the relationships between climate change, river response and human cultures.

Like the fortunate scholars who discovered Pompeii, Kidder and his Chinese colleague, Liu Haiwang, senior researcher at the Henan Provincial Institute of Cultural Relics and Archaeology, have found a remarkably well-preserved slice of life both brought on and preserved by a catastrophic natural disaster. Charged with reconstructing the site’s environment, Kidder, chair and professor of anthropology, has found that this devastating flood is just one chapter in an epic story of upheaval.

The common lives of ancient China
There’s little information about the vast Chinese hinterland of the Han imperial dynasty (206 BC – AD 220), which equaled contemporary Rome in land holdings and economic power. Although the lavish lives of its dynastic rulers have been documented in written accounts, “few had looked at everyday life in rural China,” Kidder says.

The site has already yielded information about the inhabitants’ social structure. The archaeologists have so far found evidence of at least 14 compounds and hold out hope of finding many more. The two completely excavated compounds each consist of a substantial brick and rammed-earth dwelling with a ceramic tile roof, a well, and a latrine, and housed a classic extended-family group of three to seven individuals.
The artifacts they left behind — grinding stones, stone containers, pottery vessels, iron tools, coins — give clues to their daily routines. A tell-tale ridge-and-furrow pattern, consistent with row-crop farming, found in the soil just beyond the compound’s walls confirms that they were involved in agricultural production. It was a site of bustling activity.

Kidder imagines the scene just before the time of the flood: “Inside one of the compounds, they’re getting ready to re-roof. There were two neat stacks of roof tiles: concave plate tiles and convex pan tiles that fit together as interlocking pieces. Next to them was a pit used to mix mud for mortar. Had it been raining? Had the roof been leaking? There were textiles on the loom, a ceramic basin next to the well, a jar in the kitchen. You get this picture, maybe romanticized, that life was going on pretty much as normal.”

And life was good for a time. They had substantial homes, modern farming equipment and a great number of material possessions. One corner roof tile they discovered bears the inscription “Yi Shou Wan Sui” (long life), a decoration used only in prosperous households. But they must have known that the river 15 miles in the distance was an imminent threat — an ominous question of when not if the river would break its banks.

**An environmental history**

The silty clay loam of the river valley provided an alluring reason to settle. But by establishing themselves on a floodplain, Sanyangzhuang’s residents risked their lives and livelihoods. The Yellow River was well known for periodic catastrophic flooding, especially in the low-lying areas of central China, earning the epithet “China’s Sorrow.”

The river is mostly mud: it annually carries 2 billion tons of sediment in its water. Over the course of its winding, 3,395-mile path across north-central China, the river’s ochre-colored sediment builds up the river bed, eventually becoming too high above the ground surface. The river is forced to find a new course. “If you get a break or weakness in the river bank, water will find its way out. It’s a natural process of evolution of the river,” Kidder says.

It’s a cycle that has played out multiple times over the millennia at Sanyangzhuang. Based on extensive excavation (several 43-foot-deep profiles, going back 12,000 years), Kidder has unearthed a geological history of the site. He has found evidence of at least four flood events before the Han-period flooding, and at least one after. In between there were six instances of human occupation. This time, however, things were different.

Upstream from Sanyangzhuang, human development of the rich but easily eroded soils of the Loess plateau likely exacerbated the flooding. “As the Han Empire expanded, the population expanded,” Kidder says. “They’re sending people farther out into the Loess plateau. They’re farming with new technology, particularly iron tools. There’s evidence that they’re altering the environment by creating a much higher amount of erosion. That is, they’re sending more dirt into the river than ever before.

Additionally, Kidder speculates that this region of China saw a heavier than usual monsoon season (late summer and into early fall). “So you put a lot of water into this river that has a lot of sediment in it, in part because humans have been modifying the environment, and you get a recipe for disaster,” he says. “A recipe for disaster for the people who live there,” he clarifies, “but totally cool for the archaeologists.”

Did the Han people of Sanyangzhuang outrun the river? Researchers may never know. Not one fragment of organic material — bone, clothing or vegetation — survived the flood. But Kidder’s excavations show the cycle continued: another settlement of intrepid farmers took root, and once again the river rose to meet them.
As an undergraduate, David Fike had two degrees lined up in engineering physics and astronomy when he heard a captivating lecture by a geologist on the massive meteorite impact that wiped out the dinosaurs 65 million years ago. That was his introduction to geology, which he tacked onto his résumé as a third degree. “In order to get the geology degree, the dean made me promise that this would be the last one,” he says. “I still find so many things fascinating that I want to explore.”

Fast forward to the present and Fike is an assistant professor of earth and planetary sciences. His research now harnesses the restless intellectualism of his undergraduate years to the field of biogeochemistry, which integrates biology and chemistry into a geological framework. In fall of 2010 Fike was selected as one of just 17 young researchers nationwide for a highly competitive Packard fellowship, an award of $875,000 over five years that will allow him to hire postdoctoral researchers and fund research trips.

While Fike’s disciplinary focus may have narrowed, his research questions remain broad. “I want to know how the whole ecology of the Earth has been changing over time,” Fike says. He approaches this enormous question by studying the tiny microbes — which include bacteria, fungi and algae (and some say viruses) — present in the environment at a particular time period. Microbes are thought to be the first form of life to evolve, about 3.5 billion years ago.

Microbes are really important in this big picture, he says, because they are the “ground zero” organisms involved in cycling carbon and sulfur through Earth’s atmosphere and hydrosphere, breaking the elements down by metabolism (the processes of ingestion, digestion and respiration) and allowing them to be recycled and reused by all of Earth’s organisms. The more we understand microbes, the better we see their importance in the very origins of life on Earth and the continuing evolution of the planet. For this reason, scientists also study microbes as an analog to life on other planets.

Fike’s long-term goal is to come to grips with the evolution and development of microbial communities from early Earth to the present. He wants to understand how these communities as a whole are functioning today and how they reflect modern environmental conditions. He also looks at fossilized versions of these microbes to reconstruct their primordial environment and to see how they (both microbes and their environment) have changed through time.

To see these communities in action today, Fike regularly travels to Guerrero Negro, a little bay off the Baja Coast of Mexico where the water is so salty animals can’t live in it. It’s the perfect environment for hypersaline microbial mats.Extending hundreds of feet, the mats are like “microbial lasagna,” comprised of thousands of different organisms, performing hundreds of different kinds of metabolisms to make energy. Spongy to the touch and several inches thick, the mats contain layer upon layer of different types of microbes. “Essentially every metabolism known to science is found in just one little chunk,” Fike says. “It has the metabolic diversity of the Amazon rain forest on the relative scale of a postage stamp. We think this is representative of what much of the world would have looked like before
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While Fike’s disciplinary focus may have narrowed, his research questions remain broad. “I want to know how the whole ecology of the Earth has been changing over time,” Fike says. He approaches this enormous question by studying the tiny microbes — which include bacteria, fungi and algae — present in the environment at a particular time period.

“Essentially every metabolism known to science is found in just one little chunk,” Fike says. “It has the metabolic diversity of the Amazon rain forest on the relative scale of a postage stamp. We think this is representative of what much of the world would have looked like before animals emerged, and it’s the reason we find it of great interest.”

Members of the mat community are good neighbors to one another. Fike illustrates the point: the cyanobacteria take sunlight and produce oxygen, and another microbe next door takes the oxygen and uses it for respiration to make carbon dioxide. Some other microbe uses the carbon dioxide for its own metabolism to convert it to methane, while other organisms take the methane to oxidize it to something else. “All of these metabolisms are interwoven into a beautiful interdependent network,” he says. “When you think of it, that’s not happening on Earth today. We humans are not very good team players. In general, we could learn a lot from microbes.”

Back at the lab, Fike uses a sophisticated form of mass spectrometry to analyze sections of the mat. Among his many findings, he has been able to describe how environmental conditions, such as variation in the amount of sulfur present in a marine environment, affect the microbe’s metabolism and isotopic patterns. “It’s very exciting,” Fike says. “I could study these for a decade and still be in awe of how they function.”
Rebecca Messbarger, professor of Italian, dissects the truth about 18th-century wax model-maker Anna Morandi Manzolini

The sharp, nose-burning odor of latex, cleaning product and embalming fluid and the knowledge that a cadaver — the remains of a once living, loving person — rests under a blue tarp inches away provides a moment of truth to nervous new students of gross anatomy, let alone a professor of literature.
“When you go into the anatomy lab, the smell is immediately a test,” says Rebecca Messbarger, associate professor of Italian. “You’re standing there and you don’t pass out once we pull the tarp off.”

For a semester in spring 2006, Messbarger wielded her scalpel alongside physical therapy students at the Washington University School of Medicine as part of a prestigious New Directions Fellowship from the Andrew W. Mellon Foundation, a highly competitive national program that supports humanities faculty research outside traditional humanities disciplines. Messbarger, a scholar of 18th-century Italian literature and culture, won the award for a project that examines the processes and places of anatomical wax model-making in Italy in the 1700s.

Messbarger’s anatomical study was an unexpected departure but illustrates the new openness to interdisciplinarity that characterizes humanities research in the 21st century. Messbarger first found intriguing but incomplete references to a woman, Anna Morandi Manzolini, a prominent but little-studied anatomical wax model-maker of 18th-century Bologna (itself a leading center of scientific pursuit), while researching women of the Italian Enlightenment for her doctoral dissertation. Combing through archives, Messbarger kept running across her name. “I found only the sparsest biographical sketches—a couple of sentences here, a couple of sentences there,” she says. “I was doubly intrigued, first because I had never heard of any woman of the age in Italy doing dissections and teaching anatomy and second because the information was so sparse. I assumed that her work had disappeared entirely.” She returned to the United States determined to find more information, but, she says, “there was virtually nothing.”

Then, fate intervened. A chance encounter at a Venice café with a friend of a friend led her directly to the University of Bologna, academic home to Morandi and the 18th-century epicenter of the science of anatomy. Her dogged search of churches, state archives and libraries eventually uncovered a trove of primary-source information on Morandi—correspondence with nobles and city leaders, letters from European royalty and sovereigns with commissions, notarized bills of sale, memberships in scientific and literary academies, Morandi’s anatomical notebook, her will, tributes written about her after her death—some of it seen for the first time in more than 200 years.

The product of Messbarger’s investigative work is The Lady Anatomist: The Life and Work of Anna Morandi Manzolini (University of Chicago Press), released in fall 2010. With an understanding of the human body few professors of Italian can claim, she examines Morandi’s career as well as the intertwined histories of science, gender and art that complicate her story. Before Messbarger’s study, no one had examined Morandi’s writing.

Messbarger initially completed a manuscript on the life and work of Morandi based on her archival research alone, but says her anatomical studies under the Mellon fellowship put her back at page one. “I thought I was done with Anna Morandi,” Messbarger says. “I ended up rewriting the whole book.”

Her discussion in the chapter on Morandi’s process of dissection and creating wax models, for instance, would inevitably change with this type of preparation, she says. Messbarger’s new “elbow-deep understanding” of Morandi’s trade gave her a better sense of the inherent practical problems. “When you’re inside the body, you see how hard it is to figure out what’s going on,” she says. “It’s kind of a soupy mess.” Messbarger describes the difficulty in identifying arteries, veins and organs, especially given the variation present in normal human anatomy.

Yet with inferior tools and unpreserved cadavers, Morandi created models in her home-based laboratory that are incredibly accurate and even dynamic. “How could she take that imaginative leap from a putrefying corpse to create vibrant, living, moving human anatomy?” Messbarger asks. “I have dissected a cadaver and have also been able to see what the living body looks like when it’s opened in surgery—they’re as far apart as you can possibly imagine. The color and shape of these organs are completely different.”

Messbarger eventually got used to the smell of the anatomy lab (though her husband didn’t; he requested that she change clothes in the garage) and began to see the “wonderment of what is under the skin” in very personal terms. When assigned to dissect a hand, she held it tightly in her own. “There’s something that’s so profoundly intimate about holding the hand and seeing the levers and pulleys underneath that make our hands work,” she says.

For Messbarger there is no going back. Her interdisciplinary experience has changed her view of literary and historical research forever. She is already engaged in a new project examining the changes in the methods and location of the production of anatomical wax model-making after Morandi’s death. Her additional studies have invigorated her already lively intellectual curiosity. She says, “The detective work is the most fun of all.”
Late last summer, Andrew Martin, an expert on the U.S. Supreme Court, got a call from a producer for 60 Minutes who was putting together a story on Justice John Paul Stevens. She was turning to Martin for assistance in gathering data on Justice Stevens, who had just retired after 35 years on the bench. She wanted to know how many cases he had dissented in, how many cases he participated in and the like. The next day, he got a call from Jill Duffy, LA ’94, who is a librarian for the U.S. Supreme Court, asking for the same information. “Let me guess,” Martin tells Duffy, “You’re talking to a producer at 60 Minutes.”

Together, they devised a plan for handling similar situations in the future. “When we get questions like this,” Duffy tells him, “we’re just going to refer them to you.”

Andrew Martin, chair of the political science department and professor of political science and law, has earned his reputation as the go-to guy for statistics about the U.S. Supreme Court. Martin is one in a small group of collaborators maintaining, expanding and refining the Supreme Court Database — an online collection of Supreme Court decisions that includes information on each ruling such as the parties to the suit, the legal provisions considered in the case and the votes of the justices. “Just about any statistical study that looks at the U.S. Supreme Court uses these data,” Martin says.

The database is a prime example of the power of political methodology, a subfield of political science that combines applied statistics, research design and formal theory to study politics. In short, it attempts to verify hypotheses about political phenomena.

“Using the tools of political methodology allows us to do things like better understand to what extent electoral systems produce legislatures that are truly representative; see the extent to which the American public...
Andrew Martin Parsesthe PoliticalWorld

Martin has become more polarized, and how this affects governance; whether globalization is a good thing or not for human rights or the environment; the extent to which politics affects the behavior of judges in our country,” Martin says. “It’s about how to design studies and interpret patterns in data.”

The field became widely recognized as a distinct area of study so recently U.S. News & World Report began ranking such programs beginning only in 2006. Washington University ranks among the best in the country thanks in large part to Martin, who is well known for his innovations in the field and hands-on guidance of graduate students.

Martin is uniquely prepared to lead the university’s efforts in this area. Having majored as an undergraduate in government and mathematics, he was trained as a graduate student in the university’s own political science department. Martin’s appetite for innovation was whet early on. After exhausting the methods course work the political science department had to offer, he studied with faculty in economics and the business school. “Andrew eventually became [one of] the best-trained statistical methodologists the department had ever produced,” says Randall Calvert, the Thomas F. Eagleton University Professor of Public Affairs and Political Science.

After an appointment at Stony Brook University, Martin was brought back to the university in 2000 to build the political methodology program. Even then, Martin “had already begun to make a name for himself as a methodological innovator,” Calvert says. A few years later, at age 34, Martin became chair of the political science department.

Martin’s term as chair expires in June 2011 and will be remembered for “his successful and welcome effort to bring more concrete procedures to departmental operations...allowing us to operate as a group more fairly, effectively and efficiently,” Calvert says.

Martin continues his leadership role with WUSTL’s Center for Empirical Research in the Law (CERL), a research center he has directed since 2006 that focuses on the study of the law and legal institutions using the quantitative research processes of political methodology. CERL’s assignment: Help others to collect, analyze and disseminate their own empirical research and thereby grow the understanding, breadth, capability and basic acceptance of the methodology behind empirical legal research. In fulfilling this mission, Martin brings together the traditionally divided research interests of both political scientists (focused on the outcomes of cases and external influences on the Court’s decision-making processes) and legal scholars (focused on the reasoning in court opinions, and on factors internal to the legal system, primarily the language of statutes and precedential cases).

“My appointment and collaboration with faculty members in the law school has been the most professionally interesting and engaging,” he says. “It’s truly interdisciplinary work, work that’s allowed me to study the judicial system in a nuanced way that’s allowed my scholarship to be much more relevant.”

Martin’s law school collaborators concur. “Andrew is one of a handful of political scientists whose scholarly work has had a huge impact on the legal academy,” says Pauline Kim, the Charles Nagel Professor of Law in the Washington University School of Law. “He has worked on issues that should and do matter to legal scholars, and he has made that work accessible in a way that has forced legal scholars to take the political scientists’ perspective into account.”

One such project creates a numerical expression of the ideology of U.S. Supreme Court justices and places them on a common continuum (liberal to conservative). Martin and his former graduate-school colleague Kevin Quinn, now at the University of California–Berkeley School of Law, used actual voting behavior on a wide variety of cases (not just civil rights and civil liberties cases) to calculate the so-called Martin-Quinn scores. Because they are changeable and frequently updated, researchers can chart a justice’s ideological shift over time, just as Martin and a group of collaborators did in an oft-cited paper.

“It is difficult to overstate the significance of the Martin-Quinn scores,” Kim says. “Having a reliable and valid measure of the individual Supreme Court justices’ relative preferences is critical for researchers who wish to study the Court quantitatively.”

Political scientist A. Lawrence Lowell wrote in 1910 that “statistics, like veal pies, are good if you know the person that made them, and are sure of the ingredients.” With Andrew Martin in charge of the kitchen, Lowell’s colleagues today can dig in with confidence.
In November 2010, Priya Sury took time out of her first year of medical school at the University of Minnesota to fly to Chicago for a series of interviews. She was a finalist for a Rhodes scholarship. In her characteristically down-to-earth manner she simply says, "It was pretty nerve-wracking."

The trip and effort paid off. Sury, a 2010 graduate in anthropology and Spanish, recently learned that she is one of 32 students from the United States to be named a 2011 Rhodes Scholar — awarded to students who possess outstanding intellect, character, leadership and commitment to service — and that she will be headed to the University of Oxford in the fall. She is the 26th Washington University graduate to receive the honor since the program began in 1902.

Sury need not have worried. This academic all-star who graduated summa cum laude is the only student in WUSTL history to be selected as a Danforth Scholar, an Ervin Scholar and a Rodriguez Scholar, three highly selective four-year merit scholarships. And her portfolio of service and leadership is impressive, both in terms of quantity and quality.

For Sury, service has been a touchstone for much of her young life. As a leader for College Connections, a tutoring program run by Rodriguez Scholars, she assisted students at a high school in an economically disadvantaged district north of the university in the college-application process. Recognizing their need for additional experience in the sciences, she developed a multimedia curriculum with the support of doctors at the Mayo Clinic, where she had held a summer research internship. She also provided leadership in Cambios, a WUSTL Spanish-language tutoring program for Latino youth in St. Louis.

In 2008, she launched her most ambitious undergraduate service project. Together with fellow student Fidel Desir, Sury won a $10,000 grant from the Kathryn Davis Foundation’s 100 Projects for Peace program (administered locally by the Washington University Gephart Institute for Public Service). With the assistance of faculty in medicine, anthropology, public health and social work, they created a curriculum for and then led seminars on the prevention of mother-to-child HIV transmission at the Dominican Republic’s leading maternity hospital, El Hospital Nuestra Señora de la Altagracia in Santo Domingo. Every day after each seminar, hundreds of women consented to HIV testing; those testing positive were immediately enrolled in the hospital’s transmission-prevention program. Sury and Desir trained hospital staff to continue the seminars after their departure, thus ensuring the sustainability of their work and the program.

As she reflects on her undergraduate experience at Washington University, Sury issues a challenge to current students: “Do more service.” According to Sury, the university has several unique institutional mechanisms for helping to get students into service, including the Gephart Institute, which helps individuals build service into their career. “I think that’s a really profound way for someone to conceptualize service and make it a part of their life,” she says.

At Washington University, Priya Sury encountered mentors who had “a message of medicine as something more than a scientific toolbox.”
Sury had a similar revelation early in her academic career. Although her affinity for math and science made medical school a logical career option, she initially rejected this idea as a high schooler because she felt medicine was overly clinical. It was only later, in a conversation with a medical student who was deeply involved in meaningful volunteer activities, that she even started to consider it as a possibility. “I think that conversation was formative for me because it made me realize that medical school was not just about studying all the time,” she says. “I think that was the first time I realized that medicine could be a way of doing the things I really wanted to do.”

Her preparation at Washington University only strengthened this impression. “At WU there’s such a pre-med focus that you meet all different kinds of people going into medicine — it’s not just your stereotypical science geek,” she says. “Over and over again I met the kind of people who were doing the things I could see myself doing. One particular example is Dr. Victoria Fraser, co-director of the Infectious Disease division. She was one of the first people in the country who worked with people infected with HIV.”

She also cites anthropology professors Bradley Stoner and Shanti Parikh as strong influences, but emphasizes that there was no one person who showed her the way. Rather, her years at Washington University offered repeated interaction with people who had what she calls “a message of medicine as something more than a scientific toolbox.” For Sury, medicine isn’t truly effective without taking social and cultural realities into account.

She singles out the advising system as being particularly helpful. “Someone like Dean Sharon Stahl is going to know if, say, you’re interested in taking a certain medical anthropology class that the person teaching that class [L. Lewis Wall] is a former Rhodes Scholar who runs a fistula clinic in West Africa,” she says. “Wash. U. is a big enough school that there are a number of opportunities but it’s also small enough that people can tell you how to take advantage of the opportunities. You get guidance for how to build your life around service, not just how you do it on the side a little bit.”

She also stresses the value of investing in young people at the college level. The collaborative HIV-education project with Fidel Desir “confirmed our intention to dedicate our lives to others,” she says. “That investment in us made at the right time has meant that we will spend our working lives serving others.”

In terms of the making of a physician, this timing is everything, according to Sury. “Once a student gets to medical school it’s too late,” she says. “You’re busy and you feel broke. You need to think about these things before you get here. Ideas about medicine are formed in your undergraduate years. Your hands are not in the medical stuff yet so you have an opportunity to think more broadly. If I had the money, I would give it to undergraduate students in an Arts & Sciences setting, which is a time and a place where their ideas about the world are being formed.”

Looking forward, Sury is excited about the opportunity she will have at Oxford to learn about different kinds of approaches to medicine through the M.Phil program in medical anthropology. Sury has not yet been assigned to a college, but is looking forward to a meeting with other Rhodes Scholars in Washington, D.C., before the departure date in September. She has also already been emailing with other Rhodes Scholars in the United States and getting to know them. Before she heads over to Oxford, Sury will spend the summer with 15 other medical school students working in a health clinic in Leh, Kashmir.

And then she is off to England. How are her parents taking the news? “They’re very, very excited,” she says. “They are thrilled about it and making plans to visit.” Anything she is apprehensive about? The food? “No. Actually I hear the Indian food is really good.”
New Perspectives: International graduate students in Arts & Sciences

Imagine that you are an international student in a doctoral program somewhere in the United States. You’re far from the home, family and culture that have shaped you. You may struggle with an unfamiliar language, face adjustments to new expectations from faculty and courses, and may even dislike the food. In addition to the demands of pursuing an advanced degree in your field, you are encountering new experiences at a dizzying rate.

“International students in Arts & Sciences graduate programs face an immense challenge,” says Richard J. Smith, Dean of the Graduate School of Arts & Sciences. “Those who don’t find it stressful are in the minority.” Yet these students continue to apply in increasing numbers, particularly from Asia. According to Smith, Arts & Sciences has seen a dramatic increase in the number of graduate applicants from China: 230 students in 2000 to nearly 600 in 2010.

An incipient trend is beginning to shape the outline of international graduate study in Arts & Sciences. “Traditionally, our students from Asia, India and Eastern Europe were coming to us in the sciences and mathematics, says Smith. “Now, we are beginning to see students coming in the social sciences and even in the humanities. This is extremely exciting.”

Miaowei Weng is one such student. Raised in Beijing, China, a country that has experienced sweeping national conflicts and divisions in the last century, she became intrigued by how post-totalitarian societies frame their histories. As a doctoral candidate in Spanish and comparative literature under the direction of Akiko Tsuchiya, associate professor of Spanish, her research focuses on reconstructions of 1940s and 50s childhood in Spain—during the brutal regime of Francisco Franco—concentrating on portrayals of this turbulent period in contemporary film and novel. “Childhood becomes a nexus between the past and the present…and the wide-ranging sociopolitical issues that each work calls into question,” she says.

In moving between the literatures of China and Spain, while adapting to living in a new culture in the United States, Weng has developed a “comparatist’s vision.” She has gained a global perspective on regional and national issues and differences. “Different cultures share a lot of commonality,” she says, “the most important thing is communication, communication and communication!” Weng’s next project will “contribute to the emerging East-West dialogue in the humanities by exploring China’s role and image in Spain during the Civil War and postwar period…to fill the gap and bring China into the cross-cultural discussion.”

For Santiago Olivella, doctoral candidate in political science, the transition to studying in the United States was a smooth one. Born in Bogotá, Colombia, Olivella attended Universidad de los Andes as an undergraduate and enjoyed an experience “remarkably similar to that of Washington University—a private school, great infrastructure and a good deal of attention from professors.” However, for the kind of graduate training Olivella sought, an American graduate program in political science was the best choice.

Olivella received a recommendation to apply to Washington University from his mentor, who had previously studied with Brian Crisp, associate professor of political science. Crisp’s research and reputation were in line with his interest in the comparative effects of electoral geography—the locations of electoral district boundary lines—which can greatly alter the results of elections. Olivella’s findings indicate a strong correlation between where voters live and their preferences on a particular issue. Crisp notes, “Santiago is revitalizing our thinking about ‘space’ and how we measure it. How you draw electoral districts and position polling places can have an enormous impact on electoral outcomes.”

Olivella’s own new location in the United States has had a vivid effect on his personal growth. “I grew up in an environment in which emotions are worn on sleeves,” he says, and where talking about them is encouraged as a part of healthy living. “Not being able to hug my American friends as often as I would want was a shock to me.” Olivella cites living in a society that values personal space and political correctness as one of his key challenges.

HIGHLIGHTS

STUDENT

Miaowei Weng

Santiago Olivella

Helina Woldekiros

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new experiences at a dizzying rate. "Now, we are beginning to see up to the present day with 600 students in 2010.

According to Smith, who says international students are continuing to apply in increasing numbers, particularly from Asia. "They find it stressful are in the minority." Yet Smith says, "Those who don't have the ability to succeed internationally are having a harder time to attract students around the world."

Traditionally, our students in Arts & Sciences have a "comparatist's vision." They have gained a global perspective on regional and national issues by looking at different cultures. "This is extremely exciting," Smith says. "It's not hard to move from one country to another, but at times, it represents an endeavor as serious as marriage." — Chilean poet Gabriela Mistral

International students in Arts & Sciences facilitate new points of view for all those they encounter, as they pursue their scholarly research. Smith says, "When you have students born and raised on three continents around a table...you have the opportunity for exciting intellectual insights." These young scholars also develop new notions of friendship, gender equity and modes of learning alongside their research. As Weng describes her own border crossings, she quotes Chilean poet Gabriela Mistral: "It's not hard to move from one country to another, but at times, it represents an endeavor as serious as marriage. We marry ourselves to another set of customs." And this union of cultures is likely to bear fruit. As Smith points out, "Students who go back to their home countries to research or teach in a university with their new insights — what could be better for international understanding and collaboration?"

Doctoral candidate in anthropology Helina Woldekiros has traversed two continents and then traveled back to her native Ethiopia during her journey as a graduate student. Her research on the ancient salt caravans in northeastern Ethiopia brings her to the Danakil Depression, among the hottest and lowest places on Earth. Today Afar pastoralists collect salt and convey it by truck caravan through this area. Greek texts suggest that the Aksumites, an early Christian nation, also transported salt here from 200 to 600 AD, using camel and donkey trains. Woldekiros, trekking by camel herself with the Afar, excavates for evidence of Aksumite activity, and seeks to model their ancient salt routes, calculating the cost of transporting commodities in antiquity.

Woldekiros’ path to WUSTL began when she became interested in zooarchaeology (the study of animal remains from archaeological sites) as an undergraduate at Addis Ababa University. She learned that Fiona Marshall, one of the world’s foremost experts on African zooarchaeology, worked at Washington University as professor of archaeology. Now Marshall is Woldekiros’ adviser and offers praise for the "adventurous nature of Helina’s research in such a hostile environment." She continues, "She is surely the first woman to introduce your ideas." Becoming the first woman archaeologist from her country and the first female zooarchaeologist from Africa has afforded Woldekiros a new understanding about the cultural, economic and political situation in her own country. But the choice to study in Arts & Sciences has allowed her to introduce her own camel train on this route with the Afar, who can be ferocious."

Despite her fearless spirit in the field, Woldekiros faced a necessary acclimation at the university when it came to the classroom. "At WU, I found out that you are expected not only to interact during a lecture but also to challenge the professor and..."
The roommate, the search for a major, the discovery of self — these are the rites of passage of our college years. Yet these universal experiences unfold uniquely for each student. We asked the Arts & Sciences class of 2011 to think back on their formative years at WUSTL and to document their favorite moments. Here are 11, in their own words and images.

1. Michelle Posen, Psychology

The vice presidential debate definitely stood out as an incredibly memorable event. Not only did I feel unbelievably excited about the pride that was filling campus, but I was also on TV! Having the opportunity to be so directly involved in the events leading up to the election and getting first-hand exposure to representatives from both parties made me sure that I had made the right choice in picking a school that would foster the college experience I was looking for. Shown from left to right: Michelle Posen, Emily Gordon and Jamie Lee.

2. Jonathan Blanken

In August 2010, a year after coming out to the members of my a cappella group, the Stereotypes, I decided to engage with Wash. U.’s LGBT community. Since then, I have met dozens of other LGBT students here and joined the executive board of Pride Alliance as the social activism chair. Furthermore, after being trained as a Safe Zones educator, I have had the privilege of helping to lead educational sessions on LGBT issues for university students. I cannot stress enough how transformative, empowering and exciting these experiences have been. I feel so lucky to attend a university committed to developing programs to not only support LGBT students but also to foster education and discussion about homophobia, transphobia and heteronormativity.

3. Austin Daniel

I started to feel ownership of my academic career as I declared both chemistry and music majors. I felt like I had a path in college. My favorite thing about freshman year was meeting my roommate. We were randomly paired, like most freshmen, and we couldn’t have been more different. The conversations we had and experiences we shared helped both of us grow in ways I did not expect coming to college.

4. Jessica Atkin, English

I was lucky enough to be chosen as one of the playwrights to be featured in the 2009 A.E. Hotchner Playwriting Competition. Working with a professional dramaturge along with actors and friends in the Performing Arts Department was amazing. The culmination of the weeklong workshop — a staged reading of the first full-length piece of my own writing — I’d ever seen on a stage — wasn’t the opportunity I thought I’d get in college.
The summer after my sophomore year I was fortunate enough to participate in the Summer Language Institute in Castelraimondo, Italy, with eight other students and two professors. We had class for about four hours each day. One of the most rewarding parts of the program, for all of us, was our interaction with the community of Castelraimondo. The Infiorata was a remarkable experience. It is a high celebration held once a year where locals decorate the main street during the night with massive mosaics made out of flowers and then have a festival the next day.

My freshman year floor was amazing. I was able to meet a great group of comrades who are still some of my closest friends. Freshman year is a time to explore your options at Wash. U. You can take interesting classes, switch majors and not feel like you are falling behind or are missing support. Sophomore year was when I found my major. I was living with a great group of girls and I was starting to feel comfortable in the Wash. U. community. Junior year was the year of moving off campus and exploring the city of St. Louis. Senior year is the last year for most of us in St. Louis and a time to do all the things you put off for three years. You know who your friends are, you know that the zoo will always be a great way to spend your day and that Art Hill is one of the best things about the city.

A year ago, a few Wash. U. students started “Paint Yourself Day,” when a bunch of students paint their bodies and head over to Art Hill to take pictures. The event serves to unify different people for a day of fun. While studying abroad in Chile, these same guys decided to start “International Paint Yourself Day.” We had Chile, Germany, the United States, France and a number of other countries represented. We walked around downtown Santiago and had such a fun time!

What I liked best about senior year was a short meeting with Executive Vice Chancellor Hank Webber. I had approached him with an idea for a Green Cup competition, where student dorms competed against one another to lower electricity consumption. During the meeting, he was explaining some of the obstacles we would face, and then he stopped, pointed at me and said, “We’re doing this. There are going to be obstacles, but this is a great idea, and we’re doing it.” Sure enough, we started the competition on March 28.

Sophomore year was a year of academic exploration for me. I came into college not sure about what I was majoring in, or what I would do after college. In high school, this amount of uncertainty would have panicked me, but I was actually looking forward to exploring my interests and discovering my passion. I followed the great advice that my academic adviser gave me, to simply “pick classes that intrigue you.” My classes ranged from music classes (“History of Film Score”) to politics (“Campaigns and Elections”), and even an introductory ballet class.

Best memory of junior year: Swing dancing to live St. Louis jazz bands on campus! One of my most meaningful academic endeavors is my project to record the oral histories of participants of vernacular jazz social dance in St. Louis during the mid-20th century. Shown left to right: Evan Groopman and Marleigh Stern.

Chang Jung snapped this photograph during the Lunar New Year Festival 2009. The festival, sponsored by Asian student groups on campus, draws more than 1,000 students, faculty and community members each year. Organizers of the festival hope to promote cultural interaction, awareness and dialogue through the celebration of East Asian dance, music and performance during the Lunar New Year season.
We invite you into this new section, Around the Quad, to share in some of the highlights, adventures and notable stories of our students, faculty, alumni and friends as we look back at our year.

The Brookings Quadrangle is one of the most beautiful features of the Washington University campus, with associations to commencement and campus life, crossing paths and intersecting lives.
We invite you into this new section, Around the Quad, to share in some of the highlights, adventures and notable stories of our students. The Brookings Quadrangle is one of the most beautiful features of the Washington University campus, with associations to commencement and campus life, crossing paths and intersecting lines. Faculty, alumni and friends as we look back at our year.
Alex Baron, a 2010 Arts & Sciences graduate in philosophy-neuroscience-psychology and political science, was Washington University’s first-ever winner (among 18 recipients nationwide) of the prestigious Luce scholars program. This program provides a stipend, language training, and individualized professional placement in a country in Asia.

Adeete Bhide, an A&S senior in the biology-neuroscience track, won the competitive Churchill scholarship in January 2011, the second in WUSTL’s history (the first was in 1992). The Winston Churchill Foundation of the United States was founded in 1953 at the recommendation of Sir Winston Churchill, who wished that there always be American graduate students at Cambridge named in his honor. The Churchill scholarship is one of the most prestigious and academically competitive opportunities of its kind. Annually only fourteen Churchill Scholars are selected from 103 American colleges and universities. Churchill Scholars must demonstrate extraordinary talent, outstanding academic achievement and exceptional personal qualities. Since 1963 there have been 453 Churchill Scholars in the biological and physics sciences, engineering and mathematics. They include scholars, researchers and teachers in major universities and laboratories, as well as leading figures in finance and industry. The Churchill scholarship covers tuition and all fees at the University of Cambridge.

The Vertical Seminar. The Mellon Foundation announced a $100,000 award to Washington University for a three-year program of five seminars under the direction of Steven Zwicker, Stanley Elkins Professor in the Humanities and Professor of English. The seminar format, developed by Zwicker and Dean Gary Wahl, is based on a new collaborative model of humanistic scholarly inquiry called “The Vertical Seminar,” which will integrate scholars of different ranks and explore foundational questions in the humanities.

Jennifer R. Smith, assistant professor of earth and planetary sciences became the first western researcher to conduct field research in Iraq since the U.S. military campaign of March 2003. Smith, who is no stranger to adventurous challenges, spent three weeks at an archaeological site west of Basrah, to begin preliminary study of ancient geological formations in the area. To hear anecdotes from her travels all around the globe, please visit “Extras” on the magazine website.

To too old for algebra? Sarah B.R. Elgin, professor of biology and education in Arts & Sciences and biochemistry and molecular biophysics in the School of Medicine, took Calculus 2 in spring 2010 and Computer Science 111 in the fall. She attended all sessions, did all her homework and took all of the tests. “It’s really an illuminating experience if you’ve been teaching 20 years,” she says. A specialist in science education, Elgin and her colleagues are trying to change the culture of science education at research universities so that excellence in teaching and research are seen as “synergistically intertwined” rather than mutually exclusive. “It seems to me that you could really change the vibe on a campus if every faculty member was a student once every seven years,” Elgin says. Next she will host her computer science professor as a student in her own course.

David Fike, Earth and Planetary Sciences, was awarded a Packard Fellowship (one of 17 nationwide) for Science and Engineering, in the amount of $875,000 over five years.

Another reason to put on your running shoes. Fight Alzheimer’s disease. Denise Head, assistant professor of psychology, has found that walking, jogging and other forms of regular aerobic activity may help stave off the onset of Alzheimer’s disease. Head studied 69 adults ages 55–88 who all had normal cognitive abilities, then scanned them for “plaques.” She found that the volunteers who exercised had decreased levels of amyloid and lowered levels of another protein called tau. Head published the results of her study in the 2010 September issue of Annals of Neurology.

Priya Mallika Sury, a 2010 Arts & Sciences graduate in Spanish and anthropology, was named a Rhodes Scholar.

2010 was an exceptional year for WUSTL Fulbright scholarships. Fifteen students, 14 of whom were from Arts & Sciences, were awarded academic-year scholarships for study around the world. Eight faculty members (four from A&S) also received awards. This strong institutional showing in a highly competitive year was noted in, among other places, the Chronicle of Higher Education.
More than 50 undergraduates, graduates, students, professors and deans from the United States, Georgia and Azerbaijan attended a two-day conference on the South Caucasus. The event was organized by Thomas Hernandez, a junior majoring in international and area studies and philosophy-neuroscience-psychology.

The Living Learning Center at Tyson Research Center was the first in the world (shared with one other building) to achieve full certification under the Living Building Challenge run by the International Living Building Institute. "Living Building" is a designation that requires net-zero energy usage and net-zero wastewater production over the course of a year. (See page 4)

The evolution of environmental study. With leadership from Tiffany Knight, associate professor of biology (see page 4), Arts & Sciences introduced three new majors in 2010 for undergraduates interested in the environment: environmental biology, environmental earth sciences and environmental policy. The new majors provide a strong foundation in traditional academic disciplines combined with innovative interdisciplinary study to prepare A&S students as the next generation of environmental champions.

"10 Things Art Can Do for Us." Acclaimed novelist and non-fiction writer Francine Prose gave a public lecture in Graham Chapel on the uses of art when she accepted the 2010 Washington University International Humanities Medal, awarded biennially by the Center for the Humanities to a noted scholar, writer or artist who has made a sustained contribution to the world of letters or the arts. The generous award is supported by Phyllis and David Grossman. Past winners of the award are Orhan Pamuk in 2006 and Michael Pollan in 2008.
ACHIEVEMENTS AND HONORS

Anthropology
Peter Benson, Outstanding Transdisciplinary Scholar Award from the Institute for Public Health

Fiona Marshall, elected as fellow of the American Association for the Advancement of Science

Shanti Parikh, Rosa L. Parks Award Outstanding academic title for The Secret: Love, Marriage, and HIV from the Association of College and Research Libraries

Patty Jo Watson, Lifetime Achievement Award from the American Association for the Advancement of Science

Art History and Archaeology
William Wallace, Arts & Sciences David Hadas Teaching Award in Arts & Sciences

Biology
Douglas L. Chalker, ArtSci Council Faculty Award
Sarah C. R. Elgin, Janet Anderson Lecture Award Career Achievement Award in support of undergraduate research

Erik Herzog, Special Recognition for Excellence in Mentoring from the Graduate Student Senate in Arts & Sciences

Chemistry
William E. Buhro, selected as fellow of the American Chemical Society

David Gutsche, selected as a fellow of the American Chemical Society
Lee G. Sobotka, Glenn T. Seaborg Award for Nuclear Chemistry from the American Chemical Society

Classics
William Babelis, named fellow of the American Numismatic Society

Earth and Planetary Sciences
Ray Arvidson, NASA Public Service Medal for exceptional scientific achievement in the Mars 2007 Phoenix lander mission

Economics
John Nachbar, elected fellow of the Econometric Society

Douglass North, awarded the title of Distinguished Fellow of the American Economic Association

Education
William F. Tate, named fellow and received Presidential Citation and Distinguished Service Recognition award from American Educational Research Association

Carol Camp Yeakey, Distinguished Career Contribution award from the American Educational Research Association

English
Mary Jo Bang, National Book Critics Circle Award in poetry for Elegy

Paumanok Poetry Award from the Visiting Writers Program at the State University of New York at Farmingdale

Germanic Languages and Literatures
Paul Michael Lützeler, Outstanding Faculty Mentor Award from the Graduate Student Senate in Arts & Sciences

Member of the Strategy Commission of the German Scientific Council (Wissenschaftsrat)

Eva-Maria Russo, ArtSci Council Faculty Award

History
Elizabeth K. Borgwardt, ArtSci Council Faculty Award

Sowande’ Mustakeem, ArtSci Council Faculty Award

Timothy H. Parsons, Outstanding Faculty Mentor Award from the Graduate Student Senate in Arts & Sciences

Interdisciplinary Project in the Humanities
Jami Ake, ArtSci Council Faculty Award

Mathematics
Alvaro Pelayo, Prize Rubio de Francia from the Royal Spanish Mathematical Society

Awarded Honorary Doctor Vinulado position at the Spanish Center for National Research

At the recent International Conference on Poisson Geometry in Rio de Janeiro, Brazil, Xiang Tang, assistant professor in mathematics, was awarded the Andre Lichnerowicz Prize for notable contributions in the field of Poisson geometry. The prize is awarded to young researchers within eight years of the doctoral degree. “Tang is an exceptional young talent,” says David Wright, professor and chair of mathematics. “He has forged ahead in an extremely complex area of mathematical research, and he is also able to communicate complex mathematical concepts effectively in the classroom. He is one of our top researchers and most popular teachers.”
Music

Martin Kennedy
ASCAP Plus Award
ASCAP Rudolf Nissim Prize for Best Orchestral Work for Trivial Pursuits for violin and orchestra

Hugh Macdonald
ArtSci Council Faculty Award
Gold medal from La Renaissance Française

Peter Schmelz
Deems Taylor Award for Such Freedom If Only Musical: Unofficial Soviet Music During the Thaw

Performing Arts

PAD/Black Rep production of Ragtime voted best musical by Riverfront Times

Physics

Ken Kelton
Senior Scientist Award from International Symposium on Metastable, Amorphous and Nanostructured Materials

Political Science

Brian Crisp
Outstanding Faculty Mentor Award from the Graduate Student Senate in Arts & Sciences

James L. Gibson
Lifetime Achievement Award from the American Political Science Association

Mona Lena Krook
American Political Science Association’s Victoria Schuck Award for Quotas for Women in Politics: Gender and Candidate Selection Reform Worldwide

William Lowry
Distinguished Faculty Award

Andrew Martin
Outstanding Faculty Mentor Award from the Graduate Student Senate in Arts & Sciences

Andrew R. Rehfeld
ArtSci Council Faculty Award
American Political Science Association and PI Sigma Alpha Award for Outstanding Teaching in Political Science

Deanna Barch
Distinguished Faculty Award

Len Green
Elected president and chair of the board of the Society for the Experimental Analysis of Behavior

Elected fellow of the Association for Psychological Science

Brett Kessler
ArtSci Council Faculty Award

Randy Larsen
Outstanding Faculty Mentor from the Graduate Student Senate in Arts & Sciences

Henry L. ”Roddy” Roediger III
Arts & Sciences Distinguished Leadership Award

Mitchell Sommers
elected fellow of the Acoustical Society of America

Jeff Zacks
elected chair-elect in 2011 and chair in 2012 of the governing board of the Psychonomic Society

Romance Languages and Literatures

Ignacio Sánchez Prado
LASA Mexico Section Award for best book in the humanities for Naciones intelectuales: Las fundaciones de la mondernidad literaria mexicana (1917-59)

Claire Solomon
Special Recognition for Excellence in Mentoring from the Graduate Student Senate in Arts & Sciences

Gary J. Miller

Mona Lena Krook, American Political Science Association’s Victoria Schuck Award for Quotas for Women in Politics: Gender and Candidate Selection Reform Worldwide

William Lowry, Distinguished Faculty Award

Andrew Martin, Outstanding Faculty Mentor Award from the Graduate Student Senate in Arts & Sciences

Andrew R. Rehfeld, Outstanding Faculty Mentor Award from the Graduate Student Senate and Dean’s Faculty Award from University College

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Claire Solomon, Special Recognition for Excellence in Mentoring from the Graduate Student Senate in Arts & Sciences

Gary J. Miller, professor of political science, is the recipient of the Arthur Holly Compton Faculty Achievement Award for 2010. Miller has been a member of the WUSTL faculty since 1986 and has been widely published in leading journals for more than 20 years. His research, supported by three grants from the National Science Foundation, puts cutting-edge rational choice theories to the test in lab settings to study decision-making. Miller has received numerous teaching honors including the Burlington Northern Foundation Award for Excellence in Undergraduate Education and the university’s Distinguished Faculty Award, plus he has been recognized for mentoring graduate students with a university Outstanding Faculty Mentor Award in 2004. According to his colleague William Lowry, professor of political science, Miller is “one of the most widely read, respected and recognized scholars working in political science today.” Lowry continues, “He is also an extremely gifted teacher, an amazingly dedicated mentor of graduate students and an esteemed colleague and friend.”
SELECTED PUBLICATIONS

Anthropology


Erik Trinkaus, co-author with Hong Shang, *The Early Modern Human* from *Tianyuan Cave* (Texas A&M University Press, 2010)

Art History and Archaeology


Asian and Near Eastern Languages and Literatures


Classics


Earth and Planetary Sciences

Katharina Lodders and Bruce Fegley Jr., *Chemistry of the Solar System* (Royal Society of Chemistry, 2011)

Economics


A sweeping account of the evolutions of empire from the ancient Romans to the 20th century. Parsons uses examples from ancient Rome, Britain’s “new” imperialism in Kenya and the Third Reich to parse the features common to all empires, their evolutions and self-justifying myths, and the reasons for their inevitable decline. Writing from the perspective of the common subject rather than that of the imperial conquerors, Parsons offers a historically grounded cautionary tale rich with accounts of subjugated peoples throwing off the yoke of empire time and time again. In providing an accurate picture of what it is like to live as a subject, *The Rule of Empires* lays bare the rationalizations of imperial conquerors and their apologists and exposes the true limits of hard power.

Education

William F. Tate, co-editor with Karen King and Celia Anderson, *Disrupting Tradition: Research and Practice Pathways in Mathematics Education* (NCTM, 2011)

Germanic Languages and Literatures

Paul Michael Lützeler, *Hermann Broch und die Moderne* (Fink, 2011)


English


April 2010 through March 2011

History

Derek Hirst, co-author with Steve Zwicker, The Cambridge Companion to Andrew Marvell (Cambridge University Press, 2010)

Peter Kastor, William Clark’s World: Describing America in an Age of Unknowns (Yale University Press, 2010)

David Konig, co-editor with Paul Finkelman and Christopher Allan Bracey, The Dred Scott Case: Historical and Contemporary Perspectives on Race and Law (Ohio University Press, 2010)

Philosophy

Anne Margaret Baxley, Kant’s Theory of Virtue: The Value of Autocracy (Cambridge University Press, 2010)


Physics

Ken Kelton, co-author with Alan Lindsay Greer, Nucleation in Condensed Matter: Applications in Materials and Biology. Pergamon Materials Series (Elsevier, 2010)

Craig Monson, Music Nuns Behaving Badly: Tales of Music, Magic, Art, and Arson in the Convents of Italy (University of Chicago Press, 2010)

Monson’s investigation of nuns in 16th- and 17th-century Italy who circumvented authority in a variety of ways has gained critical acclaim from scholars and wide interest from the general public. His research uncovers a fascinating history, including stories such as the attempt of an entire community of women to flee their cloister by setting fire to it. In addition, the history Monson uncovers sheds an interesting light on modern religious women—whose “misbehavior” in seeking ordination as priests or objecting to the practices of their churches—continues today.

Political Science

Mona Lena Krook, co-editor with Sarah Childs, Women, Gender and Politics: A Reader (Oxford University Press, 2010)

Co-editor with Fiona Mackay, Gender, Politics and Institutions: Towards a Feminist Institutionalism (Palgrave, 2011)


Psychology


Romance Languages and Literatures

William Acree, Jacinto Ventura de Molina: Los caminos de la escritura negra en el Rio de la Plata (Iberoamericana, 2010)

J. Andrew Brown, Cyborgs in Latin America (Palgrave McMillan, 2010)


Mabel Moraña, La escritura del limite (Iberoamericana, 2010)

Mabel Moraña and Brett Gustafson, Rethinking Intellectuals in Latin America (Iberoamericana, 2010)

Ignacio Sánchez Prado, with Ana Peluffo, Entre Hombres: Masculinidades del siglo 19 latinoamericano (Vervuert, 2010)

Akiko Tsuchiya, Marginal Subjects: Gender and Deviance in Fin-de-Siècle Spain (University of Toronto Press, 2011)

Collette Winn, editor, Teaching French Women Writers of the Renaissance and Reformation (Modern Language Association, 2011)
**SELECTED EXTERNAL GRANTS AND FELLOWSHIPS**

**Anthropology**
- Jane Phillips-Conroy, $340,900 from NSF for "A Multidisciplinary Field Based Study of the Little-Known Kinda Baboon (Papio cynocephalus kindae)"
- Michael Frachetti, $35,000 from NSF for "High Risk Archaeology along the Inner Asian Mountain Corridor: Investigating the Earliest Development of Mobile Pastoralism in the Zamin Mts. of Uzbekistan"
- Michael Frachetti (with graduate student Lynne Rose), $18,830 from Michael Frachetti
- Asad Ahmed, Mellon Fellowship from Institute for Advanced Study, Princeton University
- Asad Ahmed, Ahmet T. Karamustafa (History) and Jon McGinnis (UML), $175,000 for 2-year Andrew W. Mellon Sawyer Seminar on the Comparative Study of Cultures for "Graeco-Arabic Rationalism in Islamic Traditionalism: The Post Classical Period (ca. 1200-1900 CE)"
- Rebecca Copeland, $150,000 for 2-year Andrew W. Mellon Foundation Sawyer Seminar on the Comparative Study of Cultures for "Japan Embodied: New Approaches to Japanese Studies"
- Jamie Newhard, Fellowship for University Teachers from NEH for "A Market of Their Own: Books for Women in Early Modern Japan"
- Mohammad Warsi, $25,000 from South Asia Language Resource Center, University of Chicago for Urdu textbook and online website

**Art History and Archaeology**
- Angela Miller, Terra Foundation for American Art Visiting Lecturer at John F. Kennedy Institute for North American Studies, Freie Universität Berlin
- Carolyn Sargeant (with graduate student Jessica Ruthven), $19,808 from NSF for "Ethnographic Research on Knowledge Production and Applied Theater in Post-Apartheid South America"
- Corinna Treitel, $306,000 from DOE for "Building of the Aswan High Dam in Egypt, 1956-71"
- Randall Korotev, $92,500 from NASA for "NRA/NASA Earth Science, $113,802 from DOD for "Materials: Implications for Environment, Culture, and Societies for "The Development of a Position""""
- David Freidel, (with graduate student Mary Jane Acuna), $19,639 from NSF for "Monitoring the Development of Early Kingship at El Achiotal"
- Fiona Marshall, (with graduate student Abigail C. Smith), $15,600 from NSF for "Subsistence and Specialization in the Inland Niger Delta, Mali"
- Laura Schaefer, Fellowship at the American Academy in Athens, Hellenic Studies for the spring 2011, $533,178 from NASA for "NRA/NASA Earth Science, $398,000 from NASA for "Collaborative Research: A Community Resource for Business Network, Inter-Andes), $125,000 from Resource Walls by REDOR NMR"
- Erik Herzog, $2,000 from Society for Neuroscience for St. Louis Chapter Proposal
- Jonathan M. Chase, $1.6 million from Howard Hughes Medical Institute for HHMI Professors Program
- Kathryn Miller and John Russell, $1 million from the Amgen Foundation for the Amgen Scholars Program
- Corinna Treitel, $306,000 from DOE for "Building of the Aswan High Dam in Egypt, 1956-71"
- Randall Korotev, $92,500 from NASA for "NRA/NASA Earth Science"
- William Buhro, $420,000 from NSF for "Semiconductor Nanowires for Efficient Transportation of Energy and Charge"
- Michael Gross, $250,000 from NSF for "High Energy Collisional Activation in an FTICR for the Study of Large Biomolecules"
- Liviu Mirica, $113,802 from DOD for "Specific Inhibitors of Histone Demethylases. Novel Chemical Agents for Breast Cancer Therapy"
- Kevin Moeller, $53,000 from Syngenta Crop Protection for "Electrochemical of Metabolife Reactions”
- David Konig, $113,802 from DOD for "Specific Inhibitors of Histone Demethylases. Novel Chemical Agents for Breast Cancer Therapy"
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Classics
Ryan Platte, selected as fellow-in-residence at the Center for Hellenic Studies for the spring semester 2012

Susan Rotroff, Fellowship at the American Academy in Athens

Earth and Planetary Sciences
Bruce Fegley and Laura Schaefer, $250,000 from NASA for “Chemical Equilibrium Calculations Ionian Volcanic Gas Composition”

David Fike, 5-year, $875,000 Packard Fellowship from David and Lucile Packard Foundation

$395,320 from NSF for “Collaborative Research: Shallow Sea Hydrothermal Systems: Micron-scale Sedimentary Sulfur Cycling and Its Impact on Ocean Processes”

$151,223 from NSF for “SIMS Analysis of Carbonate-Associated Sulfate: Toward Building a $34S Record of Individual Carbonate Grains and Fossils”

Anne Hofmeister, $47,050 from NSF for “Collaborative Research: A Laboratory Experimental Study of Astronomical Dust Analogs at Ultraviolet-Visible Wavelengths”

Bradley Jolliff, $256,994 from NASA for “Moonrise: A Lunar South Pole - Aitken Basin Sample Return Mission”

Randall Korotov, $8,096 subaward from Rutgers University for “Isotope Systematics in Lunar Materials: Implications for Mobility and Lunar Transport”

William McKinnon, $30,000 from NASA for “NRA/NASA Earth Science and Space Science Fellowship Program”

$30,000 from NASA for “Topographic Analysis of Impact Craters on Ganymede and Enceladus and Comparison to Viscous Relaxation Models”

Alian Wang, $398,000 from NASA for “Experimental Investigations of Sulfates Relevant to Mars: Stability Fields Phase Transition Pathways, and Reaction Rates”

Douglas A. Wiens, $173,894 from NSF for “Geophysical Study of Ice Stream Slick-Slip Dynamics”

Douglas A. Wiens and Michael E. Wyssession, $454,846 from NSF for “Superior Province Rifting Earthscope Experiment”

Michael Wyssession, $59,388 subaward from Carleton College for “On the Cutting Edge: A Community Resource Transforming Geoscience Education”

Economics
Steven Fazzari, $92,500 from Institute for New Economic Thinking for “Resurgence of Keynesian Macroeconomics: New Perspectives”

Sebastian Galiani, with Marcela Menéndez (Universidad de los Andes), $125,000 from Resource for Business Network, Inter-American Development Bank for “Formalization and Transaction Costs”

Sebastian Galiani, with Ernesto Schargrodsky (Universidad Torcuato Di Tella), $420,000 from Research Network, Research Department, Inter-American Development Bank for “Land Markets in Latin America and Caribbean Cities”

NEW AWARD RECIPIENTS

English

Germanic Languages and Literatures
Matthew Ertin, Fellowship for University Teachers from NEH for “Necessary Luxuries: German Literature and the World of Goods, 1770-1815”

History
Gerald Izenberg, 2-year Emeritus Fellowship from Andrew W. Mellon Foundation

Ahmet T. Karamustafa, Asad Ahmed (ANELL) and Jon McGinnis (UMSL), $175,000 for 2-year Andrew W. Mellon Sawyer Seminar on the Comparative Study of Cultures for “Greco-Arabic Rationalism in Islamic Traditionalism: The Post Classical Period (ca. 1200-1900 CE)”

David Konig, Summer Fellowship from International Center for Jefferson Studies for “Nature’s Advocate: Thomas Jefferson and the Discovery of American Law”

Nancy Reynolds, Fellowship from American Council of Learned Societies for “Pyramid for the Living: The Politics of Environment, Culture, and National Development in the Building of the Aswan High Dam in Egypt, 1956-71”

Corinna Treitel, Fellowship for University Teachers from NEH for “Necessary Luxuries: German Literature and the World of Goods, 1770-1815”

Mathematics
John McCarthy, $253,000 from NSF for “Operator Theory and Complex Analysis”

Richard Rochberg, $182,355 from NSF for “Problems in Function Theory and Operator Theory”

Music
Patrick Burke, Fellowship from NEH for “What’s My Name? Rock, Race, and Revolution in the 1960s”

Philosophy
Anne Margaret Baxley, Charles A. Ryskamp Research Fellowship from the American Council of Learned Societies, funded by the Andrew W. Mellon Foundation, for “Happiness and Its Value in Kant’s Ethics”
Carl Craver, $110,000 from NEH for “Discovering Mechanisms: Strategies from the History of Biology”

John Heil, Fellowship for University Teachers from NEH for “The Ontological Turn”

Physicists

Mark Alfard, $150,000 from DOE for “Collaborative Research: Neutrinos and Neucleosynthesis in Hot Dense Matter”

Thomas Bernatowicz, $1.125 million from NASA for “The Formation and Evolution of Carbonaceous Stardust”

W. Robert Binns, $1.02 million from NASA for “CALET: US Team Support for Mission Development”

James Buckley, $298,310 from NASA for “Search for Dark Matter Annihilation in Subhalos with Fermi and Veritas”

Willem H. Dickhoff, $495,000 from NSF for “Green’s Functions and the Nuclear Many-Body Problem”

Christine Foss, $368,000 from NASA for “Characterization of Silicate Stardust Grains in Primitive Meteorites”

W. Robert Binns, $1.02 million from NASA for “Search for Dark Matter Annihilation in Subhalos with Fermi and Veritas”

Kenneth F. Kelton, $640,600 from NASA for “Research in the Physical Sciences on Sounding Rockets and the ISS”

The National Science Foundation has awarded $1.65 million to a project led by Washington University in St. Louis physicist Kenneth F. Kelton, Arthur Holly Compton Professor of Arts & Sciences and chair of physics, to build an electrostatic levitation chamber that will be installed at the Spallation Neutron Source in Oak Ridge National Laboratory in Oak Ridge, Tenn. Kelton has many projects in mind for the new instrument but a priority is using it to further investigate a phenomenon called the glass transition, which is the phase transition of a liquid to a viscous liquid and then a rigid structure. Although glasses have been known and used for centuries, scientists still don’t fully understand the physics underlying glass formation.

Physics

James Schilling, $60,843 subcontract from University of Chicago for “Magnetism at High Pressures”

Clifford Will, $386,500 from NSF for “Relativistic Gravitation and Astrophysics”

Political Science

Brian Crisp, Fulbright Scholar Grant, Council for International Exchange of Scholars

Steven S. Smith and James L. Gibson, $251,525 from NSF for “Majority Rule and Minority Rights: A Panel Study of Democratic Values and Attitudes Toward the Senate Filibuster among the American Public”

Jeff Gill, $189,276 from NSF for “Collaborative Research: Identifying Structure in Social Data Models Using Markov Chain Monte Carlo Algorithms”

Mona Lena Krock, $635,244 from NSF for “Gender Quotas and Women’s Political Representation”

Ian MacMullen, Spencer Postdoctoral Fellowship from National Academy of Education

Ryan T. Moore, 2-year Robert Wood Johnson Fellowship at the University of California—Berkeley

Andrew Rehfeld, Fulbright Visiting Research Chair in the Study and Practice of Federalism, McGill University

Psychology

Deanna Barch, $335,382 subcontract from University of California—Davis for “Brain-based Measures for Treatment Development of Impaired Cognition in Schizophrenia”


Todd Braver, $2,500 from Ewing Marion Kauffman Foundation for “Mechanisms of Cognitive Control”

Brian Carpenter, $1,980 from Missouri Arts Council for “Aging Artists”

Thomas Rodebaugh, $418,000 from National Institute of Mental Health for “Behavioral Economic Assessment of Interpersonal Impairment in Generalized SAD”

Simine Vazire, $50,000 from NSF for “Blind Spots and Bright Spots in Self-Knowledge”
ARTS & SCIENCES DISTINGUISHED ALUMNI AWARDS 2011

The Distinguished Alumni Awards honor Arts & Sciences graduates who have exemplified the ideals embodied by an Arts & Sciences education and have brought honor to Washington University through their lives, work and service. During the traditional awards ceremony, the honorees share personal stories about the impact of their educational experiences on their lives and accomplishments.

Robert C. Adler
AB ’72, DMD ’76

As an undergraduate anthropology major, Robert Adler conducted research on cell membrane changes during severe blood loss (hypovolemia). He graduated from the School of Dental Medicine, was an adjunct faculty member there and practiced dentistry before going to UCLA as co-investigator on a grant studying the neuroscience of pain. He founded Pain Management Associates in Southern California and earned an MS in computer science. Since retiring in 2006, he launched an effort to build a pillar for peace in the Middle East and has worked with Palestine’s Ministry of Health to implement state-of-the-art health care. He and his wife, Alexis Deutsch Adler, support many children’s organizations—and Washington University.

Michael R. Cannon
AB ’73

Executive vice chancellor and general counsel at Washington University, Michael Cannon is immersed in the challenges confronting research universities and academic medical centers. His practice encompasses law regulating education, health care, research, technology transfer and employment. A Phi Beta Kappa student, he was an economics major. He was a Rhodes Scholar at Oxford University before taking his law degree at Yale, served as a federal prosecutor in Washington, D.C., and then went into private practice. He became a partner at two prestigious law firms, and then joined the university in 1993. He created—and teaches—a course in insurance law and mentors students competing for postgraduate fellowships and scholarships.

Deborah A. Freund
AB ’73

A classics major in Arts & Sciences, Deborah Freund mastered Greek and Latin and “learned to think and be confident.” She worked with medical school professors Gerald Perkoff and Walter Ballinger. She went on to earn an MA (applied economics), a PhD (economics) and an MPH (medical care administration) from the University of Michigan. Her research has produced findings in pharmaceuticals, medical devices, health insurance and economics, pharmacoeconomics (a field she founded) and Medicaid. She has held academic executive positions at the University of North Carolina—Chapel Hill and Indiana, Rochester and Syracuse universities. She became the first woman president of Claremont Graduate University in California in fall 2010.

Stephanie Riven
BS ’69, MS ’71

As executive director of St. Louis’ Center of Creative Arts (COCA) from 1987 to 2010, Stephanie Riven created a multidisciplinary community arts center serving 50,000 people a year, providing offerings in dance, theatre, vocal music and visual art. Its programs have received many awards and were included in a book by Harvard researchers, Qualities of Quality. Her bachelor’s degree (political science) and master’s degree from Central Institute for the Deaf provided the foundation for her accomplishments and an interest in social justice. She is a visiting practitioner at Harvard’s Graduate School of Education and works with nonprofit organizations as a consultant with New York–based David Bury & Associates.

Dean’s Medal

The Dean’s Medal is awarded to a special friend whose dedication and support have been exceptional and whose leadership, advice and inspiration have served to place Arts & Sciences at the heart of one of the world’s premier universities.

Earle H. Harbison Jr.
AB ’48

Earle Harbison has excelled in memorable endeavors—from serving as a deputy director at the CIA during the time of the Cuban Missile Crisis to leading Monsanto Company as chairman and chief operating officer during its shift to agricultural biotechnology. As an undergraduate, he studied political science. While at the School of Law in 1949, he was recruited to the new Central Intelligence Agency and so completed his LLD at George Washington University. Former chairman of G.D. Searle and NutraSweet companies and a distinguished civic leader, he chairs Harbison Corporation, a family financial holding company. Emeritus trustee and past chair of the Arts & Sciences National Council, he has long supported the university and Arts & Sciences along with his wife, Susanne Groves Siegel Harbison, BSBA ’49.
MAJOR GIFTS

Sam B. Cook, prominent banker, philanthropist and former member of the board of trustees, has made a gift of $1.5 million to establish a professorship in the Department of Economics in Arts & Sciences. Initially, the gift will support a visiting professorship for scholars with expertise in macroeconomics and free market theory. Later, the position will be converted to a permanent professorship within the department. This structure will give the department valuable flexibility to identify and eventually hire an outstanding faculty member who is the best match for the program. More broadly, by adding another first-rate scholar of macroeconomic theory and free market principles to the classroom, the initiative strengthens the department’s undergraduate program in this area and supports the development of the next generation of economic leaders.

Mark S. Weil, LA ’61, E. Desmond Lee Professor Emeritus in the Department of Art History and current member of the Arts & Sciences National Council, has made a gift of $2.5 million in support of the humanities at Washington University. This gift will support Career Development Professorships in the Humanities in an effort to bring to the university a new generation of humanities scholars. These professorships will provide a competitive salary, a generous research allowance, as well as a reduced teaching load. In return, these scholars will be expected to offer seminars and lectures open to all faculty and graduate students in the humanities. These professorships will invigorate humanistic research at the university by providing a steady stream of new scholarship and will connect humanistic scholarship at Washington University to new research at other leading universities across the United States.

IN MEMORIAM

Frank J. Stadermann, 1962-2010

Frank Stadermann was a senior research scientist in physics, member of the Laboratory for Space Sciences and director of the NanoSIMS and Auger laboratories at Washington University. Stadermann had a leading role in the analysis of samples returned by NASA’s Stardust mission, which flew through the tail of comet Wild 2 in 2004, trapping dust from the comet on one collector and interstellar dust on a collector facing away from the comet. He was the first to identify true stellar grains in the cometary collector.

Stadermann was born in Heidelberg, Germany. He first came to Washington University in 1988 while he was a graduate student and used an ion microprobe in the McDonnell Center for Space Sciences to measure isotopic ratios in interplanetary dust particles, work that earned him a doctorate in physics from the University of Heidelberg in Germany in 1991. In 1996, he and his wife, Christine Floss, originally from St. Louis, were offered positions in the McDonnell Center and returned. As a colleague and friend, Stadermann was held in high regard. “Frank took a wonderful delight in research and in the application of new technologies to scientific investigation,” says Tom Bernatowicz, professor of physics. Adds Ernst Zinner, research professor of physics, “Frank was not only brilliant, he was also the most considerate and helpful person I ever knew. Whenever there was a problem, he was there to help. His cheerful nature and positive outlook was always a boost to the spirit of the whole research group. To me, he was like a second son.”

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NEW FACULTY 2010-11

BIOLOGY

David Queller, Spencer T. Olin Professor in Biology
Most recently Queller held the position of Harry Carothers and Olga Keith Wiess Professor in Natural Sciences at Rice University. His research interests include evolutionary biology, particularly the evolution of social interactions; the evolution of altruistic behavior, parent–offspring conflict; conflict and cooperation in social insects and social amoebae; mating systems and sexual selection in plants and animals; applications of population genetic and quantitative genetic methods in these areas.

Joan Strassmann, Professor
Strassmann has held the positions of Harry C. and Olga K. Wiess Professor in Natural Sciences and Department Chair of Ecology Biology at Rice University. Strassmann’s work investigates cooperative alliances that have occurred at several important steps in the evolution of life and have proven evolutionarily and ecologically very successful. Studying how these alliances came to be, how conflicts are subsumed into cooperation, what conflicts remain and how they influence sociality comprise her dominant research interests.

HISTORY

Yuko Miki, Assistant Professor
Miki earned her doctorate from New York University in May 2010. Her area of specialization is the history of the African diaspora and Latin America, and her dissertation is titled “Insurgent Geographies: Black, Indians, and the Colonization of Nineteenth-Century Brazil.”

Sowande’ Mustakeem, Assistant Professor
Mustakeem earned her doctorate from Michigan State University in 2008. Most recently she has held an appointment as Andrew Mellon Postdoctoral Fellow in History and as a visiting lecturer in the African and African American Studies program at Washington University. Her research interests include the middle passage, gender and slavery in the Americas, and diaspora/black Atlantic studies, history of medicine and violence studies.

Paul Ramirez, Assistant Professor
Ramirez recently earned his doctorate from the University of California–Berkeley and also holds degrees in the study of religion from Harvard Divinity School and Harvard College. His specialization is the intersecting histories of medicine and religion in late-colonial and early-republican Latin America. His dissertation, titled “Minerva’s Mexico: Science, Religion, and the Art of Healing in Late Colonial Epidemics,” examines the ways ritual performances, rumors and lay healing knowledge shaped the official implementation of immunization in colonial Mexico.

MATHEMATICS

Matt Kerr, Assistant Professor
Kerr received his doctorate in mathematics from Princeton University in 2003. He subsequently held positions at UCLA, the Max Planck Institut and the University of Chicago. A lecturer at Durham University (UK) since 2007, Kerr received one of the most substantial first grants awarded to a mathematician by EPSRC in 2009. His research interests lie in algebraic geometry: Hodge theory, algebraic cycles and problems at the interface of these areas with mathematical physics and number theory in particular.

Alvaro Pelayo, Assistant Professor
Pelayo earned his doctorate in mathematics from the University of Michigan in 2007. He spent a year at the Massachusetts Institute of Technology as a National Science Foundation postdoctoral fellow, then was appointed the Charles B. Morrey Assistant Professor of Mathematics at the University of California–Berkeley. His research areas are dynamical systems and symplectic geometry, and geometric aspects of partial differential equations, with a particular emphasis in the semiclassical analysis and symplectic geometry of completely integrable systems.

Minjung Kyung, Assistant Professor in Mathematics and the Center for Applied Statistics
Kyung’s research interests include Bayesian statistics, spatial statistics, nonparametric regression, and nonparametric Bayesian statistics. She earned her doctorate from North Carolina State University in 2006 with a dissertation titled “Generalized Conditionally Autoregressive Models.” Most recently, Kyung has been a postdoctoral fellow at the University of Florida–Gainesville.

PHILOSOPHY

Elizabeth Schechter, Assistant Professor in Philosophy and the Philosophy–Neuroscience–Psychology Program
Schechter earned her doctorate in philosophy from the University of Maryland in 2009 with a dissertation titled “How Many Minds: Individuating Mental Tokens in the Split-Brain Subject.” She is currently a Mellon Postdoctoral Fellow in Philosophy of Cognitive Science at the University of Oxford, and a junior research fellow at Corpus Christi College. She uses the split–brain phenomenon as a springboard for exploring issues such as the structure of consciousness, the individuation of mental tokens and the relationship between neural and psychological facts.
Best first-year experience: Moving into a 100-year-old building on Waterman Boulevard! It’s called the Little Horseshoe and it is full of transfer students like me. My first roommate was a California native psychology major and a Chinese student studying biomedical engineering. This friendly atmosphere was a wonderful introduction to Wash U.

Photo and text by Christian Frommelt (See “11 on ‘11,” page 22)