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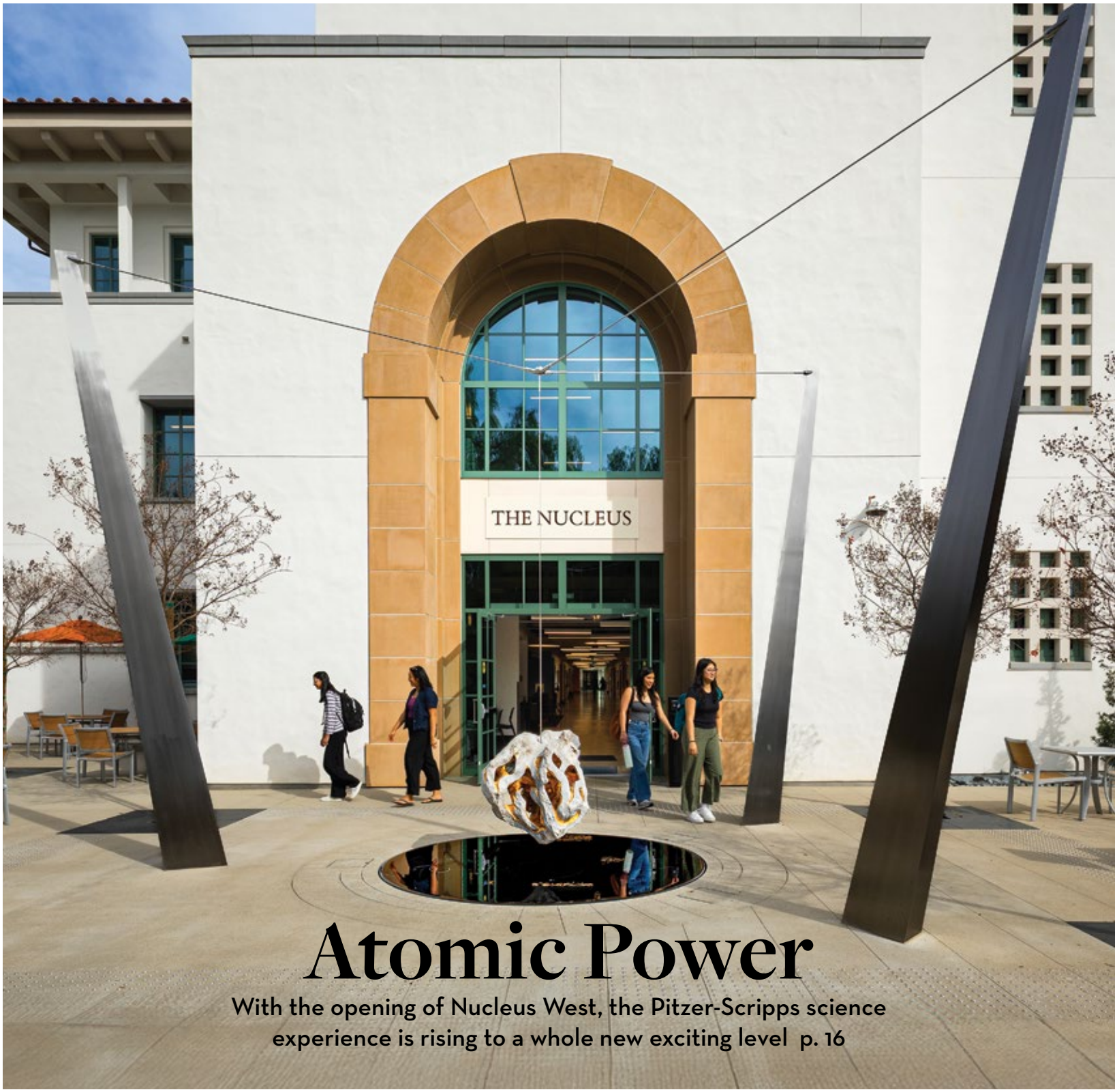
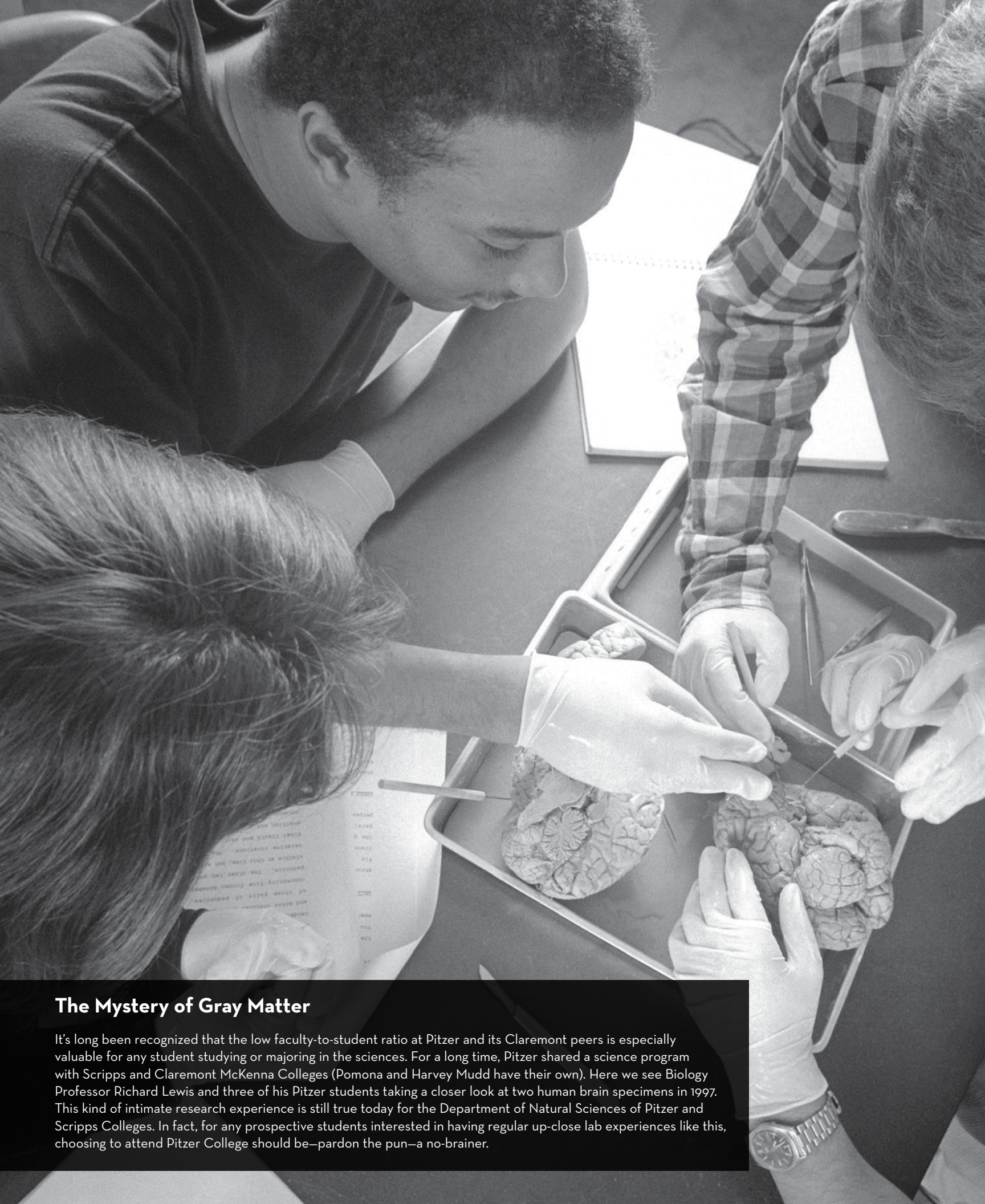
PARTICIPANT



Atomic Power

With the opening of Nucleus West, the Pitzer-Scripps science experience is rising to a whole new exciting level p. 16



The Mystery of Gray Matter

It's long been recognized that the low faculty-to-student ratio at Pitzer and its Claremont peers is especially valuable for any student studying or majoring in the sciences. For a long time, Pitzer shared a science program with Scripps and Claremont McKenna Colleges (Pomona and Harvey Mudd have their own). Here we see Biology Professor Richard Lewis and three of his Pitzer students taking a closer look at two human brain specimens in 1997. This kind of intimate research experience is still true today for the Department of Natural Sciences of Pitzer and Scripps Colleges. In fact, for any prospective students interested in having regular up-close lab experiences like this, choosing to attend Pitzer College should be—pardon the pun—a no-brainer.

When the Sciences and the Humanities Meet

Dear Pitzer Community,

Something exciting has risen next to our campus. In this issue of *Participant*, you'll learn more about our new state-of-the-art science facility and the renaming of our entire science complex as The Nucleus. Rather than use my message here to tell you about the new physical space and resources available to our students, I want to focus on something slightly different.

The Nucleus doesn't just fulfill a long-awaited dream for our science faculty; it's also a visible reminder of the special power that science has in a liberal arts setting.

We're living at a moment in history when science is being met with skepticism and its contributions are taking place in an environment that is increasingly politicized. What so many of us consider important and undeniable—climate change, for instance—is struggling to be accepted even when the data seem obvious.

But the way that science is taught at Pitzer (and Scripps) offers a powerful response to such challenging circumstances. Never before has scientific training anchored in a humanities tradition been more valuable.

A recent article in *Inside Higher Ed* suggests what that value is.

"Humanists can offer critical perspectives on the methods, aims, and impact of scientific inquiry," the article explains. "By bringing philosophical rigor, ethical sensitivity, and cultural awareness to the study of science, they contribute to a more nuanced, reflective, and socially engaged understanding of science and its role in society."

The humanities, as well as the social sciences, provide our natural science students with a vital context for understanding scientific discoveries. No discovery happens in a vacuum—unless, of course, you're talking about one of the Dewar flasks used in our laboratories—and the study of the humanities teaches students to see how scientific ideas emerge against the backdrop of important cultural and social changes.

Such an awareness adds a rich extra dimension to the work of our current students and alumni—including Dawn Barlow '16, who is helping marine life navigate human intrusion into their habitats, and Richard Ampah '25, whose linking of computers with neuroscience might lead to progress in addressing the impact of cerebral palsy on people's lives.

A holistic approach to the sciences not only adds context and challenges biases. Its greater diversity of perspectives and insights also improves and expands our understanding of the world, and of science itself.

This argument is hardly new at Pitzer. Our College has always emphasized the role of diversity and inclusiveness in the building of knowledge for the benefit of humanity. And, as this issue of *Participant* illustrates, when the sciences and humanities meet, the synergies are powerful.

Provida Futuri,

Strom C. Thacker
President
Pitzer College

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PITZER COLLEGE

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FEATURES

DEPARTMENTS

On the cover: The west-facing entrance of the Nucleus West facility features “Suspended Meditation,” a sculpture that includes an infinity pool. The sculpture, created by artist and Scripps alumna Elizabeth Turk SCR ’83, is inspired by images of disruption and seeks to blend art, engineering, and science.

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EDITOR'S MESSAGE

What I Discovered About Science at Pitzer

Interdisciplinary learning is a key to the undergraduate science experience

When I was a CMC student back in the late 1980s, I was pleasantly surprised when I took some required science coursework at Pitzer.

Why was I "pleasantly surprised"?

Because I thought each school in The Claremont Colleges had a specialized focus, and I thought Pitzer focused only on social justice and social responsibility, not science. Science was Mudd's area, right? And yet, there I was on the Pitzer campus, learning about water conservation and taking trips to explore the ecosystems of various local rivers and streams. I really enjoyed it.

That connection between the classroom and field experience gave me a taste of the way that Pitzer connects the real world with the classroom. And the emphasis that my professors put on the dangers of pollution and the impact of human development on water systems introduced me to how social responsibility can be discussed in a scientific setting.

Flash forward to last fall, when Nucleus West, a massive new building that is part of the College's science complex, opened its doors. That facility is a dramatic sign of the College's investment in science majors; it's also a visible sign—like the green department logo, which combines a Pitzer leaf with a Scripps arch (pictured above)—of a partnership with its neighbor institution to the west. Today's students have an even greater assortment of resources available than when I was an undergrad.

To get a sense of what some of those resources are, you won't want to miss reading this issue's cover story about the new building—as well as the many profiles and features about students and alumni who are pursuing exciting science careers thanks to what they learned at Pitzer. It's also a pleasure to include the personal remarks of Ulysses J. Sofia, our science dean, who shares why he became a scientist and his hopes for science students today at Pitzer (and Scripps, too).

Enjoy the issue.

Nick Owchar, *Editor*

An unexpected source for medicinal cures? Ethan Van Arnam and his team are looking at the microbes carried by ants living in the American Southwest. (WIRESTOCK - STOCK.ADOBE.COM)

FACULTY DISTINCTIONS

The World's a Laboratory

Recent faculty achievements include prestigious science grants, research in decolonial attitudes toward Russia, and much more

Seeking Cures in Unexpected Places

For his efforts in finding new antibiotics and other agents with medicinal potential, **Ethan Van Arnam** (pictured) and his lab have been awarded a three-year, $400,000-plus R15 grant from the National Institute of Health's (NIH) Institute of General Medical Sciences.

"I'm excited about all of the new work we'll be able to do as a result of the grant," said Van Arnam, who is an associate professor of chemistry in the Department of Natural Sciences, "but I'm also proud of the substantial scientific foundation that students in my research group have built that made us competitive for this funding."

Van Arnam serves as principal investigator for the three-year, NIH-funded project, "Leveraging symbiosis and desert biogeography for discovery of host-selected natural products," which aims to find new medicinal molecules in the natural world. He said the goal of his lab's research team will be to discover molecules "with medicinal potential" from a very unexpected source: the microbes that live on ants.

"We admit this is a very strange place to be searching, but microbes like bacteria and fungi have actually been a source for many transformative antibiotics, beginning with penicillin," he said. "We know there are microbes out there in nature producing molecules with the potential to treat diseases."

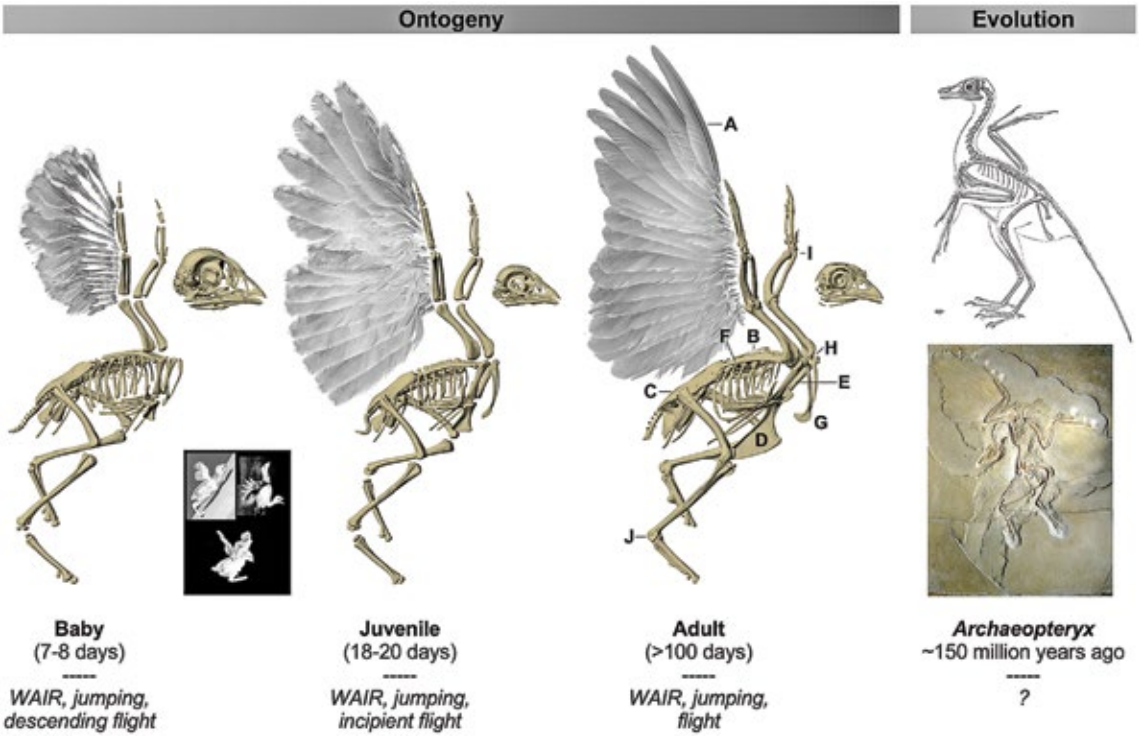
Connecting Hormones and the Brain

The National Science Foundation (NSF) awarded Assistant Professor of Neuroscience **Tessa Solomon-Lane** a $929,414 Faculty Early Career Development (CAREER) grant in 2024, which has funded a five-year research project, "Early-Life Social Environments Drive Behavioral and Neural Mechanisms of Development." Through training young scientists, the project promotes scientific literacy and knowledge about behavioral neuroendocrinology (the study of how hormones and the brain interact).

Solomon-Lane also appeared in an article at The Transmitter, a neuroscience online publication highlighting scientists studying animals outside the traditional model standard. She discussed her research on the tiny cichlid fish.

Plant Life in a Changing Climate

Professor of Biology and Environmental Science **Diane Thomson** received a $345,000 Mid-Career Advancement grant from the NSF in 2024. Her project, "Evaluating Climate Drivers of Plant Demography," studies how climate change affects plant populations. Her research informs conservation and ecological management efforts.



Ashley Heers' interest in the evolution of avian flight, which is pictured here in a study she co-authored in 2021, is the subject of her new grant from the NSF.

DNA by Another Name

The Research Corporation for Science Advancement recognized Chemistry Professor **Aaron Leconte** with a 2024 Cottrell Plus SEED Award for $60,000. Leconte is studying chemically modified forms of DNA, known as "XNA." His project is exploring how to better synthesize XNAs, which can have biotechnological applications from medical diagnostics to therapeutics. For information on Leconte's new book, see p. 38.

Studying Plant Genetics

Associate Professor of Biology **Findley Finseth** (pictured) was selected for a $420,000 grant from the NSF in 2024. The grant funds her project, "Mechanisms and Consequences of Centromere Drive in Wildflowers," for the next four years. Finseth's research investigates the evolutionary drivers of biodiversity.

How Did Birds Start to Fly?

Assistant Professor of Biology **Ashley Heers** received a 2020 NSF CAREER grant of $577,300 for a five-year project about the evolution of flight in birds. If structures evolve slowly and in incremental stages, how do organisms acquire complex structures that seem useful only in full form? In other words, what is the advantage of half a wing? Heers studies rudimentary locomotor structures in immature birds with developing wings, adult birds with reduced wings, and extinct birds with incipient proto-wings. For more about Heers, see p. 27.

Department of Defense Research

Assistant Professor of Physics **Sarah Marzen** received a grant of more than $3 million from the Defense Advanced Research Projects Agency (DARPA), a research agency of the U.S. Department of Defense. Marzen is a co-lead investigator for the project, "Hyperspectral-Hyperdimensional Engines via Ultralow-Power Resonant In-Memory-Compute Systems and Tunable Phononic Combs," which is funded through October 2027.

Seeking the Light

Assistant Professor of Chemistry **Jia-Ahn Pan** co-authored an article for *Nanoscale Horizons*. Upconverting nanoparticles (UCNPs) convert near-infrared light into visible light. Pan and his collaborators demonstrated that inorganic ligands could enhance UCNP emission and help integrate them into electrical devices. For more about Pan, see p. 26.

Digital Economics

Assistant Professor of Economics **Deepti Goel** (pictured) co-authored an article in *Review of Development Economics* that revisits a digital tool's effectiveness for a welfare program. Goel and co-authors re-examined evidence about whether the nationwide electronic fund management in the Indian employment guarantee scheme resulted in reduced expenditures. Contrary to the claim made in previously published work, they found no conclusive evidence that the digital reform led to savings to the national exchequer.

Poetry Through a Broken Lens

Professor of English and World Literature/Creative Writing **Brent Armendinger** published five poems in the fall 2024 issue of *Broken Lens Journal*, an acclaimed publication featuring poets and visual artists who are looking to stretch the limits of language and imagery.

Social Change in Education

Professor Emeritus of Sociology and Chicano/a-Latino/a Studies **José Z. Calderón** wrote a chapter about his scholar-activist experience in *The Oxford Handbook of Sociology for Social Justice*. In his chapter, "Participatory Research, Popular Education, and Action for Social Change," Calderón discusses involving participants in research and action to create radical systemic change.

Contradictions in Ancient Architecture

John A. McCarthy Professor of Classics **Michelle Berenfeld** published the article "Elite Architecture and the Late Antique Ascetic Christian Communities of Cimitile and Sohag" in the *Journal of the Society of Architectural Historians*. Berenfeld studied the construction of lavish church complexes in communities that otherwise rejected the luxury of late Roman society.

During a faculty salon in the fall, Professor Azamat Junisbai discussed his new research about public responses to Russia in the Caucasus and Central Asia, which is being funded by a U.S. Department of Defense grant.

What Do They Think of Russia?

The U.S. Department of Defense awarded a $396,000 grant to Pitzer faculty to study how Russia's war against Ukraine has impacted public opinion in the Caucasus and Central Asia. The two-year project will survey public opinion in Georgia and Kazakhstan, which were once ruled by Moscow. Sociology Professor **Azamat Junisbai** (pictured) is the project's co-lead investigator and is joined by Sociology Professor **Erich Steinman.**

Junisbai was born and raised in Kazakhstan. During a presentation to Pitzer faculty in the fall, he explained that for him the invasion "was a watershed moment that triggered a lot of soul-searching and reflection about the Soviet period, today's Russia, the role of the Russian language, and many other things."

The Joys of Jobs

Jean M. Pitzer Professor of Anthropology **Claudia Strauss** (pictured) published the article "Small work pleasures and two types of well-being" in *Economic Anthropology.* Participants in Strauss' study of U.S. job seekers described jobs they had held as "fun." Strauss investigated how wage labor can contribute to well-being beyond an income.

Organizational Learning & Human Thriving

Organizational Studies Professor **Barbara Junisbai** is a 2024–25 Signature Course Fellow in the University of Notre Dame's Institute for Ethics and the Common Good. Through the fellowship, she is designing a course to help students co-construct a local, community-centered, organizational learning praxis. For information on Junisbai's new book, see p. 39.

Eco-Terror in Literature

English and World Literature Professor **Amanda Lagji** authored the chapter "Forms of Futurity: The Entangled Temporalities of Eco-Terror in the Niger Delta" in the book *Temporalities in/of Crises in Anglophone Literatures.* Lagji shows how Isidore Okpewho's novel, *Tides,* "plots" environmental crises like the Niger Delta oil crisis as a turning point to stress urgency for action: Not just a form of slow violence, the environmental devastation should instead be understood as "slow terror."

New Associate Dean Position

Associate Professor of Biology **Sarah Gilman** was appointed associate dean for academic and strategic planning effective January 2025. Gilman's work focuses on accreditation and assessment, assisting with strategic initiatives, faculty support services, and using institutional and national data to support academic planning.

What Writing Means in a Pandemic

In a spring 2021 course, Professor of Academic Writing and Senior Director of College Writing **Andrea Scott** (pictured) guided students to do a research study about writing culture during and after the COVID-19 pandemic. Their work was recently published in the book *The Post-Pandemic Writing Center: A WLN Digital Edited Collection*. Scott co-authored the chapter with **Dominique Biondi-Morra '23, Jack Friedman '23, Ryann Liljenstolpe '24, Alexander Rodriguez '24,** and **Gabriel Sherman '23.**

A Parting Glass With Nigel Boyle

A retirement reception on May 2 during Community Weekend was held for Professor of Political Studies **Nigel Boyle** (pictured). Boyle's former students were invited to share what they have done with their Pitzer educations. That group included alumni from the Inside-Out Pathway-to-BA Program, which Boyle served as founding director of and considers his most important legacy at Pitzer.

FACULTY

In the Media

"If you want to understand how powerful the social environment is, you need an animal that responds to it in these nuanced and complex ways, and this fish can totally do that."

—Tessa Solomon-Lane, assistant professor of neuroscience, on her research on tiny cichlid fish published by *The Transmitter* *(See p. 5)*

"Scaling up climate action as smartly and efficiently as possible is imperative. This means that every climate solution should also address biodiversity, equity, water quality, and cooling. We can no longer mitigate harm. We must reverse the damage of centuries of poor decision making that treated the climate and vulnerable populations as afterthoughts."

—Susan Phillips, professor of environmental analysis and director of the Robert Redford Conservancy for Southern California Sustainability, in the *Inland Valley Daily Bulletin* about how the SoCal Earth digital tool can support better decision making *(See p. 36)*

"If we want to really change the future so that we don't keep rubbing up against injustice everywhere we turn, then we have to start where we teach and learn and create the future leaders of our country in these institutions."

—Tessa Hicks Peterson, professor of urban studies and director of Critical Action & Social Advocacy (CASA) Pitzer, discussing her new book, *Liberating the Classroom*, on KPFA-FM *(See p. 38)*

"La juventud está rebelándose. Hay una desilusión completa con los partidos demócrata y republicano." ("Young people are rebelling. There is complete disillusionment with the Democratic and Republican parties.")

—Suyapa Portillo Villeda '96, professor of Chicano/a-Latino/a transnational studies, about young people's disillusionment with voting in *Los Angeles Times En Español*

"The recent spate of violent attacks in China is a reflection of its worsening social and macroeconomic conditions."

—Hanzhang Liu, assistant professor of political studies, discussing the roots of increased violence in China in *The Straits Times*

EASY PZ

Some facts and figures about the science experience at Pitzer

50+
Full-time faculty in the Department of Natural Sciences

13
Science degree programs offered

65,000
Square feet of space for laboratories, classrooms, offices, and a greenhouse in the new Nucleus science building (see feature, p. 16)

100
Acres of protected land for the Robert Redford Conservancy for Southern California Sustainability and the Robert J. Bernard Biological Field Station, where students conduct fieldwork with faculty

12
Years since the founding of the Summer Science Immersion program thanks to a $3.6 million grant from the Howard Hughes Medical Institute (see story, p. 9)

PROGRAMS

Ready for Science?

For 12 years, first-year students have been getting ready for their undergraduate career with an intensive, week-long summer program

By TOM JOHNSON

Newly-minted high school graduates about to enter the often-confounding world of college have to start their acclimation process somewhere. For incoming first-year students with an interest in science, there is perhaps no better place to "kick the tires" of their new schools than the Summer Science Immersion Program (SScIP), which is held the week before classes commence under the auspices of the Department of Natural Sciences of Pitzer and Scripps Colleges.

The week-long program, directed for more than a decade by Marion Preest, who is Pritzker Family Foundation Professor of Biology, includes activities such as collecting and analyzing data from Bernard Field Station, attending lectures at Cal State Los Angeles, exploring Griffith Observatory, and working in the department's labs.

"The program is primarily for students from underrepresented groups in science, first-generation students, and students from under-resourced high schools," Preest said. "The students spend quite a bit of time in a chemistry lab. We get them up to the Robert J. Bernard Biological Field Station to collect water samples from the lake out there. They come back and look at the critters in the water under microscopes in the biology lab.

"The whole idea of the program is to get students comfortable with being college students," she continued, "interacting with faculty and staff, navigating their way around a science lab, and knowing that it's OK if you drop a beaker, it's not the end of the world!"

The program was started in 2013 via a large grant from the Howard Hughes Medical Institute, which included an award of $3.6 million to the five Claremont Colleges to prepare undergraduates for careers in science and medicine. According to Preest, David Hansen, the department's former dean, directed the program at the outset before she "swanned in" and took over the reins.

"Many of the elements that were in the program the first year are still around, but we have tweaked it here and there so it's not a carbon copy of what existed in year one," she explained, stressing that the ideal summer program size is about 30, which affords everyone "a comfort zone" of quality time in which to interact with faculty, program mentors, and each other.

Last summer, physics was integrated into the program for the first time, and Preest said she might mix things up a bit next year with a field trip to the Natural History Museum of Los Angeles County (which happens to be directed by former Scripps president Lori Bettison-Varga).

"We also have workshops led by various staff and faculty," Preest said. "Patrick Sharp, who is chair of the Cal State Los Angeles Department of Liberal Studies, participates every year with research on representation of gender and race in science fiction. The students love his workshop."

For Marion Preest, the immersion program's director, the aim is "to get participants comfortable with being college students ... navigating their way around a science lab."

Each year, the summer immersion program engages six alumni of the program to assist students as peer mentors, which, in Preest's view, is critical to the program's success. Sarai Ortega, a CMC alumna who participated in the program in 2019, served as a peer mentor and developed a workshop, "The Science of Learning."

"SScIP was a highlight of my college experience," said Ortega. "I was able to connect with students from CMC, Scripps, and Pitzer before most students were even on campus. We were able to meet science faculty and take introductory classes in biology and chemistry to ease us into the curriculum. By the end of the week, I had friends I could rely on throughout my next four years. Many of us would study together for our science courses, knowing we were experiencing similar feelings of imposter syndrome and anxiety around succeeding in these classes. The summer program provides students with a huge network willing to help at any point, even post-graduation."

For the past year, Ortega has been living in Huehuetenango, Guatemala, working as a Fulbright English teaching assistant and has just been accepted to medical school.

"It feels surreal to start medical school next year, knowing how nervous I felt about starting the pre-med journey my freshman year," she said. "I am endlessly grateful to my SScIP community for the support they gave me. I truly would not be in this position without them!"

"I hope that the research I am part of produces the foundational knowledge that is needed to inform policies that shape and drive conservation management," said Dawn Barlow '16, a member of Oregon State University's Marine Mammal Institute.

ALUMNI

The Biology of Making a Difference

Dawn Barlow '16 is conducting research and analysis in the Pacific Ocean that is shaping policies to preserve vital marine mammals

By MARK CROMER

Diving deep into the waters of New Zealand to establish a better understanding of a previously suspected but unconfirmed population of blue whales may sound like a Jacques Cousteau adventure, but for Dawn Barlow '16, it's another day at work deciphering mysteries that are critically important to keeping the ocean's endangered majestic giants on the planet.

A postdoctoral scholar at Oregon State University's Marine Mammal Institute, Barlow and her colleagues at the institute's Geospatial Ecology of Marine Megafauna Laboratory have identified, studied, and reported on a unique whale population. The institute's Leigh Torres first theorized in 2013 that blue whales might be foraging krill in feeding grounds in the South Taranaki Bight region of New Zealand, an area that faces accelerating and expanding effects of energy exploration and ship traffic.

"My field of research involves exploring the relationships between marine mammals and their ecosystems, to better understand their biology and the threats that are posed by human impacts to those ecosystems," Barlow said. "I hope that the research I am part of produces the foundational knowledge that is needed to inform policies that shape and drive conservation management."

The human interface with whales has traditionally not

Barlow and her colleagues have logged many hours helping blue whale populations avoid the impact of development. (WHALE PHOTOS COURTESY OF GEMM LAB, OREGON STATE)

favored the oceangoing mammals, and blue whales had been hunted to the edge of extinction as the 20th century got underway. But Barlow and her fellow travelers in the fields of marine biology and public policy are providing key data and takeaways that can form the basis for best practices in preserving the endangered leviathans.

"We have been studying a population of blue whales to understand and document their distribution, ecology, feeding, and reproduction, so that we can also understand the potential impacts of industrial activity," she said. "Now, we're also focusing on the impacts of climate change on the health and resilience of these whales and the ecosystem they rely on."

It has been a journey for Barlow that began in many respects at Pitzer College, which she said she intentionally chose over the bigger R1 universities in marine biology. The focus of many R1 universities extends far beyond teaching to put a high emphasis on groundbreaking research. Barlow was interested in something else.

"I chose Pitzer because I wanted to attend a college that really offered a focus on education. I was interested in having a holistic, well-rounded foundation that would prepare me for the research I would undertake during my graduate studies and beyond, and Pitzer provided me with that experience," she said.

She fondly recalled how her undergraduate studies prepared her for post-graduate studies and laid the groundwork for success in her professional endeavors on the high seas.

"I was a double major at Pitzer, in organismal biology and environmental policy, which prepared me to pursue a career in marine conservation research," Barlow said, adding that Pitzer faculty Sarah Gilman, Elise Ferree, and Brinda Sarathy were inspirational educators during her time at the College. "The biology major provided me with the background in science that I would need, and the environmental analysis major would lay the groundwork for the policy impacts my research could produce. I am really grateful for the breadth that Pitzer and its programs afforded me on both counts."

As the energy industry continues to envelope the planet with both traditional extraction and emerging platforms such as offshore "wind farms"—currently a relatively small global footprint that is projected to expand significantly in the near future—Barlow said she is studying this situation closer to home.

"The biology major provided me with the background in science that I would need, and the environmental analysis major would lay the groundwork for the policy impacts my research could produce. I am really grateful for the breadth that Pitzer and its programs afforded me on both counts."

—Dawn Barlow '16

"I am also involved in research on marine mammals and seabirds of the U.S. West Coast in light of potential offshore wind energy development," she said. "You can't understand potential impacts on these species without robust information on when and where they occur—that is the important foundational scientific knowledge that we are collecting and synthesizing."

While her current research is regionally focused, the findings that the studies produce will most certainly be crucial in easing the weight of humanity's presence on the planet.

"It can be challenging to be in a field of research studying human impacts on ocean ecosystems and the species that rely on them because the impacts are everywhere. At times, it can be disheartening," Barlow said. "But enhancing our understanding of these species and ecosystems at local or regional scales and building local partnerships goes a long way, alongside understanding the large-scale impacts of climate change and considering global-scale challenges and solutions. We really are all in this together."

AROUND THE MOUNDS

The Tribe Has Spoken

The student club Survivor: Claremont has turned reality television into real-time fun. Based on the CBS hit series, the club incorporates mental and physical challenges, negotiations, and plot twists. Although a Pitzer student founded Survivor: Claremont, the club has since grown to include students from all The Claremont Colleges, many of whom are science, technology, engineering, and mathematics (STEM) students … and a cardboard cutout of TV host Jeff Probst to boot.

The "Survivor" television series leaves castaways at an isolated location to compete for a million-dollar prize. What does the competition look like in the student version?

"The prize is bragging rights, the joy of victory!" declared **George Zhang '25**, a human biology major and the executive producer for the club. "We're mirroring the 'Survivor' experience for the superfans who say, 'This is something I've always wanted to do, except I don't think I could last on an island without my bed.' "

Instead of putting student participants out in the Claremont wilderness, the club focuses on challenges and team building.

Zhang joined Survivor: Claremont as a contestant after mathematics and statistics major **Will Pakenas '24** founded the club in 2022. Zhang soon made the club his passion project. It enables him to "take a step back from the academic sphere of numbers and graphs."

Zhang spends hours in the lab, and the club has allowed him to innovate in a different way.

"It's one of my creative outlets," he said. "There's a lot of creativity in science that I also appreciate, but this is a different type of creativity. It's less about planning hypotheses and experiments and more about understanding how these people interact."

Survivor: Claremont's crew has many roles: writing clues, filming, organizing materials, and hiding immunity idols. The executive team members oversee these efforts, including biochemistry major **Amber Mogg '26**. Most of the executive team are STEM majors, which Mogg said is unique compared to Survivor clubs at other universities that are run by film studies majors. Like Zhang, Mogg enjoys flexing her creative muscles.

"It's been nice to have a place where we can do lots of crafting and thinking on our feet and problem-solving to make our club as fun as possible," said Mogg.

Survivor: Claremont features plenty of physical challenges that send teams all over the campuses of The Claremont Colleges.

Pitzer Community Response to January Wildfires

During the wildfire crisis that struck Los Angeles County in January, Pitzer College community members mobilized to support each other. Human Resources and Student Affairs reached out to employees and students from impacted areas. The Gold Student Center was available to all Pitzer and Claremont Colleges employees and their families who needed a temporary landing spot. Pitzer and The Claremont Colleges Services provided other forms of help, including opening access to Pitzer's Demo Kitchen and offering emotional support, housing support, and financial assistance.

In a message to the community, President Strom C. Thacker expressed gratitude "for the care and compassion this community shows for itself and the wider world around us."

Pitzer's physical campus remained safe. Damage from the high winds was minimal and limited mostly to downed tree limbs. Despite the relative safety of Claremont, many in the region and community were less fortunate. Several had to evacuate their homes, and some saw their homes and those of their family members directly impacted by the fires. Students who experienced financial hardship due to the fires were eligible to apply to the Student Emergency Fund.

To directly assist students in need, interested community members can designate the Student Emergency Fund when making a gift to Pitzer. For those who wish to support displaced faculty and staff, contributions can also be made to the Pitzer Fund, which supports the College's annual budget, including unexpected expenses like those caused by the recent fires.

Find more information about resources: www.pitzer.edu/messages/wildfire-resources.

Lawyers Sumangala Bhattacharya, Sharilyn Nakata, and Isabelle Thacker (back, from left) and Claremont Canopy Director Christy Anderson (back, third from right) were joined for a group selfie by students from Pitzer and the other Claremont Colleges for a special legal clinic to assist local refugees.

Legal Clinic Offers Expertise and Lessons for Refugees and Students

For many refugees, the road to citizenship is long and arduous. But last fall at Pitzer College, a group of refugees found help. The College partnered with Claremont Canopy, a local organization that serves refugee families in the Claremont area, to host a free legal clinic.

A trio of lawyers—**Isabelle Thacker**, Professor **Sumangala Bhattacharya**, and **Sharilyn Nakata**—worked with primarily Syrian families. They also supervised undergraduates from Pitzer and the other Claremont Colleges in working on the green card application process and communicating with families.

"There are a number of agencies that do work with low-income people on applications like this, but the lines are long, and immigrants can be preyed on by unscrupulous lawyers," said Thacker, an immigration rights lawyer who arrived at Pitzer in 2023 with husband Strom C. Thacker, the College's seventh president. "We wanted to create a situation in which they could feel safe and get the help they needed."

New VP for Academic Affairs and Dean of Faculty

Pitzer College has selected **Chawne Kimber** as vice president for academic affairs and dean of faculty, effective July 1. Kimber comes from Washington and Lee University, where she served as the dean of the college. She was previously a professor and head of the Mathematics Department at Lafayette College, where she fostered inclusivity and innovation in STEM education. Kimber is also an acclaimed textile artist who has exhibited at prestigious institutions, including the Smithsonian American Art Museum.

Turning a New Leaf

In January, an Italian Stone Pine tree fell after high winds and caused damage to Broad Hall. Following an arborist's recommendation, Facilities & Campus Services removed three more non-native Italian Stone Pine trees from the Mounds in early February. Students hosted several celebrations on the Mounds to memorialize the trees, including a live DJ set. Pitzer's Sustainability Committee and Facilities quickly collaborated to plant new native trees (11 Western Sycamores and 4 Coast Live Oaks) during spring break.

Sia Were '25, Ramya Herman '25, and CEC Program Coordinator Tim Lewis visited San Dimas High School to lead a conversation about college prep with the school's Black Student Union. That visit led to other ways to work with the high schoolers and help them develop support systems as they prepare for college.

Mentoring High School Students of Color

Visiting Assistant Professor of Organizational Studies **Marilyn Grell-Brisk** collaborated with students in Pitzer's Black Student Union (BSU) and Community Engagement Center (CEC) to host the San Dimas High School Black Student Union on campus in the fall.

CEC fellows in the Educational Access and Amplifying Black Communities (ABC) programs partnered to welcome the San Dimas students. They included Educational Access fellow **Sia Were '25** and ABC fellows **Ramya Herman '25**, **Corrine Waters '26**, and **Rahim Chilewa Jr. '27**. Grell-Brisk is the faculty advisor for ABC.

Were, Herman, and CEC Program Coordinator **Tim Lewis** first visited the high school to lead a conversation about college prep. They also discussed the differences between a predominantly white institution versus a historically white institution and how to build a support system for people of color who are first-year college students.

The San Dimas High School BSU students visited Pitzer's campus and participated in information sessions, a workshop on writing a personal statement, a "real talk" lunch with current Black students at The Claremont Colleges, a campus tour, and a human-centered design session held in Pitzer BSU's affinity space.

Former NFL Linebacker Shaquem Griffin Brings a Message of Perseverance to Commencement 2025

Shaquem Griffin, an accomplished football player who made history as the NFL's first-ever one-handed player and who now seeks to inspire others to overcome adversity, was chosen as keynote speaker for Pitzer College's Commencement 2025 ceremony held this spring.

As a child, Griffin experienced a rare condition called amniotic band syndrome, and his left hand had to be amputated. His family supported him and encouraged him to face every challenge with determination. In college, he was selected as first-team All-American Athletic Conference linebacker, AAC Defensive Player of the Year, and National Champion and Peach Bowl MVP.

In the NFL, he was a linebacker for the Seattle Seahawks from 2018 to 2020 and played for the Miami Dolphins during the 2021 season before retiring from the NFL in 2022. His story has been told in an Emmy award-winning NFL short film and in the memoir *Inseparable: How Family and Sacrifice Forged a Path to the NFL*.

"Nobody was ever going to tell me that I didn't belong on a football field," Griffin has said of the challenges he faced. "And nobody was ever going to tell me that I couldn't be great."

It is part of Pitzer tradition for the graduating class to select their commencement speaker. In addition to the speaker, graduating seniors also choose their class speaker, student marshals, and honored guest.

Watch Commencement 2025
To view Pitzer's 61st ceremony on May 17 as a livestream or video, visit www.pitzer.edu/commencement-2025

Professor Brent Armendinger and Visiting Professor Yahya Ashour during a fall poetry event at Benson Auditorium.

What the World's Silence Says

Exiled Gazan poet **Yahya Ashour** almost doesn't recognize himself in his poetry from a few years ago. His voice and style are continuously changing. That's also true of his readings; he often changes his poetry in real time, skipping lines and poems.

He did this during a reading in November at Pitzer, where he is teaching as a visiting faculty member this spring. Ashour shifts and molds his writing at every opportunity, seeking to do the impossible task of describing life in Gaza. Ashour recently published the e-book *A Gaza of Siege & Genocide*, and the proceeds assist Ashour's family in escaping the dire situation in Gaza.

"I hope that [my poems] serve as a testimony of what has been happening in Gaza and what has been happening for years," he said.

Ashour's residency is part of a College initiative to welcome Palestinian faculty to teach courses. **Jamal Al-Shareef**, a sociolinguist from Gaza, also taught classes this spring as a visiting professor.

For more on Ashour's book of poems, see the community bookshelf feature on p. 39.

Boosting Accessibility and Affordability

(RUDZHAN - STOCK.ADOBE.COM)

Pitzer College has launched a new initiative to enhance access and affordability for low- and middle-income students and their families. Prospective students applying for fall 2025 may be eligible for the Pitzer Opportunity Grant (POG).

The new grant covers 100% of tuition costs for Pitzer students whose households meet certain income and asset requirements: California students with an annual household income and family assets of $120,000 or less or who qualify for a Cal Grant will be eligible. Out-of-state students whose annual household income and family assets are $120,000 or less will also be eligible for the POG.

This coverage may apply to all four years of a student's undergraduate career as long as they maintain consecutive enrollment and meet satisfactory academic progress while at Pitzer.

For more information about the POG and other resources, visit www.pitzer.edu/financial-aid.

The opening of the Nucleus West building—brightly lighted here on a Southern California evening in early spring—realizes an expansion of the Department of Natural Sciences complex that has been eagerly anticipated by science faculty.

65,000 Feet of Science

The opening of Nucleus West is energizing the way science is studied at Pitzer and Scripps

By LISA BUTTERWORTH

Walk through any entrance of the new natural sciences center, Nucleus West, and you experience more than excellently executed architecture. You get a feeling. Sunlight streams through floor-to-ceiling windows. Tasteful science-inspired art adorns the walls. The inner workings of the various teaching laboratories can be seen from the extra-wide hallways. Students, working out equations on the communal whiteboards or studying books and tablets spread across collaborative areas, fill the space with energy.

The new building, which opened just in time for the fall 2024 semester, is the result of a partnership between Pitzer and Scripps Colleges, one that is breathing new life into the schools' science program with state-of-the-art labs, more tenured faculty, and an inspiring space designed for collaboration and community.

"We needed this building 20 years ago," said Ulysses J. "UJ" Sofia, dean of the Department of Natural Sciences of Pitzer and Scripps Colleges. But Nucleus West, which is connected by bridged walkways to the science program's original building (formerly the W.M. Keck Science Center, now known as Nucleus East), was worth the wait. "Faculty, staff, students, everybody—they're all thrilled with it," he said.

It couldn't have come at a better time.

Students in one of Visiting Assistant Professor of Biology Erin Jones' classes work side by side in one of the new laboratories in Nucleus West.

An Exciting New Chapter

Taken together, the new and older science buildings form The Nucleus, a complex that is central to the experience of the many undergraduates who choose to begin their scientific careers at The Claremont Colleges.

The opening of Nucleus West marks an important new chapter in the natural sciences program, which has been part of Pitzer since its founding in 1963. The building's 65,000 square feet are home to conference rooms, office space, outdoor gathering plazas, indoor collaborative study areas, and a rooftop greenhouse for scientific purposes. But most importantly, Nucleus West is chock-full of laboratories. Sofia said you can thank the science faculty for that.

"When they first started talking about what they wanted in this building, faculty said: 'Teaching labs. That is our No. 1 thing. That's going to benefit the students more than anything else,'" he said.

Over the last two decades, as the science program grew—originally a partnership between Pitzer, Scripps, and Claremont McKenna College—accommodations did not. Before Nucleus West opened, introductory science labs were housed in modular buildings stationed in parking lots at Pitzer and CMC that were cramped, windowless spaces with unreliable air conditioning. "So, if a student started a science major with us, it was in a remote lab, a completely uninspired environment," Sofia said.

Not so anymore. There are 16 teaching laboratories (up from 10) in the new Nucleus West building, including three brand-new additions that address the discipline's biggest areas of growth: an environmental science lab, a neuroscience lab, and an advanced physics lab.

A far cry from parking lot prefabs, these 16 labs are large with ample space for numerous workstations. Each one boasts exterior and interior windows that provide natural light as well as transparency and visibility. They are highly functional and extremely flexible, each one tailored by the specific needs of those using them.

The Decisive Influence of Faculty

"Faculty were involved in every single aspect of designing this building," Sofia said. "The faculty took ownership of their part in this, and it really did pay off. I'm not hearing any complaints, and that's kind of unheard of, especially in something as complex as a science building."

Early in the process, each lab was appointed a faculty "ambassador" who consulted with that discipline's faculty about the ideal form and features of the lab, "down to where the plugs are," said Sofia.

The results are highly functional labs for which every detail has been considered. Take, for instance, the small windows built into each of the 52 fume hoods that allow for work with toxic chemicals. "Students can see what their classmates are doing. And there's also a safety aspect to it because the faculty member has a better view into the different hoods," Sofia explained.

There are large prep spaces between labs, and not only are most of the workstations mobile, but the utilities needed—gases, compressed air, vacuum, etc.—are too.

This flexibility exemplifies the long-term thinking of everyone involved with the process. The creation of Nucleus West is the result of a broad partnership with the extended project team: Hamilton Construction, Carrier Johnson Architects, Brian Bloom Architects, HPLE; and the Pitzer and Scripps Treasurers, the Facilities Departments, Science Department faculty and staff, and Pitzer & Scripps senior leadership and the boards of trustees, especially Ken Pitzer and David Levin and the Facilities and IT Committee.

"This building can be repurposed over time as teaching and educational and functional needs change," said Patrice Langevin, Pitzer's associate vice president of facilities, capital projects, and safety. "We didn't just design for the next 20 years; we designed for the next 50 years. That was very important to the colleges—that we have a flexibility with the spaces, including wide hallways and multi-level courtyards that give us multi-function areas for learning, studying and socializing."

Upgrades in Every Area

Sustainability was also a priority in Nucleus West's design.

The paint on the interior walls is a shade lighter than the color originally chosen. But this almost imperceptible change, said Sofia, allowed a slight reduction of power in all the LED lights, making the building more energy efficient. "We had endless conversations about urinals, and how many we should have," said Sofia with a laugh, "because they're more water efficient." The building is likely to be LEED (Leadership in Energy and Environmental Design) certified and could possibly attain Gold certification, particularly commendable for a building that primarily houses laboratories.

According to Brian Bloom, whose firm designed the top floor interior build-out and is working alongside Carrier Johnson Architects and the project team for LEED certification, more than 124 sustainable features have been incorporated, including high-efficiency lighting, plumbing, and mechanical systems, fixtures, and equipment. Where possible, materials were responsibly and locally sourced.

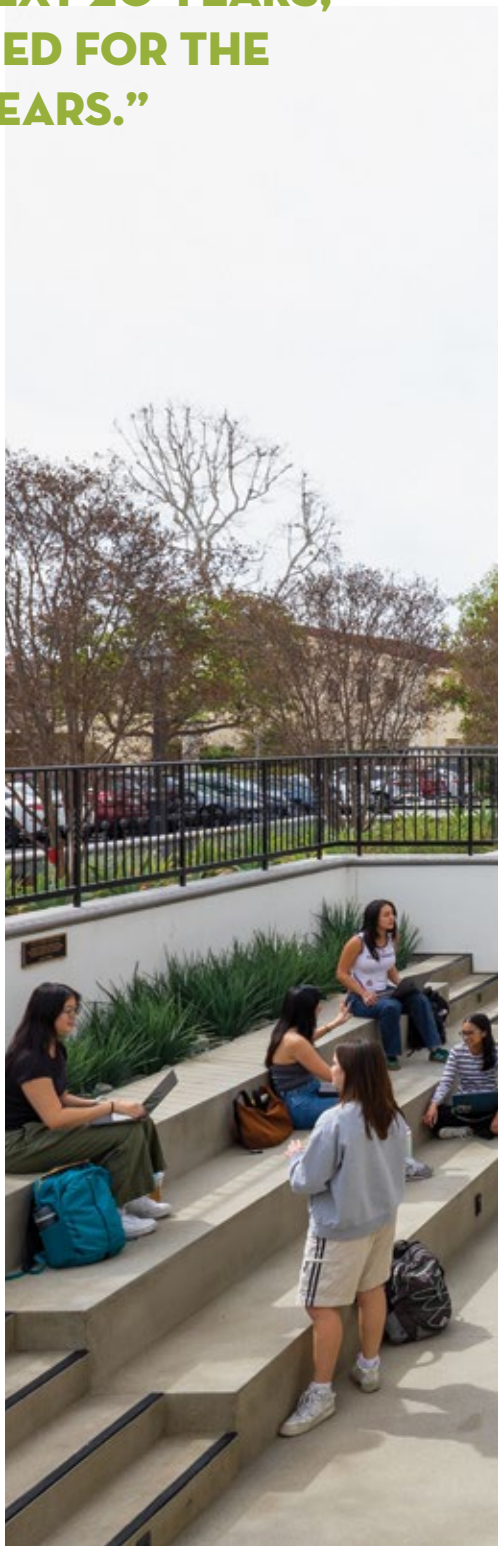
While LEED certification will be nice, Nucleus West's true distinction lies in the incredible opportunity it brings to the students in the Natural Sciences program. Enrollment was reduced by a third when CMC pulled out to create its own program, making these new resources more available for the nearly 30 percent of Scripps students and around 20 percent of Pitzer students who major in the sciences. (Sofia said the department has planned for a 10 percent increase in majors.)

In addition to the new building, lots of the department's equipment was replaced and modernized, and new instrumentation was procured.

"It was an upgrade all around when we did this move," Sofia said.

That upgrade will also include more tenure-track faculty. Because of the department's previous lack of research space, nearly half of the program's classes are taught by visiting faculty members. Now the department is aiming for a five-to-one ratio of tenure-track to visiting faculty members, which will provide more research opportunities and closer mentoring to thesis students and increased consistency for the department overall.

"WE DIDN'T JUST DESIGN FOR THE NEXT 20 YEARS; WE DESIGNED FOR THE NEXT 50 YEARS."



Internal and external collaborative spaces (like this one situated between the new and old facilities) provide ample room for students to study and interact with each other.

More Interdisciplinarity and Community

Beyond quantifiable benefits, Nucleus West amplifies something the department is built for: interdisciplinarity. Labs are structured to promote cross-pollination, and with all disciplines under one umbrella, the entire program can be examined and elevated.

"We now have the space both physically and mentally to start thinking differently about what we offer," Sofia said. "All of our disciplines are sort of taking a step back. Are these the majors that we want? Are we giving the students what they need? Are we serving all of our students as we should? There's a cascading effect."

That interdisciplinarity is deeply evident, even to someone outside of the department.

"The old building was a place you came to take a science class or two. When you come to this building, you're coming here to be part of a science community," said Bruce Mills, president of Hamilton Construction. "You'll see the undergrads come and hang out here. It really has developed a sense of community."

That is the feeling you get when you walk into Nucleus West, and it's not by accident.

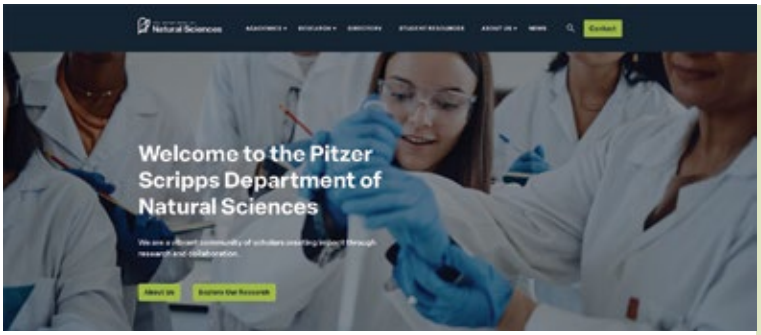
"Community is incredibly important in the sciences. Something we talked about a lot when we were designing this building was making sure it's a place where there is community," said Sofia. "It really is a part of our ethos."

It's also what gives the building life, beyond its well-designed walls and impressive laboratories.

"It all looks great, but when we actually saw students using the spaces the way we hoped they would, that was amazing," said Jaime Ortiz, principal of consulting firm HPLE. "To help the students and see them happy and working together and being collaborative made it all worthwhile."

Nucleus Photo Gallery: To learn more about the student experience at Nucleus West, view additional photos here: www.pitzer.edu/participant.

A hallmark of the science experience at Pitzer and Scripps is close interaction with faculty: Here students work with Physics Education Specialist Tiziana Di Luccio during a lab session.



THE DEPARTMENT OF
Natural Sciences
OF PITZER & SCRIPPS COLLEGES

Introducing Science's New Online Home

Besides a state-of-the-art facility and a rehab of the older one, the Department of Natural Sciences at Pitzer and Scripps Colleges is getting something else, too: a brand-new website.

The new site showcases the department's various programs, faculty, and student resources in a sleek, new, user-friendly format.

The result of a collaboration between the department and Pitzer's Office of Communications, the new site enables current and prospective students to access a robust menu of information about majors, research opportunities, and the many labs where faculty are making exciting discoveries. The site also demonstrates how aspiring scientists can find mentorship and support with our world-class faculty in biology, chemistry, physics, neuroscience, environmental science, and more.

Explore the new website at www.natsci.claremont.edu.

▲Long corridors run the entire length of Nucleus West and have been designed for mixed use, including study alcoves, storage, and other meeting spaces.

◀A speedy transformation: Hamilton Construction kept progress moving so that Nucleus West turned from a scaffold-covered work in progress to a ready facility in a short time.

Inside Nucleus West: Design Features

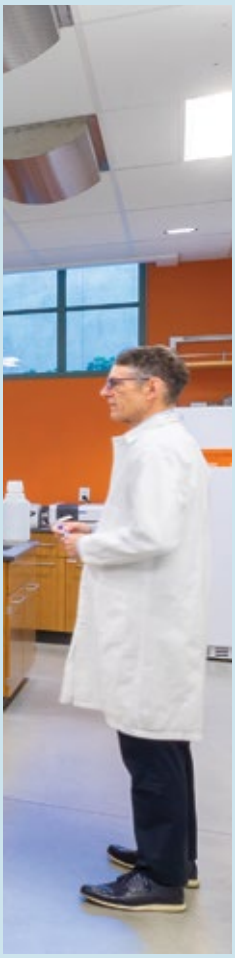
The new facility presents a perfect blend of sleek design and optimum functionality

Labs and Classrooms by Design

The faculty of the Department of Natural Sciences provided feedback used by the architects and builders to ensure features in their labs were set up in optimal configurations.

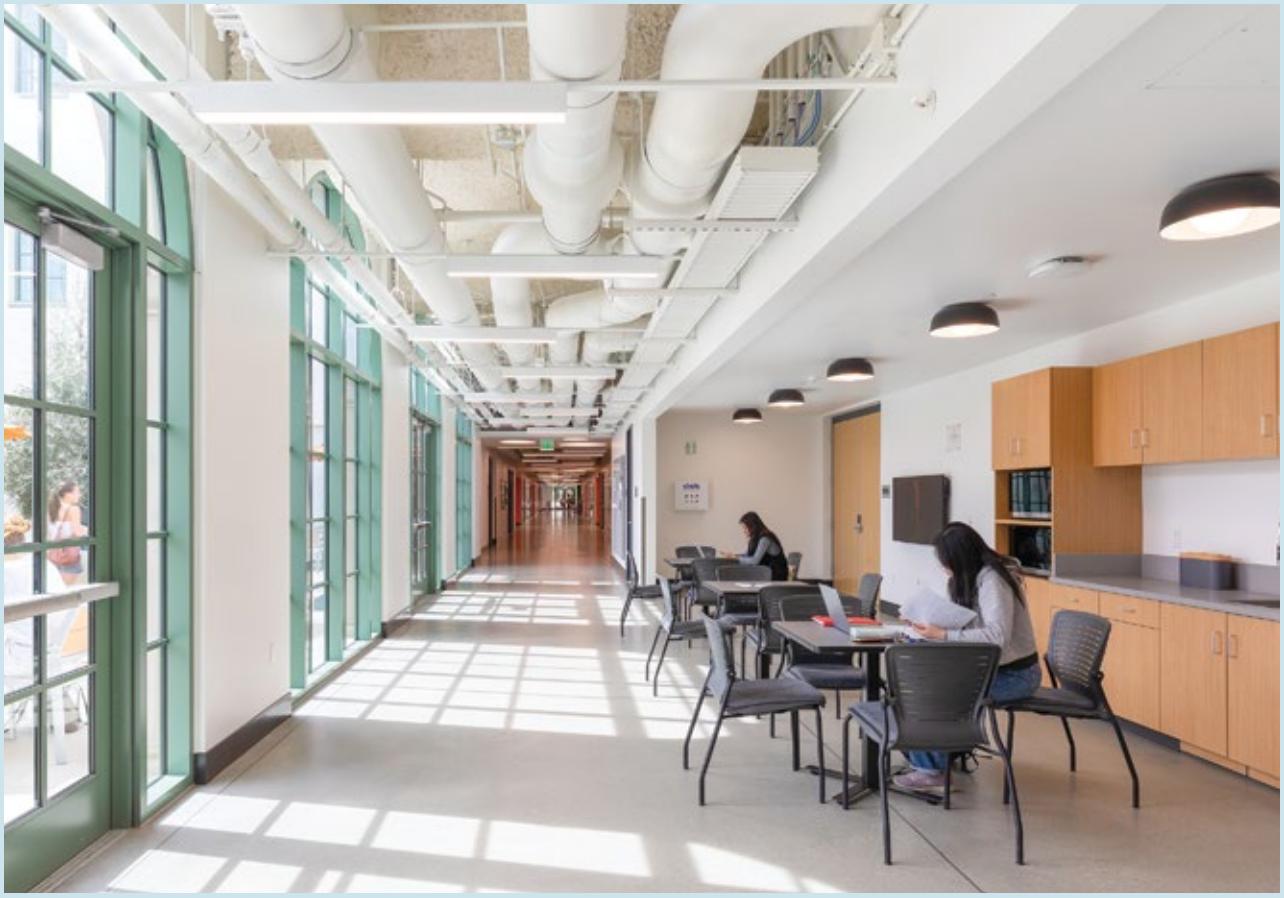
More Collaborative Spaces and Offices

Science is about community; the new building includes more classrooms, labs, and offices where students and faculty can meet for informal and formal discussions.



Special Resources and Features

From the greenhouse on the top floor (pictured here) to its many wet labs, the new Nucleus building supports the research of students and faculty across the department's five disciplines.



Ample Room and Natural Lighting

Goodbye to cramped, windowless spaces! To enhance the overall feeling of being part of a dynamic, inclusive community, the architects put a premium on designing spacious, well-lighted rooms and plazas.

SCHOLARS

TAKE FIVE

Meet the new scholars in biology, mathematics, chemistry, and environmental science who joined our science faculty this academic year

VERONICA PADILLA VRIESMAN

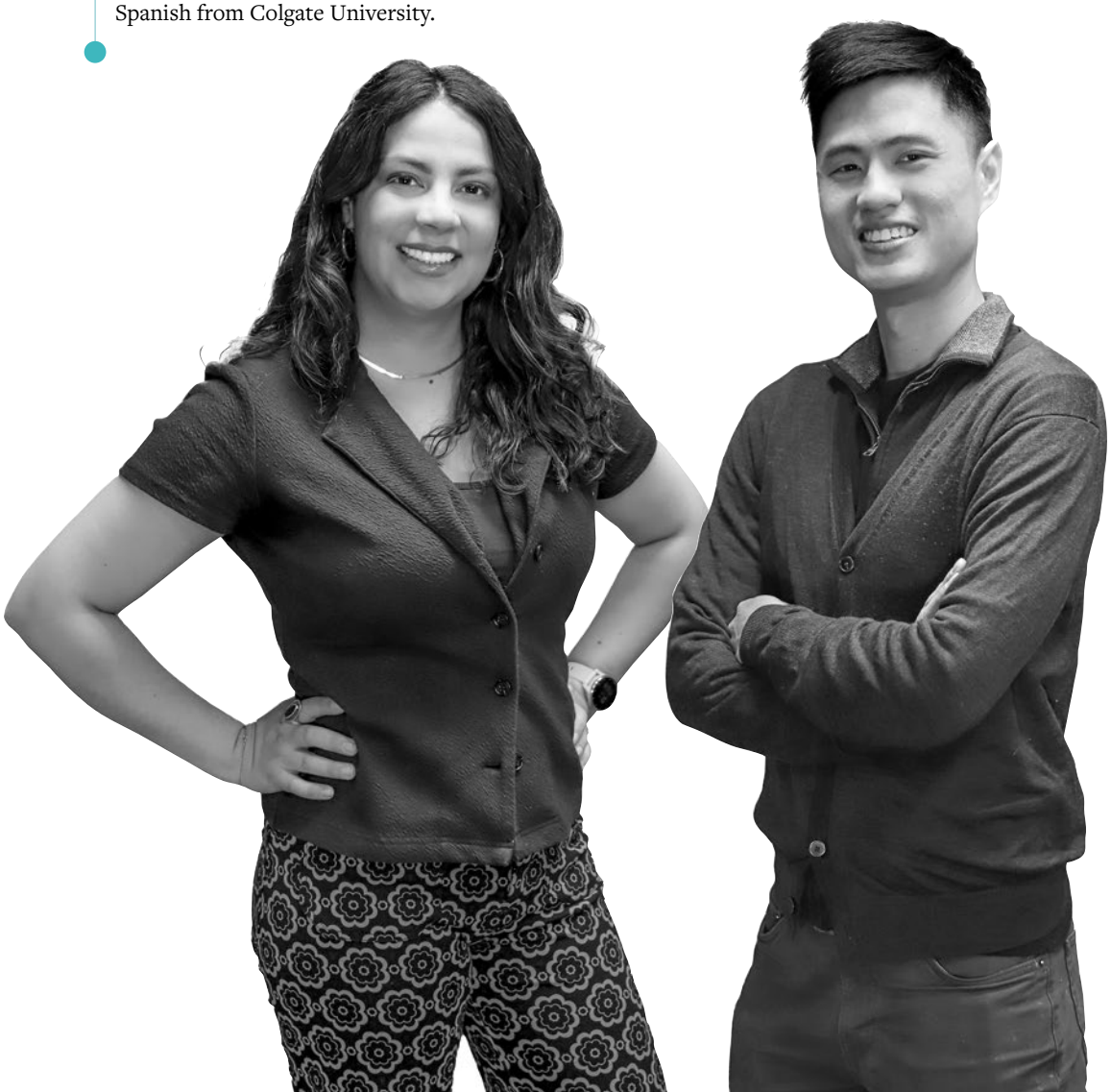
Assistant Professor of Environmental Science Veronica Padilla Vriesman is a marine scientist and paleobiologist. She has research interests in climate change and biomineralization, which is the process by which living organisms produce minerals. Vriesman studies connections between marine shells and ocean changes through time. She is especially interested in environmental impacts on bivalve biomineralization. Her research uses the shells of marine mollusks to gauge their responses to changing climates through time to contextualize modern changes.

While working on her PhD at the Ocean Climate Lab at UC Davis, Vriesman studied the California mussel shell to evaluate its utility as a paleoceanographic archive. She received support from the National Science Foundation's (NSF) Graduate Research Fellowship. Vriesman is a Latina scientist committed to anti-racism and diversity, equity, and inclusion in STEM and academia. She has a PhD in Earth and planetary sciences from UC Davis and a BS in geology and Spanish from Colgate University.

JIA-AHN PAN

Assistant Professor of Chemistry Jia-Ahn Pan is a materials scientist studying the relationship between microscopic elements of a material and the material's structures and properties. He has worked on developing novel ligands (a term referring to ions or molecules) for colloidal upconverting nanoparticles, which can convert near-infrared light into visible light. Their unique optical properties can be used in microscopy, sensing, and photonics. Pan has also studied and developed stimuli-sensitive ligands for patterning of colloidal nanocrystals as a graduate researcher at the University of Chicago.

Pan's work has recently appeared in *Nanoscale Horizons, Journal of the American Chemical Society, Accounts of Chemical Research,* and *Nano Letters.* He has a PhD in materials chemistry from the University of Chicago and a BS in chemistry and mathematics from Bates College. For more on Pan's research, see p. 6.



ASHLEY HEERS

Assistant Professor of Biology Ashley Heers explores the origins of flight using birds and their dinosaur ancestors as a focal group. What is the advantage of the rudimentary locomotor structures in developing or evolving animals, such as the early wings—known as proto-wings—of young birds or extinct dinosaurs? Heers considers questions like these to be crucial to understanding vertebrate biology. Her research combines biological, paleontological, and engineering disciplines. She uses experimental, 3D visualization, and biomechanical modeling tools and applies her findings to extinct dinosaurs through musculoskeletal modeling.

Heers has a PhD in organismal biology and ecology from the University of Montana and a BS in biology and geology from the University of California, Davis. She was a postdoctoral fellow at the Royal Veterinary College and Richard Gilder Graduate School at the American Museum of Natural History. She is a recipient of the NSF's Postdoctoral Research Fellowship and Faculty Early Career Development grant programs. See more on p. 6.

ZACHARY WILSON

Assistant Professor of Biology Zachary Wilson is a cell and molecular biologist with more than 14 years of research experience. Wilson investigates how eukaryotic cells respond to stress and how organelles inside cells remove damaged components to restore cell health. His experience in cell biology includes parasitology, membrane trafficking, mitochondrial biology, and cell aging. Wilson has also taught and mentored in both the lab and classroom with students ranging from high school to medical school.

Wilson was a postdoctoral research fellow and faculty mentor in the Biochemistry Department of the University of Utah, where he studied mitochondrial stress response pathways in budding yeast. His research has been supported by the American Heart Association, American Cancer Society, and the United Mitochondrial Disease Foundation. Wilson has a PhD in molecular, cellular, and developmental biology from the University of Colorado Boulder and a BS in biochemistry and molecular biology from Lewis & Clark College.

SHRIYA NAGPAL

Assistant Professor of Mathematics Shriya Nagpal's research uses tools from network theory and dynamical systems to study synchronization in networks of coupled phase-oscillators. She has applied these mathematical concepts to real-world challenges in energy and electricity. Her recent publications include "Designing for Robustness in Electric Grids via a General Effective Resistance Measure" in *IEEE Transactions on Control of Network Systems* and "A continuous refinement technique for wind farm layout optimization" in *Renewable Energy*.

Nagpal has research interests in complex networks, optimization and control, and graphon theory. She is also passionate about teaching and has received graduate teaching awards from the Department of Mathematics and the Department of Computer Science at Cornell University. She has a PhD and MS in applied mathematics from Cornell University and a BS in mathematics from Trinity College.

STUDENTS

Codes of Life

Richard Ampah ’25 looks at cerebral palsy through biology, algorithms, and artificial intelligence

By BRIDGETTE RAMIREZ

Could computer codes unlock the secrets of the human brain? Richard Ampah ’25 believes so. He is delving into machine learning and developing algorithms to help people with cerebral palsy improve the connection between their brains and bodies.

“I combine the biology with the data, the creation of algorithms, and computational models,” said Ampah, who is a human biology major and mathematics minor.

Cerebral palsy may result from brain damage during pregnancy, childbirth, or early childhood. It disrupts communication between the brain and body, affecting motor skills and muscle coordination. The disability manifests differently from person to person. Someone may walk with assistance while someone else uses a wheelchair. People can also experience issues with sensory perceptions, verbal communication, chronic pain, seizures, and more.

Humans as Algorithms

According to Ampah, computers can take humans’ complex biological systems and simplify them into code and data that is easier to understand. This advantage is vital to studying cerebral palsy since it has many diverse forms. Ampah is using computational neuroscience to create foundational knowledge that will help scientists in the future. He is researching how cerebral palsy works on the biomolecular level, which is difficult to do with a real human brain.

Richard Ampah ’25 and Professor Sarah Marzen collaborate in Marzen’s lab.

“The human brain is a vulnerable and crucial part of the body,” said Ampah. “You don’t want to go poking at it. It is critical to learn from the outside using an algorithm and applying a human perspective.”

Ampah seeks to recreate human brain behavior and neurons in the forms of computer codes and algorithms. Then, after adjusting the algorithms to make machines more efficient at learning, he hopes to use these algorithms to make the human brain of someone with cerebral palsy more efficient at sending signals to the body.

Ampah considers algorithms as the key to all forms of life—including humans.

“Humans are algorithms because we’re made of bio-molecules and data sequences,” said Ampah. “Even amino acids are algorithms. You sequence them one by one, making sure that you are getting the right ones for things to work the way you want.”

Research That’s Personal

When Ampah was first pursuing his research topic, he made his proposal to various professors only to find their labs already full. Undeterred, he connected with Assistant Professor of Physics Sarah Marzen.

“She was hesitant because I hadn’t done upper division math classes yet, but I was persistent,” said Ampah.

The stakes were personal: Ampah has two young cousins with cerebral palsy. The disability does not prevent people from living their lives provided they receive the accommodations needed to succeed. However, Ampah hoped to help his cousins—and others like them—to navigate their bodies and the world more easily. Ampah thought that machine learning could provide the answer.

Marzen’s lab uses machine learning to understand biological data and interpret biological organisms as machine learners. People and machines both operate using codes and mathematical sequences (albeit in different forms). Thus, Marzen and her students see machines as an ideal tool to better comprehend the biological systems and processes of humans and other living beings.

Marzen acknowledged that studying humans as machines can be philosophically controversial and that the comparison is not a 1:1 ratio. She sees people as machines that use their limited resources as rationally as possible.

“Unlike ChatGPT, we are limited to our brain for information processing and do not have a huge data center that sucks up energy,” said Marzen.

Marzen said that machine learning can use biological data to illustrate the structures behind biological systems. She believes that Ampah’s interpretation of humans as machines “gives us insight, if properly used, into how humans and other organisms work.”

Machine Learning, Equations, and the Human Brain

Ampah became the first student in Marzen's lab to use machine learning to study cerebral palsy. During his first summer of research, Ampah taught himself linear algebra, Python code, and ChatGPT. He centered his work on reinforcement learning, a field of machine learning that involves adapting behavior to maximize rewards.

"The rewards could be money, better grades, being able to walk," said Ampah. "It could simply be the freedom to do the things you were not able to do before."

According to Ampah, reinforcement learning aims to make better decisions at the end of each action. He used a transportation analogy to illustrate his point.

"Say you're driving to Irvine, and you have to use one of two routes," he said. "You're going to choose the one with less traffic. You're choosing a route with more rewards. That's a form of reinforcement learning."

The book *Reinforcement Learning: An Introduction* states that out of all forms of machine learning, "reinforcement learning is the closest to the kind of learning that humans and other animals do, and many of the core algorithms of reinforcement learning were originally inspired by biological learning systems."

According to Marzen, Ampah's research has two impacts. One is that he is Marzen's first student to use ChatGPT to assist his research (a topic he plans to present to the American Physical Society this spring). The second impact, said Marzen, is evaluating "how well a model of a human with cerebral palsy performs at arbitrary tasks in various environments.

"The hope is that this rigorous quantitative evaluation will then lead to an understanding of how to improve the condition of cerebral palsy," said Marzen.

When Ampah mentioned his research to a friend who worked with kids with cerebral palsy, his friend told him about one child who excelled in swimming but couldn't walk outside of the water. Ampah was interested in understanding how the psychology and physiology of the brain along with the environment of the water impact movement.

"Swimming is a reward," said Ampah. "How do we make that a constant thing where that child becomes an expert in it and uses it to translate out of the water?"

Ampah started developing simulated environments where a machine agent stands in for a person with and without cerebral palsy. After two summers of research, Ampah discovered that the reinforcement learning algorithm could potentially help restore the brain's communication with the body for a person with cerebral palsy. What this will look like in the real world is still far down the line, but Ampah is excited about the possibilities.

Ampah also proved new equations that strengthened the reinforcement learning algorithm. He used the Bellman

equation, which solves smaller subproblems to then solve a full problem in the most optimal way, as a baseline. Ampah's results showed that this baseline can enable the algorithm to find an optimal policy that improves the constraints of people with cerebral palsy. Essentially, the algorithm has the potential to strengthen the brain/body relationship.

"What we did was to make that equation better by proving a different one," said Ampah. "I could own the equations, and people could cite my equations in future research."

"As a science student, you should be able to connect to society. Science, technology, and society go together. Connecting that technical side with the social aspect will make it more realistic for you."

—Richard Ampah '25

Interdisciplinary, Community-Oriented Science Learning

Ampah's interdisciplinary coursework has prepared him well for his research. Pitzer's human biology major teaches students how to use the tools of biology and the social sciences to explore complex questions about humanity. His mathematics minor has also played a large role in Ampah's work.

"The brain has a surface topography," said Ampah. "If a certain portion of the brain isn't working a certain way, why not use linear algebra and calculus to expand the surface and make it bigger to see clearly the affected part or area of the brain, like whether it is an injury or something else?"

For Ampah, what makes science at Pitzer stand apart is the interdisciplinary emphasis and connection to social issues. He is on the cross-cultural health and healing track for the human biology major, which incorporates biology, chemistry, social sciences, and internships. Knowing the social aspect and science aspect are both crucial to him.

"Knowledge is power," said Ampah. "I want to learn so much from so many field groups. I can learn about the science of cerebral palsy, but I can also learn about the social behavior."

Ampah experienced this combination during Professor Alicia Bonaparte's Sociology of Health and Medicine course. Since it was a social responsibility praxis class, students did an internship to put their learning into practice. Ampah was assigned to AbilityFirst.

According to AbilityFirst's website, the nonprofit "provides a variety of programs designed to help people with disabilities achieve their personal best throughout their lives."

Ampah worked with and observed children with disabilities, including cerebral palsy. He saw firsthand how they maneuvered their bodies, their emotions, and their environment. His internship helped him combine the social with the medical and computational sides of his research project.

"As a science student, you should be able to connect to society," said Ampah. "Science, technology, and society go together. Connecting that technical side with the social aspect will make it more realistic for you."

A Passion for Helping

Ampah's ongoing research reflects his passion for improving health care through technology. He aspires to go to medical school and eventually become a physician-scientist to make new discoveries in medicine. Whether it's becoming an oncologist or working at a public health organization, he is open to all kinds of ways to make a difference.

"I don't want to necessarily spend all my time in the ward," said Ampah. "I want to be in the lab investigating pathologies and creating something out of the blue for the world to experience."

It hasn't all been codes and computers for Ampah. In summer 2023, he participated in Pitzer's Costa Rica Summer Health program. There, he immersed himself in intensive Spanish language courses, a seminar on health and health care in Costa Rica, a family stay, and an internship to shadow doctors.

"I'd get a lead to learn the signs and history of the patient and try to figure out the diagnosis," said Ampah. "Out of the 10 in a day with that doctor, I was able to get four or five right, which is very preparational toward medical school."

Ampah briefly returned to Costa Rica this past summer to reconnect with his host family and a staff member at his internship organization. Then he returned to campus to start the school year and apply his summer research to his senior thesis.

Now that The Nucleus science building expansion is finished, he is excited to experience the full breadth of the natural sciences before his undergraduate career is over.

"This expansion is helping the program become more interdisciplinary," said Ampah. "A physics professor may be working with human biology or chemistry. Science is all connected, like a spiderweb. The curriculum is very robust and more interdisciplinary than ever before."

FEATURE

Doing the Math

With the first math conference hosted at Pitzer, Professor Bahar Acu signals new research and learning opportunities for students

By BRIDGETTE RAMIREZ

Professor Bahar Acu didn't realize that she was making a Pitzer College first when she decided to organize a Mathematical Association of America (MAA) conference on campus last October. Driven by her conviction that math belongs to everyone, she was excited that she'd opened a new horizon for math students at the College.

"One of the most valuable outcomes of events like this is the opportunity to build a community of scholars, fostering academic and social interactions that create a sense of belonging in STEM fields," said Acu.

As the program chair of the MAA's Southern California-Nevada section, Acu wanted to create space for students and faculty to share their love for mathematics. The conference welcomed 150 participants to campus, including 10 Pitzer students who volunteered during the event. Senior Administrative Coordinator for Academic Affairs Carlos Alvarez '15 also provided event support. From plenary talks to paper presentations, the conference covered topics including mathematical models, topology, algebraic geometry, and mathematics education.

"Classrooms filled with mathematicians from across Southern California were truly a joy for me to see," said Acu.

Students and faculty from The Claremont Colleges and beyond presented their research. The paper session included two Pitzer community members who are pushing the boundaries of number theory. Jane Panangaden, a visiting professor in Pitzer's mathematics field group, presented the paper "Exploring real quadratic fields with quantum statistical mechanics." Mathematics major Mark Wang '26 discussed "Extensions of the j-function to the real boundary of the upper half plane."

Acu is also collaborating with Professors Jemma Lorenat and Shriya Nagpal to devote more attention to women and gender-nonconforming students in mathematical sciences. Their recent events include luncheons, community breakfasts, and a mathematical cookie design and tea party. These events received funding from Pitzer's Teaching, Learning, and Campus Life Committee.

ABOVE: "Classrooms filled with mathematicians from across Southern California were truly a joy for me to see," said Professor Bahar Acu (center) about the recent math conference held at Pitzer. BELOW: "One of the most valuable outcomes of events like this," Acu said about the conference, "is the opportunity to build a community of scholars, fostering academic and social interactions that create a sense of belonging in STEM fields."

With the conference behind her, Acu is partnering this year with mathematics major Sofia Marquez-Gomez '25 to organize events for first-generation students in STEM.

"With the recent noticeable increase in students declaring a major or minor in mathematics, these events will play a crucial role in supporting our students' academic and career development during their time at Pitzer and beyond," said Acu.

She also expressed special thanks to the following students for assisting with the MAA conference: Richard Ampah '25, Jenna Coffman '26, Leah Glasser '26, Allie Huang '27, Philo Judson '26, Darrell Opoku Kwateng '26, Misha Logan '27, Charlotte Richards '25, Xiaoyu Klay Sun '26, and Grace Zhao '25.

ART EXHIBITION

Disease Narratives Through a Humanistic Lens

Maya Gurantz's "The Plague Archives" shows how a liberal arts context can expand our understanding of a deadly medical topic

What a liberal arts culture demonstrates is that there are many unexpected approaches to scientific topics. Even though epidemics and disease might seem firmly rooted in the world of medical science, acclaimed artist Maya Gurantz showed in an exhibit hosted by Pitzer College Art Galleries what a holistic, humanities-based approach to illness might look like. Spanning the 10th century through the 21st century, "The Plague Archives" presented a multilayered, transhistorical, and intercultural discourse on the shifting attitudes and definitions of disease. The exhibition's images and texts, drawn from many film, scientific, religious, and musicological sources, created a visually dense archive. Gallery visitors witnessed a range of elements, including 14th-century depictions of the bubonic plague, a turn-of-the-20th-century promotional postcard for a tuberculosis sanitorium, and videos addressing HIV-AIDS activism in 1980s and 1990s America. While more traditional approaches to these topics might focus on their clinical aspects, Gurantz's approach offered marginal histories and other considerations that often get overlooked despite their relevance.

Photo by Christopher Wormald. See more photos from the Pitzer exhibition at www.pitzer.edu/participant.

"The physics department at Pitzer is small and extremely supportive," said Scotia Rollins '25 about her experience. "I don't know if I would've been a physics major anywhere else. It's been an enriching experience."

STUDENTS

Her Future is Star-filled

Space policy intern Scotia Rollins '25 explains her passion for planetary exploration

By TOM JOHNSON

Scotia Rollins '25 admitted that she's always liked working through ideas, albeit in a very meticulous way.

"I like creating a strong argument in favor of a point of view," she said. As a Lloyd V. Berkner Space Policy intern at the National Academies of Science last summer, Rollins put into practice that view by fusing her physics major and philosophy minor into a combined skill set that she found was very invaluable to the panel and committee meetings that she attended during her 11-week gig.

The connection between philosophy and the hard science of space policy, at first glance, might seem counterintuitive, but Rollins said her philosophical studies allowed her to more easily write, compile, and report the information from meetings in a narrative form.

"When I took the class Techniques in Observational Astrophysics at Pitzer, my professor remarked how strong my writing ability was for our lab reports, and that encouraged me," she said.

The goal of the internship, which is awarded twice each year, is to provide promising undergraduate and graduate students with the opportunity to work in civil space research policy in Washington, D.C. The Space Studies Board, with which Rollins worked, provides an authoritative forum for information and advice on all aspects of space science and serves as the focal point within the National Academies for activities on space research.

The board (which happens to be directed by Colleen Hartman, a Pomona College alumna) facilitates international research coordination and promotes communications on space science and science policy between the research community, the federal government, and the interested public. Rollins said that much of the

"It's very possible at Pitzer to major in science but complement that with a humanities minor or major—the cross-disciplinary tolerance is very high at Pitzer and even encouraged. There's an ease that might not exist at other colleges."

—Scotia Rollins '25

work of the academy and the board culminates in decadal surveys—10-year plans that outline scientific missions and goals with input from scientists worldwide.

"Space policy, at its core, is about communication between agencies like NASA, the National Science Foundation, academia, and industry partners with a goal toward guiding the overall direction of science research," she explained. "The reports themselves comprehensively cover specific areas: Astrophysics is one, planetary science is another, etc. And they provide recommendations for the upcoming decade. The research includes budgeting, allocations, and practical stuff to make it all happen."

According to Rollins, the Berkner internship came about by happenstance. "It was very random," she said. "I found it online, applied, and heard back a couple weeks later. I was mainly looking for summer research opportunities at universities in astronomy and astrophysics, and the internship was kind of an outlier."

Her fascination with space began long ago and has always been an abiding interest.

"I became a physics major at Pitzer not necessarily with the intent of pursuing space-related research," she said, "but I ended up taking astrophysics at Harvey Mudd and those classes encouraged me to look further into opportunities in the field of space.

"The physics department at Pitzer is small and extremely supportive," she continued. "I don't know if I would've been a physics major anywhere else. It's been an enriching experience. And another thing: It's very possible at Pitzer to major in science but complement that with a humanities minor or major—the cross-disciplinary tolerance is very high at Pitzer and even encouraged. There's an ease that might not exist at other colleges."

Rollins said she's keeping her options open after commencement, but graduate school is "on the horizon" for her. Her biggest interest, spurred by her work in Washington, D.C., is in human space exploration.

ABOVE: Rollins' experience as a Lloyd V. Berkner Space Policy intern at the National Academies of Science last summer gave her a chance to see how agencies like NASA, the National Science Foundation, academia, and industry partners collaborate on common goals. LEFT: Rollins studies the Southern California night sky at the observatory on the Pomona College campus.

"I'm currently writing a senior thesis on nuclear propulsion for the human exploration of Mars," she said. "That was one of the biggest challenges. We don't have propulsion systems that are powerful enough to send people to Mars, yet the goal is to have that mission happen around 2039.

"The payback for science is huge," she added. "Understanding the geologic history of Mars is big, as is the possibility of encountering signs of life. The thing about sending humans instead of more robots is that people can do research on the surface of the planet in real time. Also, we want to understand how the Martian environment affects humans. Is it a place we could inhabit?"

Housing and warehouse development in the Inland Empire is affecting the lives of countless species, including the Western burrowing owl, argues Professor Susan Phillips in her recent newspaper commentary. The Western burrowing owl is not just a special focus of information on the Conservancy's SoCal Earth dashboard, it's also SoCal Earth's mascot, Ollie the Owl (seen below).

FEATURED IN THE SCNG NEWSPAPERS

A Tiny Owl in the Inland Empire

With the launch of SoCal Earth, the Redford Conservancy brings critical data to public discussions about developments in the region

Adapted from a commentary by Pitzer's Susan Phillips that appeared in the Southern California News Group newspapers in October 2024

After decades of habitat loss driven by warehouse expansion and housing development, the Western burrowing owl now faces local extinction in California's Inland Empire.

Once common throughout the state, these scrappy little ground dwellers are now being petitioned for consideration as a state endangered species.

But it's not just the owls that are at risk. Loss of open space has profound effects on multiple species, including humans. In many Southland communities, a lack of parks, congested environments, toxic industries, and poor air quality have led to elevated asthma and cancer rates—problems that are worsening with the changing climate. The burrowing owl is not the only species facing rising threats from extractive and outdated decision making.

To address multilayered issues such as this one, my team at Pitzer College's Robert Redford Conservancy for Southern California Sustainability has launched SoCal Earth, a website and collection of tools for what we call "community first, climate first" decision making. That means voluntarily putting community and climate first in every project, action, and decision in a way that's suited to your community, sector, or industry.

Using such criteria to make decisions about land use, equity, and the built environment can help us avoid exacerbating the climate crisis and lessen the burdens carried by vulnerable populations. The need for change is urgent,

"In 2023, the Ontario City Council voted unanimously to place warehouses on burrowing owl habitat despite significant impacts to biodiversity, air quality, congestion, and greenhouse gas emissions."

and scaling up climate action as smartly and efficiently as possible is imperative. This means that every climate solution should also address biodiversity, equity, water quality, and cooling. We can no longer mitigate harm. We must reverse the damage of centuries of poor decision making that treated the climate and vulnerable populations as afterthoughts.

Take just one recent example.

In 2023, the Ontario City Council voted unanimously to place warehouses on burrowing owl habitat despite significant impacts to biodiversity, air quality, congestion, and greenhouse gas emissions. The Ontario warehouse project is just one of dozens in the Inland Empire slated to cover over a half billion square feet of open land with concrete in the years to come. This will undercut housing opportunities, increase urban heat, pollution, and greenhouse gas emissions, create congestion, shortchange people's labor rights, quality of life, and economic potential, and compromise water quality and biodiversity—including for the burrowing owl.

Infographic from Jordan Daniels' Philosophy class on ethics and animals featured on www.socalearth.org/biodiversity.

Our SoCal Earth tool is one way to respond to such decisions. The website offers data sets, mapping opportunities, rating tools, games, educational materials, and ways of thinking all tailored to Southern California that can help users to judge projects like the Ontario example and offer climate solutions. In short, SoCal Earth offers both data and ways of thinking about environmental issues at a pivotal time in planetary—and local—history.

Much state and federal climate policy uses 2045 as D-Day for climate change, but the science points to 2030. After 2030, things get a lot harder. It's a Sisyphean act to roll a boulder up the hill, but try stopping it on the way down.

I spend a lot of time thinking about what kind of world we could create if we replaced business-as-usual thinking with "community first, climate first" decision making. I encourage others to do the same. SoCal Earth is not just a hub for exceptional data and a model of more (hopefully) to come—it's a call to action. It's critical that Southern California decision-makers commit to putting community and climate first, not because of rulings from on high but for a simple reason: Only unified action can help us avoid the consequences of active and ongoing harm. In Southern California, the future is coming faster than we think.

And for the burrowing owl, time is running out.

Susan Phillips is director of the Robert Redford Conservancy for Southern California Sustainability and a professor of environmental analysis at Pitzer College. Interested in learning more about Southern California's changing landscape? Visit SoCal Earth at www.socalearth.org/.

COMMUNITY BOOKSHELF

Great Reads for 2025

The Pitzer community's latest literary offerings range from deep-sea mining and a folk music memoir to an exploration of universities as transformative places for justice and more

1. DIRECTED EVOLUTION

(AMERICAN CHEMICAL SOCIETY PUBLICATIONS)

Co-authors **Aaron Leconte**, associate professor of chemistry at Pitzer, and **Clair M. Colee SCR'23** have written an excellent primer that serves as a starting point for any scientist interested in a field that seeks in the lab to mimic the natural evolutionary process of molecules. One of the biggest challenges to starting work in the field of directed evolution is that it requires a different style of thinking than other areas of chemistry. In the first chapter, the authors describe this different mentality and then give an overview of the field: what it is, why it is useful, how evolution is applied in the lab, and how evolution can be applied for human benefit. Chemistry professors, according to the publisher, highly recommend *Directed Evolution* as a necessary first step for junior scientists who are beginning undergraduate or postgraduate work in the field. For more on Leconte's research, see p.6.

2. LIBERATING THE CLASSROOM: HEALING AND JUSTICE IN HIGHER EDUCATION

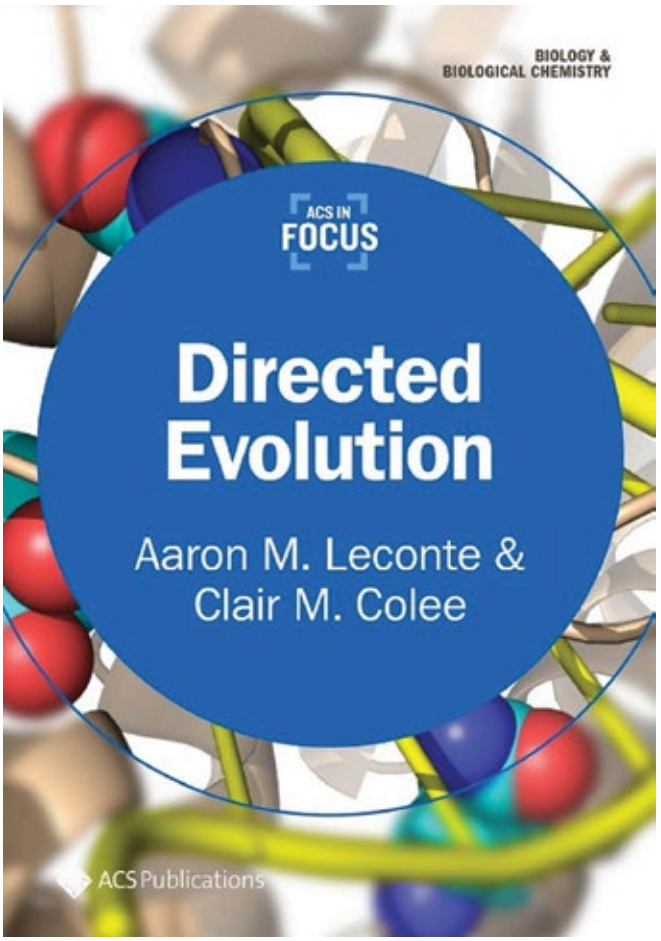
(JOHNS HOPKINS UNIVERSITY PRESS)

In her new book, CASA Pitzer Director and Pitzer Professor **Tessa Hicks Peterson** shows how universities can transform into places that directly disrupt injustice and work toward personal and collective liberation. Hicks Peterson's book is an important contribution in placing the claims of social justice, personal and social healing, and holistic pedagogy within a dialogue that is at once passionate and deeply considered. The book also presents thinkers and practitioners who provide distinct but connected resources for realizing that vision. Hicks Peterson explores the kind of changes in pedagogical practice, campus culture, academic-community relationships, and institutional structures that are needed to create these spaces in higher education.

3. DEEPWATER ALCHEMY: EXTRACTIVE MEDIATION AND THE TAMING OF THE SEAFLOOR

(UNIVERSITY OF MINNESOTA PRESS)

Set against the backdrop of climate change, energy transition, and the expansion of industrial offshore extractions, Pitzer Media Studies Professor **Lisa Yin Han**'s book rigorously examines oceanic media and its representation of the seabed in terms of valuable resources. From high-tech simulations to laboratories and archives that collect and analyze sediments, Han explores the media technologies that survey, visualize, and condition the possibility for industrial resource extraction. Stefan Helmreich, author of *A Book of Waves*, says Han tells an important story "vital to our present, when deep-sea oil drilling, deep-sea mining, and the state of the sea, are under grave distress from human enterprise."



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4. ALWAYS A SONG: SINGERS, SONGWRITERS, SINNERS & SAINTS

(CHRONICLE PRISM)

In this memoir, now in paperback, **Ellen Harper '87**, owner of the Folk Music Center in Claremont and mother of musicians **Ben**, **Joel '95**, and **Peter Harper '96 P'27**, shares vivid memories of growing up in Los Angeles during the transformational decade of the 1960s among famous and small-town musicians. This beautifully written collection includes stories of Pete Seeger, Bob Dylan, Jimi Hendrix, Joan Baez, The New Lost City Ramblers, Doc Watson, and many more. Harper also touches on pivotal cultural and historic events from the love-ins, women's rights protests, and the assassination of John F. Kennedy to the popularization of the sitar and the ukulele. It's a must-read for lovers of music, history, and for those nostalgic for the acoustic echo of the original folk music that influenced a generation.

5. THE PITFALLS OF FAMILY RULE: PATRONAGE NORMS, FAMILY OVERREACH, AND POLITICAL CRISIS IN KAZAKHSTAN AND BEYOND

(CORNELL UNIVERSITY PRESS)

Barbara Junisbai, associate professor of organizational studies at Pitzer, questions the conceptual divide separating democracy from nondemocracy as well as that separating "strong" authoritarian rulers from "weak" ones. Focusing on patronage endemic to post-Soviet Eurasia but also present the world over, she uncovers intra-elite conflict fomented by the greed and ambition of presidential family members as they compete with other elites for access to economic resources and political power. Incorporating multiple case studies, including an in-depth investigation into Kazakhstan over the span of 20-plus years, Junisbai demonstrates the power of institutional norms to hold seemingly unconstrained rulers accountable in surprising and unexpected ways. According to Eric McGlinchey of George Mason University, Junisbai's study significantly contributes to our understanding of authoritarianism and of post-Soviet Eurasia in particular. In McGlinchey's view, the book will "reshape how we approach the logic of patronage politics."

6. A GAZA OF SIEGE AND GENOCIDE

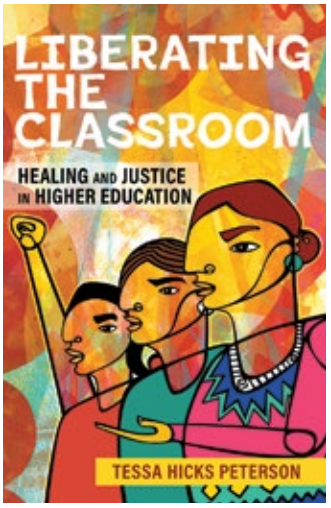
(EBOOK: MIZNA)

Gazan poet **Yahya Ashour**, a visiting professor in Pitzer's English and world literature field group, shares a special electronic book of excerpted verses (with his own illustrations) from poetry he has written while in exile. All proceeds from sales of the book go toward helping Ashour's 19 family members survive the dire situation in Gaza and find safety in Egypt. Ashour's poetry has been translated into several languages, including Spanish, English, French, Japanese, and Bengali. Ashour studied sociology and psychology and served as a creative writing mentor in Gaza.

7. A WALKER IN THE EVENING

(RUBY VIOLET PUBLISHERS)

Nick Owchar, editorial director in Pitzer's Office of Communications, offers a debut novel that is a page-turning gothic tale melding—through one unforgettable character—the contrasting worlds of 1880s literary London and a struggling Ukrainian village. Philippa Gregory, author of the best-selling *The Other Boleyn Girl*, calls *A Walker in the Evening* "an absorbing novel about how we struggle to come to terms with past mistakes." Owchar is former deputy editor of books coverage for the *Los Angeles Times*. His writing has appeared in the *Los Angeles Review of Books*, Chronicle Books, and other publishing outlets.



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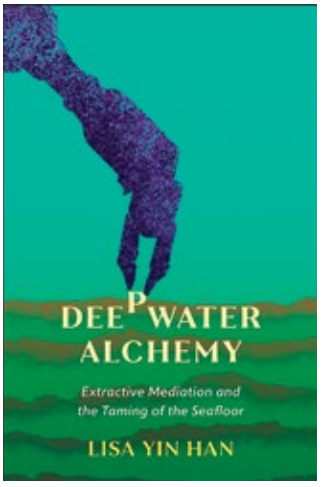

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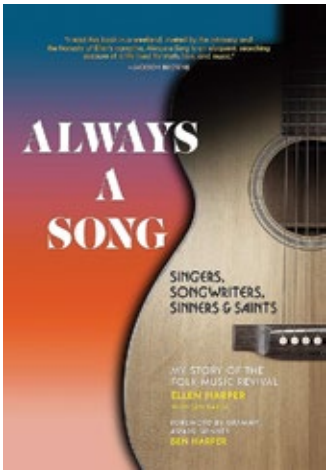

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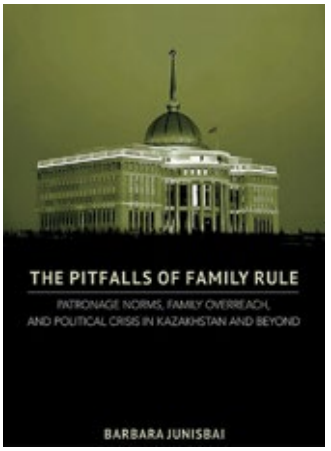

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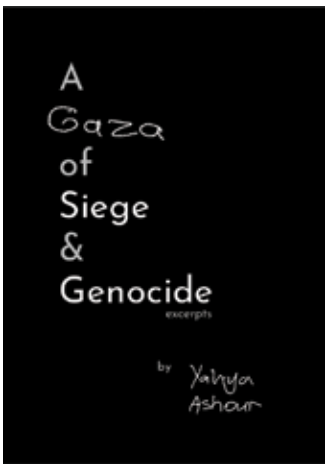

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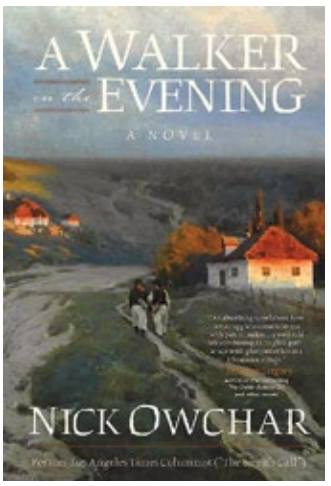

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SPORTS HIGHLIGHTS

HITTING THEIR STRIDE

NCAA Division III saw the Sagehens pull out all the stops during the 2024 fall season

Sixth-Straight SCIAC Win

The Pomona-Pitzer women's soccer team (pictured) defeated rival Claremont-Mudd-Scripps (CMS) to secure first place in the Southern California Intercollegiate Athletic Conference (SCIAC) with a score of 1–0. The Sagehens became the 2024 SCIAC Regular Season Champions for the sixth year in a row.

Double Trouble

Angie Zhou PO'25 and **Marissa Markey '25** (pictured) were crowned the doubles champions at the Intercollegiate Tennis Association (ITA) West Regional Tournament. Zhou and Markey earned All-American honors for their performance at the tournament before competing in the ITA Cup.

Athlete of the Year

Quinten Wimmer '25 (pictured) was recognized as SCIAC Offensive Athlete of the Year to headline the football all-conference teams. Wimmer totaled 449 yards on 41 catches with six touchdowns along with another 141 on the ground and 48 through the air. A 10-catch, 164-yard performance with the game-winning touchdown in the SCIAC Championship game punctuated a brilliant senior year that helped seal Pomona-Pitzer's second-ever NCAA Championship appearance.

Fierce as Lions

The Claremont Colleges men's rugby team took home wins in several major tournaments, including the Bowl Championship and the Chula Vista West Coast 7s Rugby Tournament. Across both competitions, the Lions held a 5–4 overall record. The Lions play in the Division I Gold Coast Rugby Conference, which consists of schools from across the Southwest.

History on the Gridiron

The Pomona-Pitzer football team captured the 2024 SCIAC Championship with their 37–34 win over Chapman University. The Sagehens were crowned SCIAC champions for the second time in program history and improved their season record to 8–2 overall.

Across the Finish Line

Pomona-Pitzer men's cross-country won its fourth consecutive SCIAC Championship. The Sagehens totaled 24 points to secure the team win, finishing ahead of CMS and Caltech. The team then won its seventh consecutive NCAA West Regional title. The Sagehens totaled 42 points, finishing ahead of CMS and George Fox University.

Making a Splash

The Pomona-Pitzer men's water polo team finished the regular season with an 18–7 win over Caltech. With the win, the Sagehens improved to 19–11 overall and 10–2 in SCIAC play to earn a share of the SCIAC Regular Season Championship with the University of Redlands.

LEADERSHIP

Pitzer Names Webb Schools' Bob Fass as Vice President for College Advancement

Fass brings deep Claremont roots and a rich advancement background to this role

Pitzer College announced in January the selection of Bob Fass to serve as the College's vice president for college advancement. Fass most recently served as chief advancement officer at The Webb Schools in Claremont. He began at Pitzer on Feb. 1.

"Fass' extensive experience, demonstrated success, deep roots in Claremont, and passion for education and social impact position him well to lead and elevate our advancement efforts," said President Strom C. Thacker in a message to the Pitzer community.

Fass' career has been marked by transformative accomplishments in fundraising, endowment growth, engagement, and strategic planning. He brings to Pitzer a wealth of experience in various advancement, development, and leadership roles. During his 18-year tenure at Webb, a renowned independent school not far from the College, he successfully led two comprehensive campaigns totaling more than $250 million, including the $200-million Centennial Campaign that concluded last December.

Fass oversaw all aspects of advancement at Webb, including annual, major, and planned giving. He also managed alumni, donor, and parent relations, in addition to team and budget management. Under his leadership, the school's endowment grew fourfold, and its annual fund rose by 250 percent. His efforts helped secure a historic $100 million bequest, one of the largest ever made to an independent school in the United States.

In addition to his success at Webb, Fass has held senior roles in nonprofit management, higher education, and professional theatre. Notably, he was the founding program director and associate professor for the Master of Fine Arts program in arts administration at Southern Utah University, where he created a curriculum that continues to serve students today. A proud Claremont native, Fass grew up immersed in the Claremont Colleges community.

Fass holds a Master of Fine Arts in nonprofit management from the University of Alabama and a Bachelor of Arts in theatre arts from California State University, Fullerton. He has also been deeply involved in local and professional communities, having served as president of the Claremont Educational Foundation, an elected member of the Claremont Unified School District governing board, and on the board of the Southern California Council of Charitable Gift Planners.

Reflecting on his new role, Fass noted that, having grown up in Claremont, his arrival at Pitzer feels like a homecoming.

"It is a great honor, and I am humbled to have been chosen," he said. "I have known and loved Pitzer since its earliest days and admire its dedication to producing educational experiences rooted in social impact and innovation through the lens of a world-class interdisciplinary liberal arts curriculum. With Strom Thacker's exciting vision and leadership, I am eager to advance Pitzer's impact in its second half-century."

"I have known and loved Pitzer since its earliest days and admire its dedication to producing educational experiences rooted in social impact and innovation through the lens of a world-class interdisciplinary liberal arts curriculum."

—Bob Fass


Jana
San Diego Zoo

ALUMNI

How to Become a Giant Panda Specialist

Jana Biedenweg ’20 oversees the welfare of the first giant pandas to come to the U.S. in two decades

By BRIDGETTE RAMIREZ

LEFT: Jana Biedenweg ’20 stands in front of Panda Ridge at the San Diego Zoo. ABOVE: Yun Chuan chews on bamboo. BELOW: Xin Bao curiously looks around her habitat. (PHOTOS COURTESY OF SAN DIEGO ZOO)

When the San Diego Zoo prepared to welcome the first giant pandas to enter the United States in 21 years, Jana Biedenweg ’20 was one of the first to meet them. Biedenweg is a wildlife care specialist at the zoo with experience ranging from mountain lions to gray wolves to black bears. Her expertise led to her selection as a caretaker for the zoo’s two new pandas, Yun Chuan and Xin Bao.

Last June, Biedenweg went to Bifengxia Panda Center in China to learn how to best care for Yun Chuan and Xin Bao. Biedenweg worked with their care specialists to familiarize herself with the bears’ personalities.

“Xin Bao is very inquisitive and explores her whole habitat, while Yun Chuan is more goofy and enjoys playing in his pool,” said Biedenweg. “They are a joy to work with every day!”

A Special Bond

Biedenweg did not anticipate a career like this when she was an organismal biology major at Pitzer College. She thought she would go to veterinary school. However, thanks to her coursework, the pre-veterinary club, and internships, she discovered other possibilities.

“Through gaining experience working with animals in a medical setting and a wildlife care setting, I saw that in wildlife care you are able to gain more of a bond with the animals,” said Biedenweg.

Her hands-on approach to animal care aligned well with her curriculum. Pitzer’s organismal biology major teaches physiology, ecology, and evolutionary biology through experiential research and fieldwork. Biedenweg experimented with courses such as animal behavior, vertebrate physiology, and herpetology. The research tools and learning she gained at Pitzer proved foundational.

“My coursework exposed me to different aspects of biology and animal science that I still use every day in my career,” she said.

Biedenweg has also found her undergraduate education useful as she pursues a master’s degree in biology through Miami University’s Project Dragonfly. This program features online courses, conservation action, and immersive learning with scientists and experts around the world.

Playing a Part in Species Conservation

Biedenweg contributes to the San Diego Zoo Wildlife Alliance’s research. Their care specialists have studied giant pandas’ olfactory communication, hearing, and reproduction and male-female interactions. Their efforts have supported an increase of giant panda births worldwide.

“We need to conserve species and their habitats in order to maintain healthy ecosystems,” said Biedenweg. “There continues to be a lot of human-caused environmental issues, so anything I can do to help combat that feels important.”

Now, Biedenweg has the privilege of helping the new giant pandas flourish at the San Diego Zoo and building her repertoire of wildlife conservation in ways she’d never imagined. If it weren’t for the friends and professors at Pitzer who encouraged her, Biedenweg wouldn’t be where she is today.

“My time at Pitzer has greatly influenced my life,” she said. “I gained a confidence in myself during college that allows me to be more creative and try new things in my career.”

A Message from the Senior Director

Dear Pitzer Alumni,

As we look back on the 2024–25 academic year, I am filled with immense gratitude for the incredible spirit of our alumni community. Your enthusiasm and engagement continue to inspire and energize our work at Pitzer.

Community Weekend 2025 was a powerful testament to the strength of our alumni network. Reimagined from Alumni Weekend, this celebration brought together alumni, families, students, faculty, and staff in a vibrant showcase of what makes Pitzer so special. Thank you to everyone who joined us on campus to celebrate this milestone event—it was an honor to reconnect and hear your stories.

This year, we were thrilled to launch the Engagement Committee, which will play a vital role in fostering deeper connections among alumni and with the College. We also welcomed several outstanding new members to the Alumni Board: **Cecil Banuelos '99**, **Claudio Chavez '88**, **Bernie Hernandez '23**, **Edel Jose '04**, **Tom Moore '82**, **Christa Parker-Caban '03 P'28**, and **Alfred "Al" Shine '85 P'16**. Their diverse perspectives and experiences will undoubtedly strengthen our efforts to serve and engage our alumni community.

Our Engagement Tour has been another highlight of the year, bringing Pitzer to alumni across the country. These gatherings have fostered meaningful conversations, renewed connections, and sparked ideas for how we can continue building a stronger, more engaged alumni network. If you haven't joined us yet, we look forward to welcoming you at an upcoming stop on the tour!

Looking ahead, we are thrilled to continue creating opportunities to connect with you, both on and off campus. From future Engagement Tour receptions to on-campus events that celebrate the heart of Pitzer's mission, we can't wait to see you and share in the excitement of all that's to come.

Thank you for your unwavering support and commitment to Pitzer. Together, we are building a community that not only celebrates our College's past but also shapes our future.

With gratitude and anticipation,
Shannon Spaccarotelli
Senior Director of Alumni & Family Engagement and Annual Giving

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COMMUNITY

Chef Susan Feniger and Culinary Partner Mary Sue Milliken Feed First Responders

When devastating wildfires were ravaging Los Angeles County in January, chef Susan Feniger '76 (pictured left) opened her kitchen to people fighting those fires on the frontlines. Feniger and her culinary partner, Mary Sue Milliken, teamed up with the World Central Kitchen (WCK) to feed first responders during the crisis. They served thousands of meals from a commissary kitchen, and each day varied depending on people's needs.

In an interview on KTNV Las Vegas, Feniger said: "Feeding the firefighters and first responders that are out of their homes is very humbling, and I think it creates even more pride in being in the hospitality business and how important of a role we play to try to make a little bit of a dent in the struggle that's happening."

Feniger and Milliken also appeared on ABC's "Jimmy Kimmel Live!" to share about their work with WCK. Amid hardship, their efforts demonstrated the value of community, food for the body, and food for the soul to bring healing.

IN MEMORIAM

Justine "JJ" Siena Oesterle '14

Environmental Analysis

A former analyst for NASA's Jet Propulsion Lab with a passion for protecting the environment and teaching, Justine "JJ" Siena Oesterle passed away in her sleep in January during a trip to Marrakech, Morocco. She was 32.

Born in Washington, D.C., she grew up in Palo Alto, California; Weston, Massachusetts; and Minneapolis, Minnesota. She attended the Breck School, where she graduated with honors, before attending Pitzer. At Pitzer, she majored in environmental analysis on the environmental science track and minored in Spanish. She studied abroad in Parma, Italy, and she served as a Grove House student caretaker. She cultivated and maintained many Pitzer friendships. During her time at the College, Oesterle was involved in the music scene and was an avid member of the Pitzer Outdoor Adventures club, exploring the mountains, deserts, and the beaches of the West Coast, and boogie boarding and hiking.

From Pitzer, Oesterle went on to work at NASA's Jet Propulsion Laboratory, where she analyzed and validated CO_2 data from satellites and helped in the business department. She later returned to Minnesota to get her master's degree in natural resource science and management at the University of Minnesota, focusing on urban agriculture and aquaponics. While pursuing her master's, she taught aquaponics in two different school systems and discovered her passion for education. In addition, she had been enrolled at Columbia University in pursuit of a master's degree in social work.

Oesterle is survived by her parents, Adrienne and Stephen, and brother Joey, a firefighter in Boston. A celebration of her life was held in February in the Breck School's Chapel of the Holy Spirit.

Lynda Obst '73

Though she graduated from Pomona College, acclaimed movie producer Lynda Obst '73 started her undergraduate career at Pitzer College. Obst was one of the most prolific female producers in the film industry. Her hit films include *Flashdance, The Fisher King, Sleepless in Seattle, One Fine Day, Contact, Hope Floats,* and *How to Lose a Guy in 10 Days*. Born in Manhattan, New York, Obst enrolled at Pitzer in 1969 and volunteered to teach at the men's prison in nearby Chino. She later transferred to Pomona College, where she completed a degree in philosophy. According to an obituary in the *Washington Post,* she died last fall of obstructive pulmonary disease. She was 74.

Juan Ponce

Last fall, the Pitzer community mourned the loss of Juan Ponce, a longtime member of the College's dining hall team, after his battle with cancer. Born in Morelia, Michoacán, Mexico, he was 59. In a message to the Pitzer community, Associate Vice President of Human Resources Deanna Caballero noted how, "Beyond his professional contributions, he is leaving a lasting impact through his genuine kindness, warmth, and the care he showed to those around him."

PARTICIPATING

Blasting Off

How our science dean's love of science launched at the same time as a history-making rocket

By ULYSSES J. SOFIA

One of my earliest childhood memories involves being a witness to a milestone in science history.

I was just about three years old at the time, and my father was an astrophysicist at the University of South Florida. The year was 1969, and Florida was a busy place for the U.S. space program.

My father and all the other astrophysicist faculty members at his university and neighboring universities were invited by NASA to Cape Kennedy to watch the launch of Apollo 11, which marked the first time that humans landed on the moon.

I don't remember much—I was just a toddler—but I do remember looking out across a body of water at the Saturn V rocket standing on the launch pad. I remember my father holding my hand and telling me to pay close attention.

"You're going to want to remember this," he said.

My memory of that launch is tied to a really visceral feeling. I still remember how the blastoff felt—the rumbling of the rockets, the pulsing power that we felt in our chests as we stood there and watched. And the loud sounds as the rocket lifted off, and the white piles of smoke underneath it.

Something happened to me that day.

I hadn't just witnessed a history-making moment, I knew in my bones I wanted to be a scientist. Even though I was too young to express it, I think I felt a desire to one day get involved in a world that produced exciting things like that rocket or made other exciting discoveries about the world around us.

As I grew older, that desire grew in me. I still wanted to be involved with exciting work in the sciences. When I was a teen, after I started out as an undergrad at Johns Hopkins and switched over to Wesleyan, I kept focusing until I realized I wanted to be an astrophysicist like my father.

Wesleyan was a better fit for me: It was much smaller than Johns Hopkins, and its liberal arts foundation enhanced my understanding of science. In many ways, I think that my time at Wesleyan taught me that the science experience at a smaller place, like The Claremont Colleges, has many advantages over larger research universities.

In Claremont, I think we're at an important turning point in the science experience.

The construction and opening of our new science building, and the recasting of our new and old facilities as The Nucleus, presents something important for our Pitzer and Scripps science students. Our enhanced science facilities will add something to their experience that we've been looking forward to for years: It's not just the beautiful new facilities and equipment, but it's also a special feeling of community that is so important in the sciences.

For a long time, many of our faculty and students were spread out in portable trailers on the campuses of Pitzer, Scripps, and Claremont McKenna (whose participation in our collaborative science program ends this year). Now, with the opening of the new building, everyone can come home and learn together under the same roof.

As a dean, I do less teaching and spend more time on my administrative role in leading our Department of Natural Sciences. There's a lot to be done as a dean, and it can be challenging overseeing so many faculty and reporting up to two colleges, but that's OK. It has helped me find another way to have a positive impact on our students.

What do I mean by "another way"?

At The Claremont Colleges, I want our students to be inspired. I want to create new opportunities for them to feel some of the same excitement that I felt on that long-ago day at Cape Kennedy. Even though there aren't any rocket engines firing up, I want our students to feel an exciting rumbling in their chests as they make their own discoveries.

Our world needs good scientists, especially now. I want our students impassioned to become members of the next generation of scientists who are going to expand our understanding of the cosmos and help us better understand our place in it.

Ulysses J. "UJ" Sofia is Weinberg Family Dean and Professor of Physics in the Department of Natural Sciences of Pitzer and Scripps Colleges.

(PHOTO CREDIT: NASA)

Sky's the Limit

Support Pitzer's Science Future Today

A MESSAGE FROM OUR VICE PRESIDENT FOR COLLEGE ADVANCEMENT

Pitzer's long-term investment in the sciences has led to a dynamic and innovative learning experience consistent with our commitment to interdisciplinary education in a liberal arts environment. Our students experience a holistic approach to science that better prepares them to address pressing world challenges in meaningful ways. Creating our Nucleus complex set a bold and exciting path forward for our science program in partnership with Scripps College, but it doesn't mark the end of our efforts. We must equip our faculty and students to explore the full potential of our exciting new facility. I hope you'll join me and many others in the Pitzer community who recognize the critical importance of science education as a foundational aspect of our students' undergraduate experience. Giving to the Pitzer Annual Fund is the best way to ensure the continued growth of our investment in the sciences, providing vital resources for students and faculty. With your support, we can continue to innovate and thrive in The Nucleus.

—Bob Fass, *Vice President for College Advancement*
(for more on Fass' appointment, see news story on p. 41)

Would you like to help our science students on their academic journeys?

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