

Love AT FIRST Light

Donna Strickland '89 (PhD), a self-described “laser jock,” receives the Nobel Prize, along with her advisor, Gérard Mourou, for work they did at the Laboratory for Laser Energetics.

By Lindsey Valich

Donna Strickland '89 (PhD) still recalls the visit she took to the Ontario Science Centre when she was a child growing up in the town of Guelph, outside Toronto. Her father pointed to a laser display. “Donna, this is the way of the future,” Strickland remembers him telling her.

Lloyd Strickland, an electrical engineer, along with Donna's mother, sister, and brother, was part of the family that “continually supported and encouraged me through all my years of education,” Donna Strickland wrote in the acknowledgments of her PhD thesis, “Development of an Ultra-Bright Laser and an Application to Multi-Photon Ionization.”

She was captivated by that laser display. And since then, she says, “I've always thought lasers were cool.”

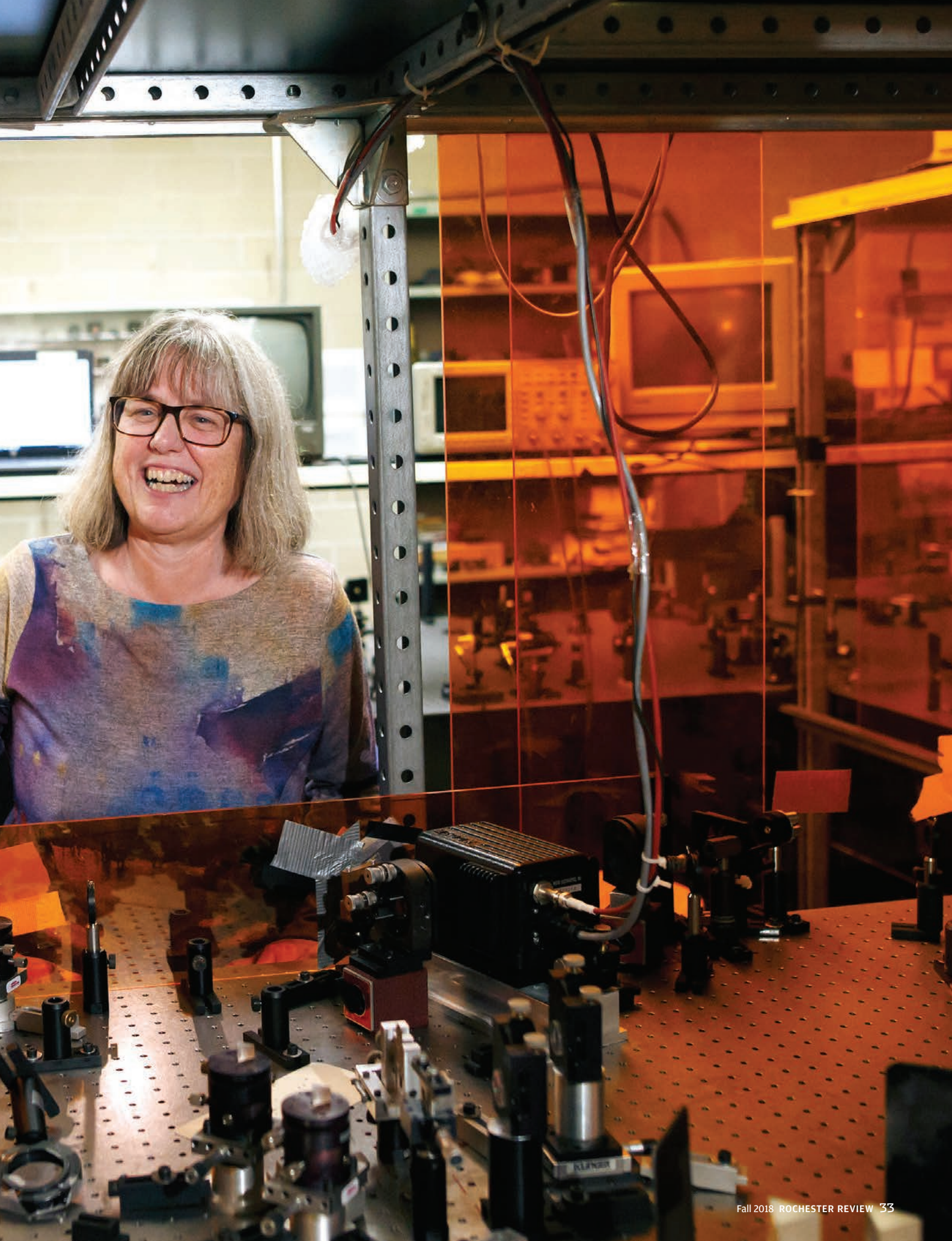
Her passion for laser science research and her commitment to being a “laser jock,” as she has called herself, has led her across North America, from Canada to the United States and back again. But it's the work that she did as a graduate student at Rochester in the 1980s that has earned her the remarkable accolade of Nobel Prize laureate.

When Strickland entered the University's graduate program in optics, laser physicists were grappling with a thorny problem: how could they create ultrashort, high-intensity laser pulses that wouldn't destroy the very material the laser was used to explore in the first place?

Working with former Rochester engineering professor Gérard Mourou, Strickland developed and made workable a method to overcome the barrier. They called it “chirped pulse amplification.” The groundbreaking research was recognized this fall by the Nobel Prize committee with the 2018 Nobel Prize in Physics.

Strickland, now at the University of Waterloo in Canada, and Mourou, now at the École Polytechnique in France, share one half of the prize. The other half of this year's award went to renowned physicist

NOBEL PURSUITS: Strickland, pictured in her laboratory at the University of Waterloo, has been captivated by lasers since childhood. “I've always had fun playing with them,” she says. “I do often think of it as playing, not work.”



Rochester's Nobel Laureates

Twelve people with ties to Rochester—alumni, faculty members, and former faculty members—have been named Nobel laureates across a range of categories that includes physics, medicine or physiology, and economics.

2018 Prize in Physics: Donna Strickland '89 (PhD) and Gérard Mourou, who developed a way to amplify the power of lasers, ushering in applications in medicine, optics, imaging, research, and other areas. Carried out at Rochester's Laboratory for Laser Energetics, the work formed the basis of Strickland's doctoral dissertation, with Mourou as her advisor.

2018 Prize in Economic Sciences: Paul Romer, a former assistant professor of economics at Rochester, was recognized as a pioneer in developing ways to better understand how technology influences economic decision making.

2017 Prize in Economic Sciences: Richard Thaler '74 (PhD), a founder of the discipline of behavioral economics.

2002 Nobel Prize in Physics: Masatoshi Koshihara '55 (PhD), a physicist who led work to detect the subatomic particles known as neutrinos.

1997 Nobel Prize in Physics: Physicist and former Secretary of Energy Steven Chu '70, who developed methods to cool and trap atoms with laser light.

1993 Nobel Prize in Economic Sciences Robert Fogel, a member of the Rochester economics faculty in the 1960s and 1970s, pioneered quantitative analyses of social history.

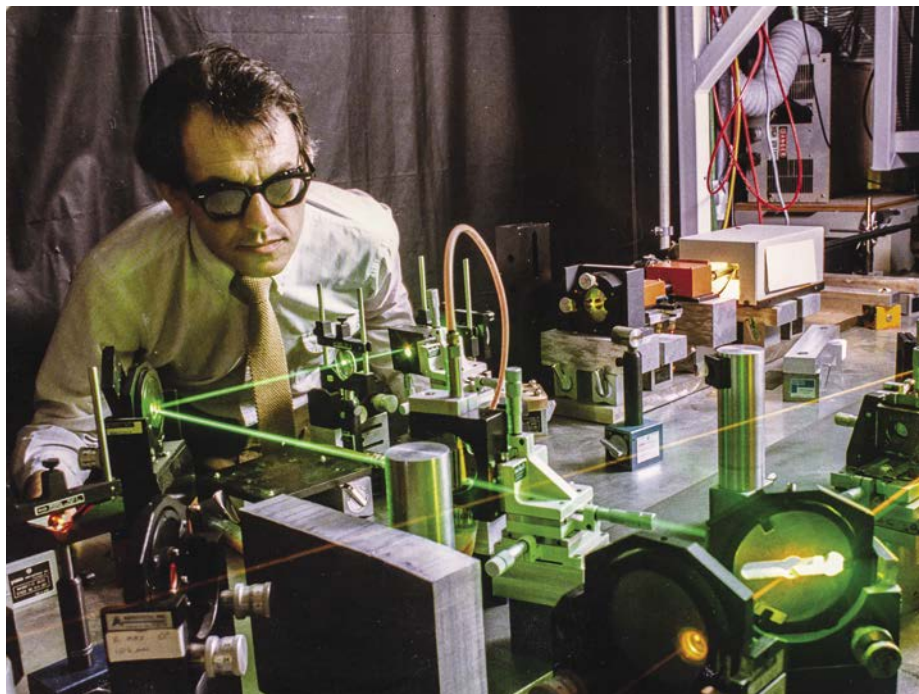
1976 Nobel Prize in Physiology or Medicine: Carleton Gajdusek '43, who is credited with discovering the infectious disease mechanism of prions.

1959 Nobel Prize in Physiology or Medicine: Arthur Kornberg '41M (MD), who first discovered a way to synthesize DNA.

1955 Nobel Prize in Chemistry: Vincent du Vigneaud '27 (PhD), a biochemist, for research on sulfur-containing compounds.

1943 Nobel Prize in Physiology or Medicine: Biochemist Henrik Dam for his discovery of vitamin K.

1934 Nobel Prize in Physiology or Medicine: George Whipple, founding dean of School of Medicine and Dentistry, for his work to develop a therapy for anemia.



LASER FOCUS: Mourou, pictured in 1987 in Rochester's Laboratory for Laser Energetics, calls research a passion. "Science is not a 9-to-5 job," he says. "It's something you think about all the time."

Arthur Ashkin of Bell Laboratories for his work to develop an equally field-changing way to use light, a technique known as "optical tweezers." The technique involves using lasers to cool atoms to a temperature where they can be studied individually. Results of the work done at Bell Laboratories were first published in 1986 and included contributions by Steven Chu '70, who went on to win his own Nobel Prize in Physics in 1997.

Strickland's selection for the Nobel Prize was newsworthy for an additional reason: she was the first woman laureate in physics since 1963 and only the third since Marie Curie received the prize in 1903.

Into the Limelight

The problem Strickland and Mourou overcame was one that would have ignited the imagination of any physicist who, like Strickland, experiences scientific discovery as a form of play. When it comes to lasers, she says, "I've always had fun playing with them. I do often think of it as playing, not work."

But their solution had important practical ramifications. In the 30 years since Strickland and Mourou conducted the research, chirped pulse amplification has made it possible to use lasers effectively in a wide range of medical, scientific, and commercial applications.

"Gérard Mourou and Donna Strickland invented a laser technique that transformed laser technology and continues to have lasting impacts on society," says Wendi Heinzelman, dean of the Hajim School of Engineering & Applied Sciences.

Strickland has been getting used to the limelight. And as she told the British publication the *Guardian*, she doesn't like too much focus to be placed on her gender. The fact that she is only the third woman ever to receive the physics Nobel—joining Curie, who received the prize for research on radiation, and Maria Goeppert-Mayer, who won in 1963 for discoveries concerning nuclear structure—is much less interesting to her than the science that earned her the award.

But many observers point out that, prior to winning the Nobel, Strickland was under-recognized, given the significance of her contribution.

"I hope and believe the awarding of the Nobel Prize in Physics this year begins a trend where more women are recognized for their seminal contributions in science and engineering," says Heinzelman.

A Nobel Collaboration

Strickland received her undergraduate degree at McMaster University in Ontario, and came to Rochester for her graduate degree because of the University's reputation as one of the top schools globally for studying optics and light. One day on campus, a fellow graduate student mentioned the lab of Gérard Mourou.

"I told someone at the Institute of Optics that I wanted to study lasers, and he said, 'I know just the guy you'll want to work with,'" Strickland recounts. As she told the University of Waterloo, when she walked into Mourou's lab at the Laboratory for Laser Energetics, "it was full of these red and green lasers. I just said, 'Oh my God. It's like working around a Christmas tree all the time. How fabulous is that?'"

As laser science grew as a discipline in the 1980s, researchers were incrementally increasing the intensity of laser pulses, resulting in damage to the amplifying material. Mourou had come up with an idea to clear the hurdle by perfecting the technique known as chirped pulse amplification. The technique involved a three-part sequence: stretching a laser pulse thousands of times so that the power was low; amplifying the pulse to higher intensities; and then compressing the pulse in time back to its exact original duration.

Mourou knew the pulse needed to be perfectly compressed, yet still retain its amplification, in order to make the technique work more effectively. "If you can do it exactly, then you can go to much higher power," Mourou says.

He had the idea to put amplification in the middle of the process—a novel concept at the time, according to Strickland. "Different people were trying to get short pulses amplified in different ways, but it was thinking outside the box to stretch first and then amplify," she says.

Chirped pulse amplification, however, was only a theory. Strickland and Mourou still had to make it work. At the LLE, Strickland tested different laser systems to create laser pulses that were short and high powered, but that wouldn't destroy the amplifying material. In 1985, she succeeded, demonstrating the stunning advance in laser power with the table-top terawatt laser, or "T-cubed laser."

At the time, Strickland didn't recognize the research would interest an audience outside the laser-physics community: "I was aware that it was going to be big for scientists working in high-intensity laser physics," she says, "but I didn't know it would have relevance for the general public so quickly."

Changing the Field of Laser Science

Chirped pulse amplification has since paved the way for the shortest and most intense laser pulses ever created, making it possible to build more compact and precise laser systems.

"Gerard's original motivation was to take a football field-sized laser and compress it down to the size of a tabletop," says Wayne Knox, professor of optics and former Institute of Optics director, who was Mourou's first PhD student and worked in his Ultra-Fast Laser Group. "Now we've compressed them even further. I have in my lab a laser the size of a bread box that uses this technology."

Making the accelerators more compact, yet powerful, changed the field of laser science by allowing laser technologies to be used more broadly, especially in medical settings. Chirped pulse amplification is instrumental, for example, in laser eye surgeries such as Lasik, to quickly slice open the lens of an eye without damaging the surrounding tissue. It's used to accelerate protons in proton therapies to treat deep-tissue tumors, like those that develop in the brain. Beyond its medical applications, chirped pulse amplification is important in more precise machining of materials such as the cover glass used in smartphones. Mourou has also developed a technique to treat radioactive waste using the technology.

But the technique is also essential in basic physics research. Today, Strickland and Mourou's discovery continues to help shape the direction of research in high-powered lasers of the kind housed at the LLE, says Mike Campbell, director of the laboratory. "The development of chirped pulse amplification by Gérard and Donna has created numerous new applications in science and industry and has catalyzed research around the world in high-peak-power lasers."

Scientists use ultrafast lasers to create the extreme conditions found in space, allowing them to study star formation and the inner workings of distant planets. The technique also allows physicists to take ultrafast images of split-second processes at the molecular level in order to study how atoms behave.

"CPA is really a fundamental advance," says Jonathan Zuegel, senior scientist at the LLE and director for laser development and engineering.

Interestingly, despite her seminal contribution, Strickland still wears glasses. As she told the *Guardian*, she refuses to get the corrective eye surgery made possible by her laser research: "I have great faith in lasers, but no one's putting one near my eye."

For his part, Mourou hopes to encourage even more students in the field of ultrafast laser science to pursue their scientific interests.

"It's amazing when you think about it, because this Nobel-winning work was Donna's thesis," he says. "One thing about research is that it is a passion. Science is not a 9-to-5 job; it's something you think about all the time, and it's very demanding."

And, as he and Strickland found, "You have to work hard at it, and you have to love it." **R**

ECONOMICS PRIZE

Understanding the Costs of Innovation

A former economics professor shares the Nobel Prize.

Paul Romer, a former assistant professor of economics at Rochester and now a professor at New York University, has been named a recipient of this year's Nobel Prize in Economic Sciences.

An assistant professor of economics at Rochester from 1982 to 1988, Romer shared the award with William Nordhaus, a professor of economics at Yale University.

In making the announcement in October, the Royal Swedish Academy of Science recognized Romer for his work on the economics of technological change, research that was first outlined in a 1990 paper.



THE TIDE OF TECH: Romer was awarded the Nobel Prize in economics for work he began as a faculty member at Rochester on incentivizing technological innovation.

Mark Bills, the Hazel Fyfe Professor in Economics who briefly worked with Romer in Rochester, says the paper, "Endogenous Technological Change," was written while Romer was at the University.

"Paul wrestled with how firms get rewarded for the high upfront costs of innovating," Bills says. "Paul's answer, that the return to research requires market power and possibly government incentives, freed the growth literature to incorporate how technology grows, not just how physical and human capital accumulate."

After Rochester, Romer went on to appointments at the University of Chicago, the University of California at Berkeley, and Stanford University before his appointment at NYU's Stern School of Business. He earned his PhD from the University of Chicago in 1983.

—Peter Iglinski '17 (MA)



MELIORA WEEKEND 2018

Marvelous Meliora!

A record-breaking Meliora Weekend brings together alumni, students, parents, faculty, and friends to celebrate their connections to the University.

CLASS SPIRIT: Members of the Class of 2022—Kevin Tamarima-Salinas, Anastasia Taleck, Quame Wright-Beckles, and Renae Whittington (above)—get into the school spirit in the Meliora Village.



KEYNOTE STORY: Award-winning journalist and producer Soledad O'Brien (left) emphasized the importance of storytelling—and of a diversity of stories and storytellers—during her keynote address. “We have an obligation to hear people’s stories and maybe even more importantly to share our own stories. I don’t know if we can move forward as a community if we don’t do that,” she told a packed Palestra.



VOTING FOR VOTING: MSNBC political analyst and former Republican National Committee chair Michael Steele stops by a voter registration table to talk with Prashanta Augustine '19, Merve Gulbay '20, and Hager Elkhidir '21. As part of his presentation, Steele urged people in the audience to vote, elevate good candidates, and stay engaged after elections take place.



SIGNS OF MELIORA: The weekend's signature Meliora sign was a photo-worthy backdrop for students, friends, and families like Laconnie Taylor-Jones and her daughter, Caryn Jones '20.

HEADLINER: Vocalist China Forbes and the rest of the ensemble Pink Martini brought their unique blend of classical, jazz, and pop to Kodak Hall at Eastman Theatre.



HOMECOMING: Dave Ragusa '68 (opposite) flips the coin before Rochester's homecoming football game against St. Lawrence University. Ragusa and other members of the 50th reunion class—Larry Brodney, John Norris, Guy Bailey, and John Dunnigan—served as honorary captains for the game, which the Saints won 38-24.

HOME TO HOGWARTS? "On my way over here I heard a professor refer to freshmen as first-years, and I thought to myself, 'Am I at Hogwarts?'" comedian and actress Nasim Pedrad (right), best known for her work on *Saturday Night Live*, told the audience during her performance in the Palestra. "I half expected to see kids walking with broomsticks ... and then I did! Because you guys have a quidditch team!"

'HIP-HOP HISTORIAN': Pulitzer Prize-winning writer Ron Chernow talks with Joanna Scott, the Roswell Smith Burrows Professor of English, as part of Chernow's talk on his 2018 biography of Ulysses S. Grant. "I have used my books, not necessarily to write about a person, but as prisms to view a period," he said. Chernow, who also wrote a biography of Alexander Hamilton that inspired Lin-Manuel Miranda's Broadway musical, noted that since the musical, "I'm known as the hip-hop historian."

STUDIO STUDIES: Rebeca Tomas '98 (at right) was joined by Laura Peralta and Elisabet Torras and other members of her A Palo Seco Flamenco Company for a performance in Spurrier Hall's dance studio.





PRIVACY PANEL: Legal commentator and scholar Arthur Miller '56, '08 (Honorary) leads a discussion of the ethical, economic, and personal impact of data, privacy, and technology during his annual Miller's Court panel. This year's panelists included (left to right) Mark Zaid '89, founding and managing partner, Mark S. Zaid PC; Bruce Schneier '84, a special advisor to IBM Security; Cheryl Howard '83, senior data scientist at IBM; Randall Curren, a professor and chair of the Department of Philosophy; Thomas Barnett, chief information officer at the Medical Center; and Emily Trapani '14, a professional staff member for the House Committee on Homeland Security.



NEW SPACES: “Everyone is an alumnus of the libraries,” University Trustee Barbara Burger ’83 said as she helped formally introduce the Barbara J. Burger iZone, a new space in Rush Rhees Library that’s designed as a collaborative hub for students to solve problems and explore ideas for social, cultural, economic, or community impact.

FIRE DRILL: Bryan Brown ’20 and Aaron Goldin ’20 entertain Meliora Weekend guests during the Strong Jugglers’ ninth annual fire show.





WHEELS UP: Classmates Randy Raetz '88 and Meghan Daly Lippman '88 take a turn on the Ferris wheel that gave alumni and others a different view of campus.



LEARNING MOMENTS: Vankee Lin, an associate professor of nursing, discussed her work to understand the neural mechanisms of cognitive aging and aging-related neurodegenerative diseases during the School of Nursing's "SONTalks."

CELEBRATING SONG: Jamal Moore '12E and other YellowJackets alumni joined the group for a performance at the A Cappella Jam.







CITY OF LOVE: There is something for everyone in San Francisco, say our alumni tour guides who live and work in the Bay Area. Carol Karp '74 (left) visits San Francisco's Ferry Building for its farmers market and choice of restaurants. "Tourists and locals alike enjoy everything the area has to offer," she says.

Show Us Your Town

San Francisco

Hop in a car, jump on a bike, or don some hiking boots and explore the expansive Bay Area. Some 3,500 alumni will tell you: adventure, amazing views, stellar food, and cultural activities of all varieties abound.

By Kristine Thompson

Streetcars and cable cars. Alcatraz, Muir Woods, and the Golden Gate Bridge. Lombard Street, the Presidio, and sourdough bread. For a city that only stretches seven miles by seven miles, San Francisco packs a punch. Ask locals what they love about it, and they will likely provide you a long list.

This past summer, six University alumni did just that, not only providing a list, but also offering their time to provide an insider's look at the place they call home. There's something about the area that

grabs each of them. For **Lauren Sacks Hopton** '10, it's the accessibility of outdoor activities. For **David Fang** '05, '11 (PhD), it's the area's spirit of innovation and entrepreneurship. For **Jason Smith** '03, '08W (MS), it's the diversity—of people, ideas, food, and landscape. With opportunities to explore everything from culture and technology to great food and coffee to ocean views, mountain vistas, and big adventures, all a visitor to San Francisco and the surrounding Bay Area really needs is time. **R**

Meet Your Guides

Zakia Barnes '04, '17S (MBA)

Home: Oakland

Undergraduate major: Applied mathematics

Occupation: Developer operations specialist at Facebook

David Fang '05, '11 (PhD)

Home: San Francisco

Undergraduate major: Electrical and computer engineering

Occupation: Program manager at Synapse Product Development, a consultancy firm that works with small start-ups as well as Fortune 50 companies

Lauren Sacks Hopton '10

Home: San Francisco

Major: Psychology

Occupation: Project manager at Rothys, a maker of sustainable shoes for women

Carol Karp '74

Home: Hillsborough

Major: Biology

Occupation: Chief regulatory officer, Prothena Biosciences Inc.

Phil Pizzo '70M (MD)

Home: Stanford

Occupation: Pediatric oncologist and infectious disease specialist; former dean of Stanford's medical school; and founder of Stanford's Distinguished Careers Institute, which is associated with its Center for Longevity

Jason Smith '03, '08W (MS)

Home: San Jose

Undergraduate major: Political science

Occupation: Associate dean for student affairs at the San Francisco Conservatory of Music

For more information on regional networks, events, and volunteer opportunities, visit Rochester.edu/alumni/regional-network.



KEEP ON THE SUNNY SIDE: With lots of great food, live music, and a farmers market, the San Pedro Market bustles with activity all week long. "The market is a great place to connect with friends and unwind at the end of a long day," says Jason Smith '03, '08W (MS), who commutes from San Jose to San Francisco.

Off to Market

There are plenty of choices when it comes to eating, shopping, and connecting.

A San Pedro Market

87 N. San Pedro Street, San Jose

Foodies, music lovers, history buffs, festival followers, and coffee aficionados will enjoy this open-air plaza, which is located adjacent to the Peralta Adobe, the oldest building in the city. "Here in the heart of downtown San Jose, the market is a go-to place for live music and food from local vendors," says Jason Smith '03, '08W (MS), a San Jose resident. "It's also an ideal place to soak in some of the South Bay sunshine." With Adobe, Apple, Cisco, Google, Yahoo, and other technology companies located here, San Jose is called Silicon Valley's capital. "More companies are locating right in the downtown area," adds Smith. "It's prompting an increase in housing options for people, which contributes to the dynamic atmosphere that's building here."

B Jack London Square

Broadway and Embarcadero, Oakland

Located on the waterfront and named after the American writer and San Francisco native, Jack London Square offers restaurants, retail shops, and waterfront activities. London's cabin—where he lived during the gold rush in the Canadian Klondike—has been relocated to the square, next to Heinold's First and Last Chance Saloon.

Heinold's was a favorite of London's—and it's also a favorite of **Zakia Barnes '04, '17S (MBA)**, an Oakland transplant who started a job at Facebook early in the summer. "The pub's owner, Johnny Heinold, and Jack London were close. Heinold actually lent London the money to go to Berkeley to pursue his passion for writing," says Barnes. "This place, and the sailors who passed through here, inspired many of London's stories."

C The Ferry Building Marketplace

One Ferry Building, San Francisco

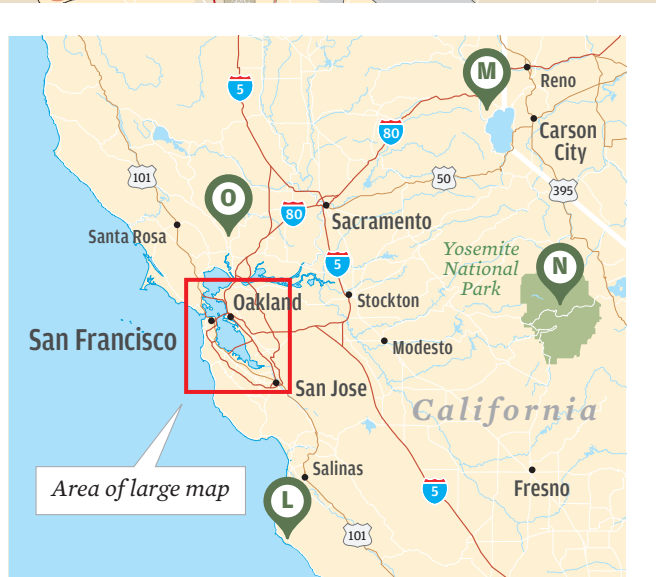
The original Ferry Building opened in 1898 and served as a transportation hub for decades until it fell into disrepair. That changed with the 1989 Loma Prieta earthquake, which devastated the Embarcadero Freeway. A major renovation resulted in a transformed Ferry Building, now a world-class artisan public food market that also features a working ferry terminal.

"Tourists and locals alike enjoy everything the area has to offer," says **Carol Karp '74**, a peninsula resident who visits the Ferry Building for its farmers market. Among her favorite places are the Hog Island Oyster Co., which offers notably fresh oysters, and the Slanted Door, which features Vietnamese



Graywhale Cove
State Beach

Montara State
Beach



If you're going to San Francisco...

Members of the Bay Area Network offer their insights and favorite places to visit to create an insider's view of San Francisco and its surrounding area. The color-coded circles match the descriptions for each spot.

The San Francisco edition of Show Us Your Town is part of a series highlighting the University's regional networks and communities.

☀️ Let's talk about the weather

Microclimates thrive in the Bay Area. Don't be surprised to experience fog, sprinkles, and 45-degree weather on a summer morning in San Francisco. In the afternoon, head to San Jose or Stanford, where the sunshine can blind and temperatures can escalate to 90 degrees or more. "Be prepared for all kinds of weather," says David Fang '05, '11 (PhD), who moved to San Francisco with his wife, Megan Schumann, two years ago. "Wear layers and invest in a down jacket—you will probably need it."

fare. The restaurant “can also create a delicious off-menu oyster stew for you,” she adds.

Signature San Francisco

Few cities are as connected to iconic foods as San Francisco.

Sourdough bread

Boudin Bakery—San Francisco’s oldest bakery, now with multiple locations—has been using the same sourdough starter, also known as “Mother Dough,” since the Gold Rush of 1849. That’s what gives the bakery’s bread an exceptionally tangy flavor.

Cheese

A trip to the Cowgirl Creamery yields a large selection of delicious gourmet cheeses, including organic goat cheese, soft cow milk cheese, and even one named after the local Mount Tam.

Chocolate

In addition to the Ghirardelli Chocolate Company, Karp suggests Recchuitu Confections, a Parisian-inspired local company that serves up many goodies, among them a s’mores bite—a sweet concoction that combines vanilla bean marshmallows, handmade graham crackers, and, of course, chocolate.

Coffee

Several alumni recommend Philz for its drip coffees with meaningful names and Equator Coffees & Teas, which is dedicated to sustainability and social responsibility. It also serves delicious “early bird” tacos for breakfast. (Get there early; they sell out fast.)

Parks and Rec

Getting—and playing—outside is easy in the Bay Area.

D Sutro Baths

1004 Point Lobos Avenue

Only the remnants of the once spectacular baths—or, really, pools—remain. Named after Adolph Sutro, a wealthy resident and former city mayor, the baths are now part of the Golden Gate National Recreation Area. Visit the baths and then explore a vast network of trails that leads to beaches in one direction and to spectacular views of the Golden Gate Bridge and the San Francisco Bay in the other. “This is one of the city’s magical pockets,” says Fang, who visits regularly to relax, enjoy a sunset, learn some history, or go for a run or a hike.

E The Presidio’s Main Post

San Francisco

Several alumni recommend the park and former military fort where, some say, San Francisco began. Native peoples lived in the area for thousands of years, then the Spanish built a fort, and later, it became a US Army post. Today, it’s a national park site that offers cultural events, restaurants, and outdoor activities. Start at the Visitor’s Center and explore bike paths and walkways through old Army buildings and a military cemetery. Make your way to the Golden Gate Bridge.

F Mountain View Cemetery

5000 Piedmont Avenue, Oakland

Designed by Frederick Law Olmsted, the 150-year-old cemetery is a popular park and one of Barnes’s favorite spots. Take in beautiful views, impressive monuments, and local history. Among those buried in what the locals know as the Piedmont Cemetery are J.A. Folgers, founder of Folgers Coffee; Domingo Ghirardelli, namesake of the chocolate company; Bobby Hutton, the Black Panthers’ first treasurer; and Elizabeth Short, aka “the Black Dahlia,” whose Hollywood murder remains unsolved.



AMONG GIANTS: Phil Pizzo '70M (MD) stands among some of Stanford's most famous residents—Auguste Rodin's “The Burghers of Calais,” located on the grounds of the university's Memorial Church.



BACK IN TIME: Zakia Barnes '04, '17S (MBA) sits outside Heinold's First and Last Chance Saloon in Oakland. "There's a ton of history in this pub," she says. "If you visit, check out the pub's original gas lamp, potbelly stove, mahogany bar, and slanted floor, which is the result of the 1906 earthquake, when part of the building's foundation sank."



Arts and Culture

From visual arts to performing arts to cultural activities, the Bay Area has it all.

G San Francisco Museum of Modern Art

151 3rd Street

Each alumni guide recommends SFMOMA. Dedicated to 20th-century art, it is one of the largest modern and contemporary art museums in the country by square footage and features the work of Andy Warhol, Ellsworth Kelly, Diane Arbus, Roy Lichtenstein, Alexander Calder, and many of their contemporaries. *Tip:* The San Francisco CityPASS offers discounted admission to some of the area's most popular attractions, including SFMOMA, which also offers free admission to those 18 years old and younger.

H San Francisco performing arts district

The central area near the Hayes Valley neighborhood is home to the San Francisco Symphony, San Francisco Opera, SFJAZZ Center, San Francisco Ballet, and the San Francisco Conservatory of Music. It also has a large concentration of theaters. "There is always something to see and hear here," says Smith. "Plus the area's restaurants offer wonderful places to wine and dine before or after a performance."

I Cantor Arts Center and the Anderson Collection

328 Lomita Drive at Museum Way, Stanford University

A fan of art, **Phil Pizzo** '70M (MD) frequents museums. With a collection that spans 5,000 years across its nearly 40,000 works of art, the Cantor Arts Center features a number of Rodin bronze sculptures, both inside the museum and in an outdoor sculpture garden. The Anderson Collection is housed in a building adjacent to the center and features one of the world's leading collections of modern and contemporary art. Both are open to the public.

The Stanford University campus offers a variety of sightseeing and educational opportunities. Highlights include the Hoover Tower observation platform (named after President Herbert Hoover, a Stanford alumnus), Bing Concert Hall, Memorial Church, and access to many outdoor activities, including a hike to the Dish, a recreational area that also serves academic and conservation purposes. "Stanford is really a self-contained city," says Pizzo. "The campus has everything I need, from running trails to athletic events to performing arts programs, not to mention the tremendous medical and research facilities here."

Take—or Get Off—the Beaten Path

J Alcatraz to Angel Island

Alcatraz Island sits just a mile offshore from San Francisco. Visitors can take a ferry to the infamous prison, now operated by the National Park Service, or they can find other ways to get on the water. Karp suggests taking a ride on one of San Francisco's Red and White Fleet cruises. Tickets are easy to get and the views are extraordinary. Or grab a ferry to Angel Island, suggests Hopton. Operated by California State Parks, the ferry is only a short ride from the city and offers 360-degree views of the entire Bay Area.

K Muir Woods to Mount Tam

Located north of San Francisco, in Marin County, the famous redwoods of Muir Woods lure huge crowds daily. Tickets and reservations are required and must be ordered in advance.

For that reason—and a few others—locals often trek to Mount Tamalpais instead, says Hopton. Just a hairpin turn or two from Muir Woods, "Mount Tam" offers a rich web of trails, some leading to



TO THE BEACH: As a San Francisco resident for only two years, David Fang '05, '11 (PhD) still spends weekends exploring what the area has to offer. "There is so much to do here," he says. "In just this Lands End area of the Golden Gate park, you can visit Sutro Baths, hike some great trails, glimpse the sites of famous shipwrecks, and enjoy a terrific meal at the famous Cliff House, which overlooks the ocean."

water, some perambulating through the open mountain side and the deep woods. "My husband, Noah, and I have been there at least 50 times in the six years we've been here," she says. "He even proposed to me near the top of the mountain." *Trivia:* Mount Tam and the surrounding areas in Marin County are considered the birthplace of mountain biking.

Farther Afield

A variety of experiences and adventures are just a few hours away.

Big Sur

Drive down the scenic Pacific Coast highway—State Route 1—for about three hours to get to Big Sur, which sits between an unforgettable coastline and the Santa Lucia Mountains.

Lake Tahoe

Known for its beaches, ski resorts, and outdoor activities, the freshwater lake in the Sierra Nevada Mountains lies on the border between California and Nevada, almost four hours from San Francisco.

Yosemite National Park

The famous photographer Ansel Adams loved the park, and so do the four million visitors every year who take in its sequoia trees, myriad trails, and views of El Capitan, Half Dome, and Bridal Veil Falls.

NETWORK CONNECTIONS

Regional Networks and You

San Francisco is home to just one of the University's regional networks, which offer alumni, parents, and friends a variety of social events and opportunities for networking and volunteering. With new cities added regularly, the lineup of metropolitan areas includes Baltimore, Boston, Chicago, Houston, Los Angeles, Philadelphia, Rochester, and New York City.

The networks also organize opportunities that include interviewing and mentoring students, welcoming new alumni to an area, organizing events, and serving as social media ambassadors. For more information, visit Rochester.edu/alumni/regional-network.

Staying Connected on the West Coast

Being engaged with her alma mater—and helping other alumni do the same—is important to Lauren Sacks Hopton '10, who has played a key role in organizing events in the Bay Area as a Young Alumni Council leader.

"For the past two years, as part of the University's Global Day of Service, I organized a sidewalk planting event with the Friends of the Urban Forest," she says. "It was wonderful to work alongside fellow alumni to beautify our city." She has also planned George Eastman birthday events and "new to the city" events for alumni who have recently moved to the area.

Keeping connections alive while helping the community is important to Jason Smith '03, '08W (MS), too. "One of our most successful alumni events was held at Hotel Biron, a favorite restaurant of mine in San Francisco," says Smith, cochair of the Bay Area Network Leadership Cabinet. "We gathered together as an alumni community, with proceeds from the event going to Napa/Sonoma fire relief funds."

Other volunteers engage, give back, and provide leadership in other ways. David Fang '05, '11 (PhD) is on the Hajim School's Visiting Council and the Bay Area Network Leadership Cabinet. He recently attended an event with students on a tour of technology-oriented companies in the Bay Area sponsored by the Gwen M. Greene Center for Career Education and Connections.

"It's important to give young people a practical taste of what their futures might hold," he says. "It can ground them and inspire them at the same time." Fang is also a volunteer with Real Reader, a University program that connects alumni with students and offers ongoing professional counsel and feedback, including advice on résumés, interviewing, and more.

Phil Pizzo '70M (MD) and Carol Karp '74 serve on the University's Board of Trustees and are former co-chairs of the Bay Area Network Leadership Cabinet. Pizzo also has a close advisory relationship with Mark Taubman, CEO of the University's Medical Center and UR Medicine.

Karp also serves as chair of the River Campus Libraries National Council and on the recently formed Alumni Board. She has been inspired, she says, by "the commitment to the University demonstrated by the exemplary support of our former board chair, Ed Hajim, and our newly appointed board chair, Rich Handler."

Zakia Barnes '04, '17S (MBA) is part of the Alumni Board and the Diversity Advisory Council, and serves as a Simon Business School mentor. "Being connected to my alma mater is rewarding and keeps me grounded," she says. "I encourage everyone to get involved—we can all grow from sharing our experiences and perspectives with one another."

—Kristine Thompson



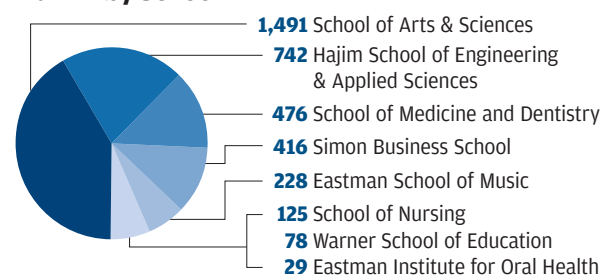
Metro San Francisco Network

With San Francisco at its center, the regional network includes alumni, parents, volunteers, and others living in the Bay Area.

3,440 alumni
168 students

92 current parents
130+ volunteers

Alumni by School



MOUNTAIN MAJESTY: As an outdoor enthusiast, Lauren Sacks Hopton '10 appreciates what the Bay Area offers, including plenty of hiking, biking, and running trails.

Wine country

Sonoma and Napa Valley are just a short distance over the Golden Gate Bridge. Check out the Russian River Valley in the heart of Sonoma County—it's a go-to area for locals.

Half Moon Bay

Just 45 minutes south of the city, a nearly 300-mile stretch of coastline offers breathtaking views, dining experiences (and heaps of fresh seafood), as well as outdoor activities like biking, kayaking, and surfing.

Right Place, Right Time

Bay to Breakers

The annual footrace began in 1912 as a way to lift morale after the 1906 earthquake. Now held on the third Sunday of every May, it's "like Dandelion Day in race form," says Smith.

San Francisco Pride

The annual celebration of the LGBTQ community takes place during the last weekend of June. Highlights include a parade and festival. *Tip:* Check out the GLBT Historical Society in the Castro District, too—it's a treasure trove of materials and knowledge.

Fillmore Street Jazz Festival

Held every year over the July 4th weekend, the festival features live music, plus more than 12 blocks of gourmet food, beverages, and fine arts and crafts vendors.