
In the past four decades, a Rochester program and its graduates have been helping to shape the field of sports medicine.

Home Team Advantage

By *Jim Mandelaro*

The summer before her senior year of high school, Brynn Lauer '17, her basketball team's Most Valuable Player and a regional standout, endured one of the most dreaded injuries in sports: a tear in the anterior cruciate ligament in her right knee. The ligament—known as the ACL—sits at the center of the knee, stabilizing the entire joint.

"It's a feeling I'll never forget," says the chemical engineering major from Newark, New York, outside of Rochester. "I can play that moment over and over in my mind with such clarity, it sends chills down my spine."

Lauer underwent surgery and endured six months of physical therapy before getting back to the court. But shortly after her return, she tore her right ACL again. Five weeks later, she tore her left ACL.

Three tears, and three surgeries, in 12 months.

Lauer missed her freshman season at Rochester, but this daughter of a high school coach, valedictorian of her class at Newark High School, refused to quit. And last season, her knees covered in braces and wraps, Lauer led the Yellowjacket women to the quarterfinals of the NCAA Division III tournament, recording 105 assists and starting 26 games.

"Brynn has been our hardest worker since her arrival at UR," women's basketball coach Jim Scheible says. "She has worked her way back from three ACL tears to become our starting point guard and unquestioned leader. Her will to compete and her resiliency amazes the players and coaching staff on a daily basis."

Lauer considers herself fortunate. Thirty years ago, an ACL tear could end a career. But medicine has come a long way since then. Reflecting on her treatment, Lauer says, "It has helped me get back on the court and feel as close as possible to my 'normal' self."

At the heart of that medical progress is arthroscopic surgery: a minimally invasive procedure in which an endoscope is inserted into a damaged joint through a small incision. Hundreds of thousands of injured recreational and professional athletes have been able, like Lauer, to return to their "normal selves" because of what it's been able to do for damaged knees, shoulders, elbows, wrists, ankles, feet, and hips.

Over 40 years, arthroscopy has transformed sports medicine from a minor branch of orthopaedics to a thriving field that has enhanced quality of life for patients and changed the way orthopaedists deliver care.



FIRST TEAM: Kenneth DeHaven was “a one-man band,” he says, when he started Rochester’s sports medicine program under new orthopaedics chair C. McCollister (Mac) Evarts ’57M (MD), ’64M (Res) in 1975. By embracing and working to perfect promising experimental techniques, DeHaven put the program on the path to becoming a regional destination for athletes.



“From a patient’s perspective, sports medicine is one of the most sought-after types of orthopaedic care,” says Paul Rubery, chair of the orthopaedics department at the Medical Center. “From the surgeon’s perspective, it is probably the sub-specialty of our field which has had the greatest impact on changing what it means to be an orthopaedic surgeon in the past 40 years.”

The art of arthroscopy

Rochester was an early leader in the adoption of arthroscopy. One of the first physicians to recognize its potential was Kenneth DeHaven, professor emeritus of orthopaedics, who joined the Medical Center in 1975.

DeHaven had worked as an intern at the Cleveland Clinic with C. McCollister (Mac) Evarts ’57M (MD) ’64M (Res). Evarts left Cleveland in 1974 to return to Rochester and establish an orthopaedics department at the Medical Center. Eventually he would build the department into a nationally recognized center of orthopaedic treatment and research. One of his first steps in that transformation was to recruit DeHaven to become the University’s first director of athletic medicine.

“There weren’t many universities with a sports medicine department then,” DeHaven says. “Mac was ahead of the curve, and we had the blessing of the athletic director and coaches.”

When the two physicians were working together at the Cleveland Clinic, Evarts asked DeHaven what he wanted his career focus to be. “I said ‘arthroscopy,’” DeHaven recalls. The technique hadn’t been around for long. The first practical arthroscope—a thin, pencil-sized tube with a magnifying lens and light source—had been developed by Japanese orthopaedic surgeon Masaki Watanabe in the 1950s. A Canadian surgeon, Robert Jackson, visited Tokyo during the 1964 Summer Olympics, where he met Watanabe and brought the idea of modern arthroscopic techniques to North America.

Evarts supported DeHaven’s interest in the emerging technology. “He sent me to Toronto to learn under Dr. Jackson,” DeHaven says. “In Cleveland, we couldn’t see anything more inside the knee using an arthroscope than we could through an incision. But Jackson put the patient’s leg in a totally different position than we had been doing. He said, ‘Now look in there.’ And there it was. We could see so much more.”

When doctors had performed open knee surgery, it left patients with a six-inch scar, and often required a five-day hospital stay. Patients used crutches for three weeks and were fortunate to be running six months after surgery.

With arthroscopy, only two small incisions were made—one for the arthroscope and one for the surgical instruments used in the knee cavity. It was much less invasive, vastly reducing recovery time. It has improved greatly since. Surgeons now view the joint area on a video monitor and can diagnose and repair torn tissue in about one hour. A patient with a tear in the meniscus, the cartilage that cushions the knee joint, is often running within three weeks.

DeHaven couldn’t understand why there wasn’t more of an attempt to mend and salvage cartilage—and salvage an athlete’s career. He arrived in Rochester eager to spread the word about the groundbreaking technique. He appeared in hotel conference rooms from Rochester to San Francisco, representing the American Academy of





INSTANT RE-PLAY: The Yellowjackets' Brynn Lauer '17 (above) plays with a knee brace, but has largely recovered from multiple ACL tears. UR Medicine-Sports Medicine's Mike Maloney '97M (Res) (left) confers with his patient, former Cornell football offensive lineman Matt Simmonds.

Orthopaedic Surgeons and preaching the gospel about the advantages of arthroscopy versus traditional, more invasive open surgery.

But doctors weren't buying what he was selling.

"They thought their way was best," DeHaven says. "They thought arthroscopy was a fad."

DeHaven persevered. At first "a one-man band," with Evarts's support, he made Rochester's new sports medicine program a flourishing enterprise.

More than 40 years later, it's grown into UR Medicine-Sports Medicine, a team of doctors, technicians, therapists, and trainers numbering in the hundreds. Part of the Department of Orthopaedics and Rehabilitation, its lineup includes 10 physicians and 12 advanced practice providers who provide medical and surgical care, and

Rochester's Sports Medicine All-Stars

Only one University athlete has gone from the River Campus to a major sports team: Dave Deutsch '66 played in just 19 games for the New York Knicks of the National Basketball Association. But in the world of sports medicine, Rochester has fielded an all-star lineup.

- **Kevin Black '81M (MD) '86M (Res)** was orthopaedic consultant to the National Football League's Green Bay Packers from 1990 to 1992 and since 1993 has been team physician for the American Hockey League's Hershey Bears.

- **Jan Fronck '79M (MD)** was head team physician for Major League Baseball's San Diego Padres (1991-2008), the U.S. Pro Ski Tour, and the World Baseball Classic, an event that brings together top players from 16 nations. Among his regular patients was Baseball Hall-of-Famer Tony Gwynn, who won eight National League batting championships despite eight knee surgeries.

- **Jim Malone '89** has served as head strength and conditioning coach for Major League Baseball's San Diego Padres and New York Mets and is currently the athletic development coordinator for the St. Louis Cardinals.

- **Arthur Pappas '57M (MD)** was medical director of the Boston Red Sox from 1978 to 2002. He was instrumental in prolonging the careers of several players, including Roger Clemens, who overcame shoulder surgery in 1984 and pitched until 2007, winning 354 games. Hall-of-Fame outfielder Carl Yastrzemski, who played until age 44 despite chronic back ailments, described Pappas's impact on the storied franchise.

"I lived my dream," Yastrzemski said following Pappas's death in March 2016. "Arthur Pappas was responsible for my dream. If it wasn't for him, I wouldn't have had 3,000 hits and 400 home runs."

In 2003, the Red Sox designated the Dr. Arthur M. Pappas Family Room in Fenway Park and adorned the room with a plaque honoring his "loyalty, care and concern for the organization, the team and their families."

- **Wayne Sebastianelli '79, '83M (MD), '88M (Res)** was Penn State's head physician from 1992 to 2013 and now serves as its director of athletic medicine. His quick work helped football player Adam Taliaferro recover from a spinal injury in 2000 after the freshman was given only a 3 percent chance of walking again. He walked eight months later.

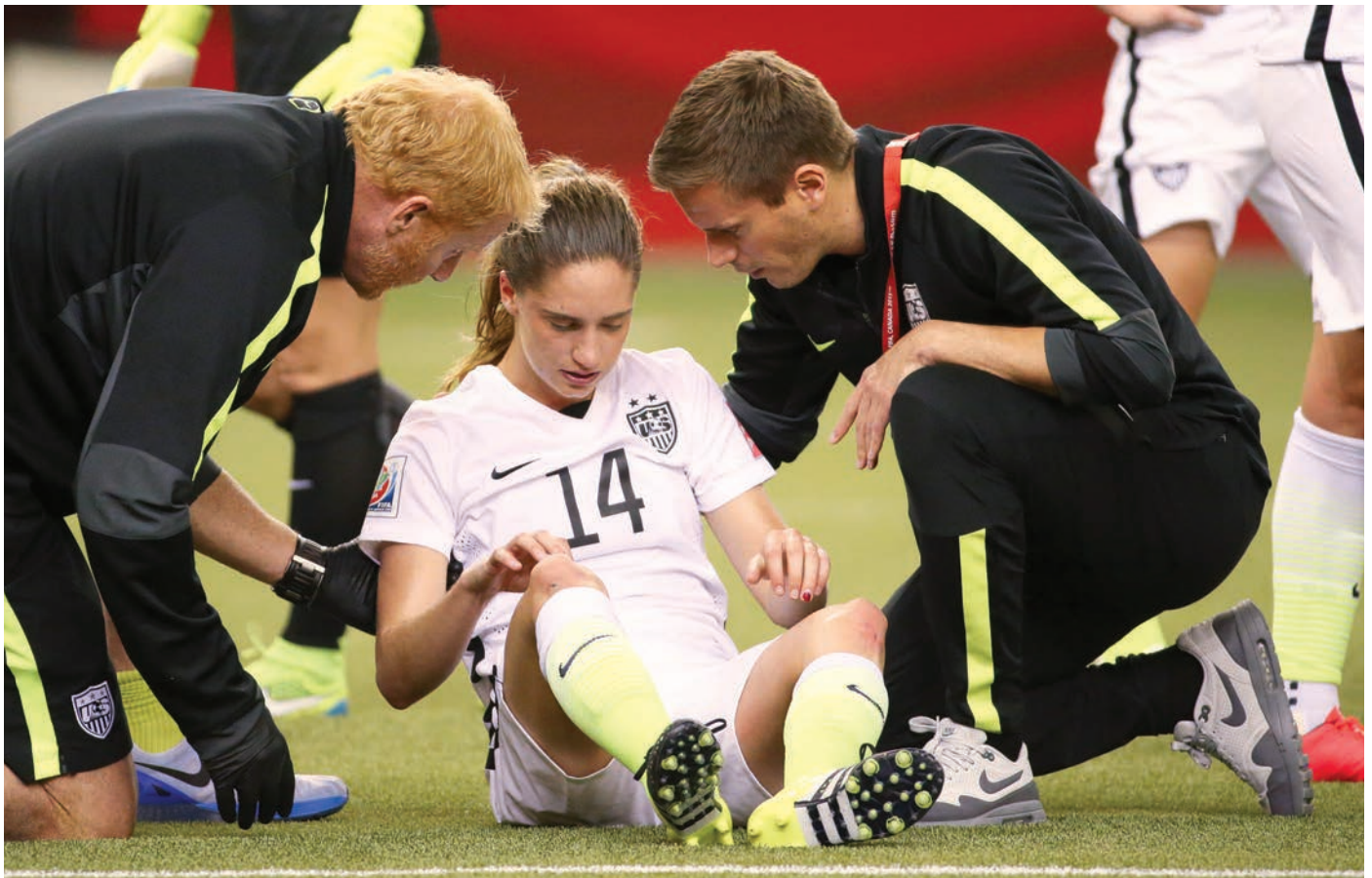
- **Tommy Sheehan '90** was Columbia University's director of strength and conditioning from 2001 to 2014 and is now the director of sports performance at the Ivy League school. A two-time All-American wide receiver for the Rochester football team and a member of the University's Athletic Hall of Fame, he has trained Cristina Teuscher, an Olympic gold medalist in swimming; Mahesh Bhupathi, a world champion in doubles tennis; and Alexei Kovalev, a National Hockey League All-Star for the Pittsburgh Penguins and Montreal Canadiens.

- **Bojan Zoric '98** has helped some of the world's greatest soccer players as a team doctor for the United States women's national team during its gold medal-winning performance at the 2012 Olympics and championship win at the 2015 World Cup. (See story, page 33.)

In addition, a team of doctors at UR Medicine-Sports Medicine, led by division chief Mike Maloney '97M (Res), helped pole vaulter Jenn Suhr recover from injuries and go on to win the gold medal in the 2012 Olympics. The Fredonia, New York, native finished second at the 2008 Olympic Games, but debilitating injuries to her hip, back, knee, and shoulder threatened to sideline her in 2012. Rochester doctors were able to relieve her pain and avoid surgery. She made it to the championships, finished fourth, and rose to No. 1 in the world rankings before capturing the gold in London.

"The URM doctors got me back in action," Suhr says. "I never could have done this without them."

—Jim Mandelaro



SCARY MOMENT: U.S. women's national soccer team physician Bojan Zoric (right) and athletic trainer Rick Guter attend to midfielder Morgan Brian after her head collided with that of an opposing team player in a 2015 World Cup semifinal game.

32 athletic trainers who deliver services such as classes in spine and knee injury prevention and nutrition consultations in four medical offices in Rochester and the surrounding area.

Rochester has made a powerful impact on sports medicine through its graduates. John Bergfeld, senior surgeon in the Cleveland Clinic's orthopaedics department and former team physician for the National Football League's Cleveland Browns and National Basketball Association's Cleveland Cavaliers, praises the breadth of Rochester's sports medicine program. "Rochester has produced a wealth of sports physicians, not only at the professional and college athlete level, but also for schoolboy, schoolgirl, and recreational athletes," he says.

Alumni include team doctors at Major League Baseball, NCAA Division I, and Olympic ranks, while UR Medicine-Sports Medicine has become an invaluable resource in the region, handling more than 75,000 patient visits per year from high school and college athletes and recreational golfers, skiers, tennis players, and exercise enthusiasts.

"I'm proud of what we have built, and how we serve the community," says Mike Maloney '97M (Res), professor of orthopaedics, chief of UR Medicine-Sports Medicine, and team doctor for the Triple-A baseball Rochester Red Wings. "It's a tribute to what Dr. DeHaven started and envisioned for care of the athlete."

The "Tommy John miracle"

Maloney followed a similar path to Rochester as did DeHaven.

DeHaven has been highly attuned to recruiting other physicians on the forefront of novel techniques. In the late 1990s, he and Richard Burton, then chair of the orthopaedics department, brought Maloney to Rochester from the Kerlan-Jobe Orthopaedic Clinic in Los Angeles, where Maloney had learned a groundbreaking surgical technique from the late Frank Jobe, a pioneer in sports medicine who was the longtime team doctor for the Los Angeles Dodgers.

In 1974, Dodgers pitcher Tommy John sustained major damage to the ulnar collateral ligament in his left (throwing) elbow. Such an injury had ended pitchers' careers in the past, but John pleaded with Jobe to fix it.

Jobe told John that he wasn't sure he could, but he would try. Jobe had previously taken the palmaris longus, an "accessory" tendon in the forearm, to strengthen the joints of polio patients. He transferred the palmaris longus from John's right forearm into his left elbow, weaving it through the tunnels drilled into the ulna and humerus bones.

Jobe gave John a 1 in 100 chance of recovery and warned that his elbow could snap at any time. It never did. John returned in 1976 and pitched 14 more seasons. Before the surgery, he had won 124 games. After it, he won 164. He never missed a start due to elbow pain and retired in 1989 at 46.

The experimental operation, formally called ulnar collateral ligament, or UCL, reconstruction, is known across baseball as "Tommy John surgery." About 500 major league pitchers have undergone the

Soccer Doctor

Bojan Zoric '98 knew early on he wanted soccer to be part of his life: he was playing almost from the time he was walking. But it wasn't until he suffered knee and foot injuries as a Rochester soccer player that Zoric developed an interest in sports medicine.

"Dr. Bronstein took care of me," he recalls, referring to Robert Bronstein, the professor of orthopaedics at Rochester who treated Zoric in his clinical practice. "Watching him get me back on the field made me want to do the same for others. My injuries pushed me toward sports medicine."

Zoric now practices at Sports Medicine North in Peabody, Massachusetts, where he specializes in sports medicine and arthroscopic reconstructive surgery of the hip, knee, shoulder, and elbow. He is also a team physician for the United States women's national soccer team, which will enter this summer's Olympic Games in Brazil ranked number one in the world.

Zoric will miss the Olympics, opting to stay home "for family reasons."

"They'll have to win gold without me," he says with a laugh.

Zoric completed a sports medicine fellowship at the Steadman-Hawkins Sports Medicine Clinic in Vail, Colorado, where he worked with professional athletes from Major League Baseball, the National Football League, the National Basketball Association, the National Hockey League, and European soccer. He was also part of the team of physicians for the United States ski and snowboard teams.

Zoric was born at the University's Strong Memorial Hospital while his father, Igor Zoric '77 (PhD), was earning a doctoral degree in physics on the River Campus. He moved with his parents to their native Croatia when he was a year old, later lived in Sweden, and played for a youth club run by a professional soccer team until he was 18.

Igor wanted his son to have a college education and made contact with then Rochester soccer coach Mike Pilger, who recruited Bojan. Bojan majored in molecular biology and played four years of soccer. After

overcoming a fifth metatarsal fracture and a meniscus tear, both requiring surgery, he was finally injury-free his senior year and tied for the team lead in scoring, with 18 points.

Zoric says that, among soccer players, injuries to the lower extremities are most common. He calls anterior cruciate ligament, or ACL, tears "a huge epidemic in the U.S. and around the world," one that is growing with the increase in sports participation among youth.

"Kids are getting into athletics at a younger age, and with greater intensity," he says. "There's an unbelievable spike in ACL injuries among middle-school students, primarily girls."

Zoric has been a leading proponent of programs focusing on prevention of ACL injuries, widely considered the most serious type of knee injury because of the ligament's role in stabilizing the entire knee joint. Female athletes sustain noncontact tears at a rate five times higher than their male counterparts, largely as a result of different biomechanics. Female knees tend to be more turned in toward the middle of the body, and less bent when jumping and landing.

"There are several studies showing an increased incidence of ACL tears in females," Zoric says. "This is thought to be multifactorial—biomechanics, hormonal, ligamentous laxity, et cetera. There's also good evidence that going through a preseason strengthening exercise program which emphasizes mechanically correct landing techniques helps reduce the incidence of ACL tears in both men and women."

Rochester's sports medicine department implemented a program called PEP (Prevent injury, Enhance Performance) in 2003 at area high schools that targeted the prevention of noncontact ACL tears. It was based on a two-year clinical prevention trial among 1,400 Division I female college athletes showing that increased flexibility, strength, proprioception, and agility can reduce the injuries by up to 88 percent.

—Jim Mandelaro

surgery since 1974, and prospects of a complete recovery have risen to about 90 percent.

Having learned from the surgery's inventor, Maloney quickly became a noted practitioner of UCL reconstruction. The number of cases can vary considerably, and Maloney estimates that he performs from 10 to 20 such surgeries in any given year. Outside of New York City, there are few physicians in the state, if any, who perform more.

Seeking the holy grail

Maloney marvels at the pace of change in sports medicine.

"I remember doctors saying 'I did all this training, and there's nothing I do now that I did when I trained,'" he says. "That speaks to our understanding of anatomy and the evolution of techniques in a minimally invasive way. It has changed the way we take care of patients."

Although the strides made in sports medicine over the past half-century are staggering, there is more progress to be made. Maloney says Rochester doctors are investigating the use of platelet-rich plasma, or PRP, injections to promote the healing of injured tendons, ligaments, muscles, and joints.

Another strategy is harvesting stem cells from a person's body, inserting them into the "defective" area, and sewing them in place with a piece of cartilage to see if a new layer of cartilage will develop.

"A lot of pro athletes are getting it done," Maloney says. "We don't have great prospective studies to say how well or how long

it's going to last, and for that reason a lot of insurance companies won't cover it."

Gene therapy, in which gene transfers are targeted to cartilage defects, is in the early stages.

"It's had some complications," Maloney says. "It's just not there yet."


A major area of research is on active citizens who are living much longer than in the past. "We're talking about a population that once lived to 50 years old and now is living to 80, 90, and 100—but the joints aren't lasting," says Bojan Zoric '98, physician for the United States women's national soccer team (see story, above). "The holy grail is figuring out how to regenerate or restore cartilage in arthritic joints. And we're still quite a ways from that."

Maloney has treated hundreds of pro athletes whose livelihoods depend on their health. But perhaps his most challenging (and memorable) patient was a woman who insisted on knee surgery simply to continue her daily five-mile walks.

Never mind that she was in her early 90s.

"People told her to live with it, but she couldn't," he says. "So we did arthroscopic surgery and cleaned it up. She was so happy to get back to her walking."

Maloney chuckles at the memory.

"You can help someone who is 9 or 90, and someone who makes millions playing sports, or one who just likes to work out," he says. "That's the beauty of sports medicine." 

May We Recommend...

Looking for a little summer reading... or viewing, or listening?
Rochester faculty have some suggestions.

Interviews by Rebecca Block '18 • Illustrations by Michael Osadciw



People who teach and research live in a world of ideas. And while they all have their specialties, their curiosity takes them to unexpected places and unusual connections. A few members of the faculty share their recommendations for books, music, and videos not to be missed.



James VanDemark
PROFESSOR OF DOUBLE BASS

■ *Custer's Trials: A Life on the Frontier of a New America* by T. J. Stiles

One need not be a devotee of American history to be impressed. Stiles [the winner of the 2016 Pulitzer Prize in History] employs remarkable detail to give a compelling portrait of Custer, a man of wildly contradictory character and complexity: an intelligent, curious, and often brilliant Civil War commander, yet possessing a spectacularly inflated ego and a penchant for self-destruction, all vividly displayed before his demise at Little Big Horn. Avoiding caricature, Stiles provides a fascinating depiction of Custer's convoluted relationships with his wife, Libbie, and with the African-American woman who ran the Custer household, Eliza Brown.

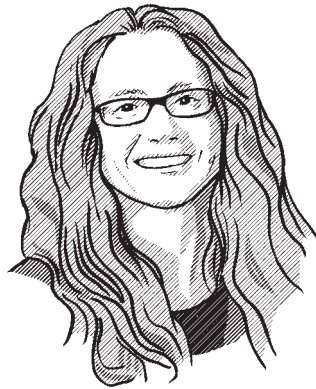


Jean Elisabeth Pedersen
ASSOCIATE PROFESSOR OF HISTORY
AT THE EASTMAN SCHOOL OF MUSIC

■ *Democracy in America*
by Alexis de Tocqueville

I am reading and loving Alexis de Tocqueville's *Democracy in America*. When de Tocqueville sailed from France to the United States with his friend Gustave de Beaumont to visit the New World and report back about the latest trends in

prison reform in 1831, France had just established a new constitutional monarchy and America was just entering the age of Jacksonian democracy. De Tocqueville's travel stories are fascinating, and his comments on topics as various as liberty and equality, federal systems and states' rights, the similarities and differences between the American and French Revolutions, and the historical reasons for which democracies are most likely to succeed or fail are all still as interesting, insightful, and important today as they were when the book first appeared in two volumes in 1835 and 1840—especially in the campaign year that we are all now observing, experiencing, and shaping on the way to the presidential elections of 2016.



Lynne Orr
C. E. KENNETH MEES PROFESSOR OF PHYSICS

■ *Sailing Alone Around the World*
by Joshua Slocum

This may be the most charming true-life adventure book ever written. From 1895 to 1898 Joshua Slocum sailed solo around the world—the first person ever to do so—in a 36-foot wooden sloop. Slocum's account of his adventures along the way, sometimes harrowing, sometimes funny (and sometimes both, as in his struggles to sail through the Strait of Magellan—twice), is an engrossing read. His writing is understated and laced with a sly, subtle humor, and the book is refreshingly free of the breathless prose that often characterizes contemporary narrative nonfiction. I've read *Sailing Alone Around the World* over and over, and each time I've found new reasons to love it.

Brian Giordano
ASSISTANT PROFESSOR OF ORTHOPAEDICS

■ *The Blue Zones* by Dan Buettner

The author travels around the world to various regions—"blue zones"—where



inhabitants have been found to live significantly longer than expected for general populations. He delves into factors in these populations that may positively influence lifespan and quality of life, namely, lifestyle, diet, and outlook, among others. Lessons learned from the world's longest-living people showcase the notion that longevity is not found in a pill or surgery, but through interesting and unexpected influences.



Matthew BaileyShea
ASSOCIATE PROFESSOR OF MUSIC THEORY

■ *Jimi Plays Monterey*

Whenever I encounter someone who hasn't yet had the Jimi Hendrix experience, I advise them to get online and seek out every video they can find from the legendary 1967 concert at the Monterey Pop Festival. The performance culminates with Hendrix, dressed like a marigold, sacrificially dousing his Stratocaster with gasoline and setting it ablaze. He also plays astonishing guitar solos with his teeth. But listen for the subtleties, for the blues and the R&B, and especially for the warmth and compassion that he brings to Dylan's "Like a Rolling Stone." I first saw this footage as a teenager late one night on PBS. I'm not sure I've fully recovered.



Carmala Garzione

PROFESSOR OF EARTH AND ENVIRONMENTAL SCIENCES

■ *Fugitive Pieces* by Anne Michaels

This novel is perhaps the most memorable book that I've read. It touches on all of the senses, leaving the reader with a rich sensory memory of the emotions elicited by the story. Parts of the book read like poetry that caresses both mind and spirit. The plot centers on a young boy's survival in the face of trauma and the quest for personal and intellectual discovery. A geologist also figures prominently in the story, making the cast of characters complete.



Carol Anne St. George

ASSISTANT PROFESSOR AND DIRECTOR OF LITERACY EDUCATION PROGRAM

■ *Still Moving* by Danny Clinch

This suggestion comes not from my current work as director of reading and literacies at the Warner School, but from my appreciation for rock music and past experience as an independent record store owner. Danny Clinch, photographer and film director, has been the talent behind hundreds of record covers

and magazine spreads covering a wide variety of artists and pop music genres. Along with Clinch's narrative, the book holds beautiful and artistic backstage photos and private glimpses of many rock legends. His stories about his experiences over the years are fascinating and demonstrate his passion for what he does. Anyone who has been a music fan over the past 30 years should enjoy this visually exciting and historically relevant coffee table book. It's great fun to pore over each photo while listening to classic rock.



Mark Bocko

DISTINGUISHED PROFESSOR OF ELECTRICAL AND COMPUTER ENGINEERING, PROFESSOR OF PHYSICS AND ASTRONOMY

■ *The Man Who Flattened Earth: Maupertuis and the Sciences in the Enlightenment* by Mary Terrall

Maupertuis is responsible for the principle of least action in classical mechanics (one of the foundations of physics), but he was involved in all kinds of studies and enterprises, like an expedition to Lapland to carry out earth geodetic measurements. He was also an accomplished self-promoter—which sadly one sees to a large degree in academic science in the present day—but it's interesting to read how this was practiced and brought to a high level in the 1700s.

As a music recommendation, I like all of the CDs from Gordon Goodwin's Big Phat Band (a 17-piece jazz big band). I love big band music, and play the bass myself in a big band, but the recording production values of his CDs are outstanding, and we use a lot of his music for demo purposes in our loudspeaker development research.

Eric Blackman

PROFESSOR OF PHYSICS AND ASTRONOMY

■ *NOVA: Death Star*

This documentary, produced in 2002, is





one of the best one-hour documentaries on an astrophysics subject that I've ever seen. It captures both the excitement of science and the science itself extremely well, right from the opening scene. It shows how astrophysics proceeds from the discovery of a new source, to follow-up observations, to theoretical investigation of what the source could be, along with even the politics of big science—it follows a mystery unfolding, and shows the suspense involved.

I also recommend *Street Corner Symphonies: The Complete Story of Doo-wop*. I've been a fan of this style of music since I was a small child. This is the music of urban R&B vocal groups from the 1950s and 1960s. One of the characteristics of doo-wop is smooth, soulful harmonies—usually four- or five-part. It originated as a cappella singing on street corners. While the music on the page is



very simple to play, it's hard to make the harmony sound as good as the very best groups do, and doo-wop experts become picky (perhaps like wine experts). This recent CD set, which covers 1939 to 1963, is one of the best compilations of many superb recordings in the genre, remastered for clear sound and with good historical notes. It's like a short course in the genre. A good doo-wop recording has something in common with a good astrophysics paper: sometimes the best research papers are actually artfully very simple, elegant, and harmonious. Only a small fraction of papers get this combination right because it requires having a sophisticated grasp of scientific concepts and being able to filter the important minimalist ingredients while eliminating the extraneous stuff to have the maximally efficient effect. A good doo-wop song is a metaphor for something that accomplishes this in music—at least for me.

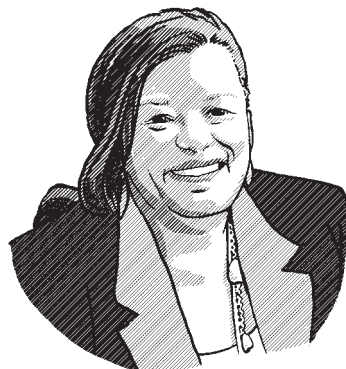


Elizabeth Colantoni

ASSOCIATE PROFESSOR OF CLASSICS

■ *To Each His Own* by Leonardo Sciascia

This book tells the story of a murder in a small town in Sicily. The only person who is interested in uncovering the truth is a teacher in the town who becomes obsessed with the case and works to unravel a mystery that no one really wants solved. What I love about this book is the way it bends genres and turns a story framed as a murder mystery into an investigation of the nature of evil and the complicity of the individual in societal corruption. The point of the book is not really the whodunit, but rather how society, or in this case more specifically, residents in a small town in Sicily, respond to murder and corruption. The book presents a story that is well grounded in its setting in Sicily in the 1960s, but, like any great piece of literature, it also raises human issues and moral questions that are important independent of time and place.



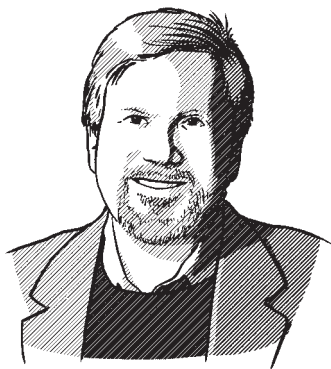
Dena Phillips Swanson

ASSOCIATE PROFESSOR OF COUNSELING AND HUMAN DEVELOPMENT

■ *Between the World and Me* by Ta-Nehisi Coates

This nonfiction book is written as a letter by Coates for his son to understand the

America he must navigate as an adolescent black male. My research examines identity development with a focus on racial and ethnic minority adolescents. Coates offers perspectives framed by his personal experiences to shape his son's identity and values, particularly necessary when the rules that govern society are not applied as he would expect. The narrative is informative rather than prescriptive, intersecting historical and contemporary American events to connect issues across time. In writing to his son, Coates answers questions about injustices his son, and many like him, seek to understand. A national correspondent for *The Atlantic*, Coates offers messages to his son that transcend assumptions about race and economic status; throughout the book, he presents challenges encountered by many black families raising children who must navigate social and personal injustices. This book is simply a must read.



Henry Kautz

ROBIN AND TIM WENTWORTH DIRECTOR OF THE GOERGEN INSTITUTE FOR DATA SCIENCE AND PROFESSOR OF COMPUTER SCIENCE

■ *The Master Algorithm: How the Quest for the Ultimate Learning Machine Will Remake Our World* by Pedro Domingos

This is the book I recommend to all my friends and family who ask me what it is I actually do as a researcher in artificial intelligence. In clear and lively writing, completely free of equations and jargon, Domingos quite accurately describes how machine learning works, and the challenges that lie ahead.

And *The Buried Giant: A Novel* by Kazuo Ishiguro is a beautifully written fable about memory, forgiveness, war, and love, set in the mists of post-Arthurian Britain—but it speaks to every nation that has been torn by sectarian violence, and every person who has sought refuge from the cruelties of love in forgetfulness.



Gretchen Helmke

PROFESSOR OF POLITICAL SCIENCE

■ *It Can't Happen Here* by Sinclair Lewis

I read this book for the first time maybe a decade ago and thought it was a brilliant political satire about what fascism would have looked like in the United States had Huey Long beaten FDR in 1936. The book opens with the election of President "Buzz" Windrip, a charismatic, but ultimately incompetent, authoritarian leader whose campaign prevails with a mixture of nativism, nationalism, anti-establishment bluster (including attacks on the media), and fantasy-based economic policies. During this election cycle, many pundits and others have rediscovered Lewis's novel and its enduring message about the perils of populism.

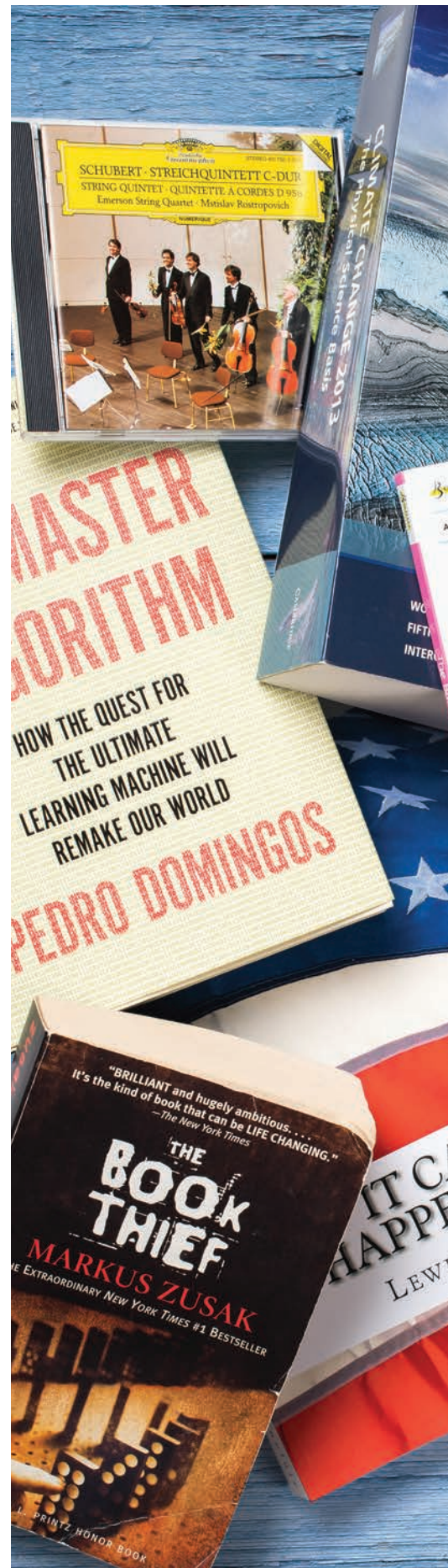


Celeste Kidd

ASSISTANT PROFESSOR OF BRAIN AND COGNITIVE SCIENCES

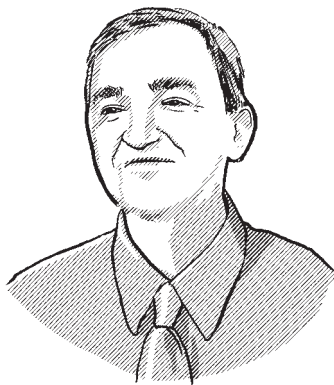
■ *The Baby Human*

I would highly recommend this Discovery Health series to anyone interested in learning about experimental methods used in developmental psychology. The show includes experimental demos





from some of the top developmental labs around the world. Topics range from motor development to memory to language acquisition, so the breadth is also impressive. Although the program is no longer on the air, there are episodes available on DVD and online.



John Lambropoulos

PROFESSOR OF MECHANICAL ENGINEERING

■ *Climate Change 2013, The Physical Science Basis* by the IPCC, the International Panel on Climate Change

The book is huge—I have read portions of it, and I am not sure that my brain captures the full argument in all its details. The book describes in excruciating detail the documentation of how climate change is measured, and the science supporting the evidence that climate change is anthropogenic. It also contains different scenarios of climate change in response to different human responses to reducing the greenhouse gasses. Different mitigation approaches involve different political, economic, engineering decisions: we need to know, before we adopt them, what the consequences of our collective decisions will be. It's not exactly bedtime reading. If anything, reading it before going to bed is guaranteed to keep you up all night. I have often told my students that, when I was in college, climate change was not an issue. But it is an issue for my students' lifetimes, and we will all have to address, collectively, its resolution.

Cyril Meyerowitz

PROFESSOR OF DENTISTRY

■ *The Book Thief* by Markus Zusak

It's a first novel written by the author and was originally intended for young adults—however, it is definitely a book for all ages and a remarkable story of how hope triumphs over adversity. The story is about the experiences of a nine-year-old orphan girl during the Holocaust and is told by an unlikely narrator, death—an unusual literary device, but it works wonderfully as beauty and chaos and horror are contrasted. I have read a great deal about World War II, both fiction and nonfiction. This book stands out for me as it tells a rather simple story during a terrible time in a way that educates you while it tugs at your heart. One of the few books I have read that brought tears to my eyes.

I am a music lover, with a preference for classical music and particularly chamber music. Beethoven's string quartets, particularly the late quartets, are my favorites. However, the piece of music that I would suggest as a "never miss" is Schubert's String Quintet in C major. It's his last chamber piece. He wrote it



a few months before he died. It has an extra cello, in addition to the usual string quartet instruments. I am a cello lover, so the extra cello definitely works for me. And the second movement, an Adagio, often referred to as "sublime," is just that. It is my recipe for friends who are swept up by the maddening pace of life: "a good Scotch, a quiet space, and the Schubert Quintet's Adagio movement." Just a wonderful piece of music. ③



▲ **International: Category Winner**

ROCHESTER

Henna Ceremony

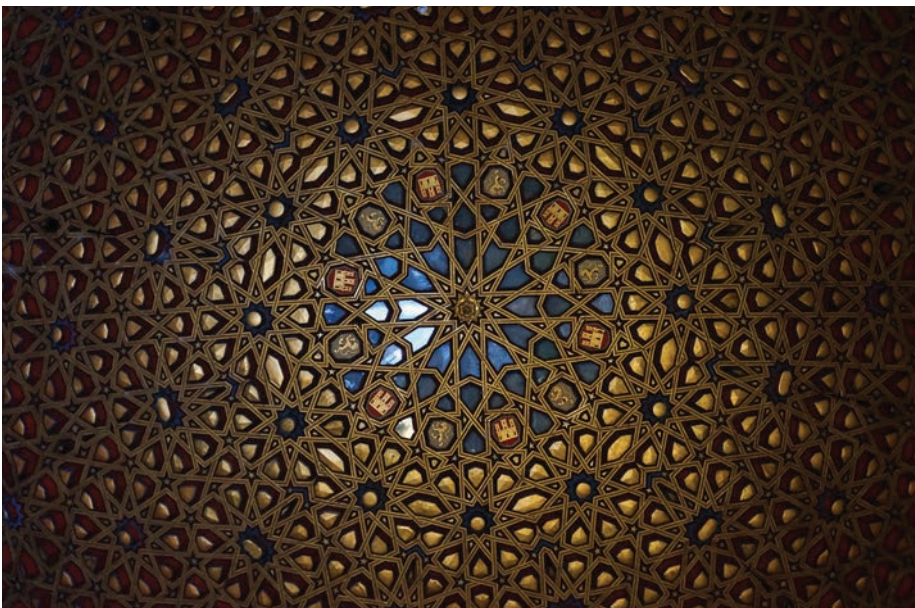
Asma Khan, a doctoral student at the Warner School of Education from Lahore, Pakistan. October 2015

Culture: Honorable Mention

SEVILLE, SPAIN

Alcazar Hall of Ambassadors

David Libbey '16, a digital media studies major from Needham, Massachusetts. June 2015




World in View

In the eighth edition of *Rochester Review's* annual Education Abroad Photo Contest, we received nearly 150 photos from more than three dozen students who took part in academic programs sponsored by the College Center for Education Abroad during 2015. There were also several photos of the United States submitted by international students who studied at Rochester in 2015.

The photos were taken in more than 30 countries, on five continents, and

submitted in the categories of culture, people, and the physical world.

Nearly one-third of undergraduates enrolled in Arts, Sciences & Engineering take coursework abroad, a rate that's nearly double the national average. Last fall, the office responsible for undergraduate academic programs involving international education was renamed to the College Center for Education Abroad. Formerly, it was the College Center for Study Abroad and Interdepartmental Programs. 



▲ **Grand Prize: Study Abroad**

YASOTHON PROVINCE, THAILAND

The Ant and the Water Buffalo

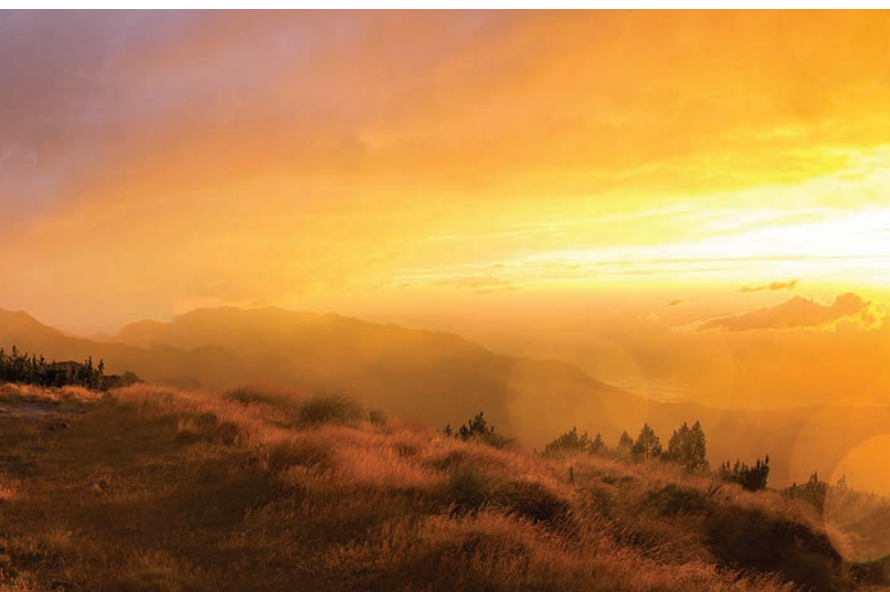
Jamie Rudd '17, an anthropology and English major from Madras, Oregon. *September 2015*

◀ **Physical World: Honorable Mention**

KAIKOURA, NEW ZEALAND

Sunrise from the Summit of Mt. Fyffe

Jacob Blackberg '16, a mechanical engineering major from Wayne, New Jersey. *February 2015*





People: Category Winner

PARIS, FRANCE

An Unlikely Moon

Casey Waldren '17, a computer science major from Portland, Maine. *October 2015*

Culture: Category Winner

ST. PETERSBURG, RUSSIA

A Cloudy Day in St. Petersburg

Kendall Gildersleeve '17, a Russian major from Alexandria, Virginia. *September 2015*





◀ **Culture:
Honorable
Mention**

MALTA

*The Maltese
Lifestyle*

Karen Ruiz '16, a
psychology major
from San Antonio,
Texas. June 2015



◀ **Physical World:
Honorable
Mention**

**TIERRA DEL FUEGO,
ARGENTINA**

*Beagle Channel:
Lighthouse
between the
Atlantic and
Pacific*

Laurel Barkan '17, an
international relations
major from Bedford,
Massachusetts.
December 2015



◀ **People:
Honorable
Mention**

**COPENHAGEN,
DENMARK**

*A Rally for
LGBT Rights*

Molly Nemer '17,
a film and media
studies and a digital
media studies major
from Mendota
Heights, Minnesota.
November 2015



Thanks to Our Judges

Our panel of judges included Allen Topolski, professor of art and art history; Brandon Vick, digital assets manager for University Communications; and Maya Dukmasova '12, a former winner in the contest and now a journalist and photographer based in Chicago.

Tynelle Stewart, assistant dean and director of the College Center for Education Abroad, helped coordinate the contest.





▲
Readers' Choice

VENICE, ITALY

The Sunset of Venice

Deanna Peterangelo '16, a neuroscience major from Buffalo. *November 2015*

People: Honorable Mention

GOWA, MALAWI

A Beautiful Couple

Hannah Greenwald '17, a health, behavior, and society major from Armonk, New York. *June 2015*

▲
**Physical World:
Category Winner**

CHAMBRAY, FRANCE

Le Montagne

Karen Ruiz '16, a psychology major from San Antonio, Texas. *March 2015*

◀ **Culture:
Honorable Mention**

CHRISTCHURCH, NEW ZEALAND

Blu the Border Collie at Work

Jamie Alexander '16, a computer science major from Rockport, Texas. *February 2015*

