The Magazine for the University of Utah School of Medicine Alumni and Friends

ILLUMINATIONS

WHAT’S INSIDE

1  Dean’s Message
2  Executive Director’s Message
3  Bone Marrow Transplant in Brazil: The Utah Connection
6  The 1980s - Pioneering the Impossible
11  Alumni and Community Weekend
     Event Schedule
     UTEMED Talks
     Distinguished Awards
18  Student Life
     Rubor Submissions
     What Training a Medical Student Really Costs
     Match Day
     Commencement 2017
26  News Notebook
     These Mice are Walking: New Discoveries in MS Research
36  Alumni Notebook
     Back Cover I Know You... or do I?

LETTERS TO THE EDITOR:
These will be posted on the SOM Alumni Web site. Submit letters at somealumni@hsc.utah.edu

VISIT OUR WEB SITE:
www.medicine.utah.edu/alumni
Update your information at: https://app.medicine.utah.edu/SOMAlumni/index.htm or email Blythe.stewart@hsc.utah.edu

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I thought about how this fresh crop of highly capable, well-trained doctors from the University of Utah are following in the footsteps of a long line of trailblazers, who were—and still are—compelled to come to Utah to be part of a distinctly collaborative ecosystem where they are accomplishing things that really can’t be done anywhere else. This remarkable class is blazing new trails of its own. The Class of 2017, now officially joining the ranks of U of U School of Medicine alumni, will always hold a special place in our history as the first expanded class to benefit from Senate Bill 42. Passed four years ago, the bill provided for a phased increase in the medical school class size, expanding from 82 to 102 students—and ultimately to 125.

While it’s true that our world is in transition and uncertainty abounds, these students are entering the profession of medicine at a time of amazing scientific discovery. There will be endless opportunities to address problems in the human condition through advanced technologies.

We find ourselves in the midst of an important transition in leadership. Dr. Vivian Lee has stepped down from her roles as Senior Vice President for Health Sciences, CEO of University of Utah Health and Dean of the School of Medicine. Dr. A. Lorris Betz has agreed to come out of retirement to lead the Health Sciences on an interim basis. He has asked me to assume the role of interim dean of the School of Medicine while the search for Dr. Lee’s successor continues. We will strive to maintain the momentum generated by her transformational leadership. She expanded our reach in research, health care delivery and education. Her influence will be seen and felt for years to come.

The university has received national recognition for providing high-quality and patient-centered care, while stabilizing and reducing costs, securing our ranking as #1 in the nation for quality and the #1 hospital in the state. U of U Health was also the first health care system to publish online patient reviews, now more than 30 health care organizations follow suit.

As illustrated by the stories and news in this issue of Illuminations, our health system, research productivity and training programs have never been stronger. We are grateful to Dr. Lee for her vision and contributions. Dr. Betz is committed to carrying them forward. As we move full speed ahead with the exciting transformation of our health sciences campus, we are poised to continue as a leader in health care innovation here and abroad. New facilities will enhance our ability to provide world-class interdisciplinary training for our students, providing a holistic approach for the best possible patient care.

Wayne M. Samuelson, MD
Interim Dean, School of Medicine

“I always look forward to the excitement of graduation. As I looked out at the faces of our graduating class of 2017, I realized I was witnessing a historic moment. I have never been more certain of the promise the future holds.”
Executive Director’s Message

On behalf of the School of Medicine Alumni Association and Alumni Relations office, I welcome the Class of 2017 into our alumni family. It was wonderful to participate in their journey through medical school, starting with the stethoscope gift program at their White Coat ceremony, through hosting the freshman class social with our School of Medicine Alumni Board members, sponsoring Dinner with a Doc and HOST events (Help our Students Travel for fourth year students) through their training years and encouraging them with healthy treats in the student lounge on test days. This year our Student Emergency Fund saw more use than usual with almost $10,000 distributed to support medical students who found themselves in serious financial straits due to unexpected illnesses or life events. With tuition and fees for in-state students almost $40,000 this coming year, many students do not have any discretionary income to spare if an unexpected medical or family emergency arises.

We are only able to assist our students and encourage successful completion of their training thanks to the support we receive from you, our alumni and friends. We are glad to be able to step up and not only help these students financially, but make them feel they are part of a larger family of University of Utah School of Medicine graduates who continue to care for current U students even after they have completed their own training and are out in practice.

We were encouraged that many of our 2017 graduates want to pass along the generosity. Almost 100% of graduates going out of state for their residency training signed up for the HOST program to assist future fourth year students as they travel for residency interviews. A majority of students show up every fall at our Thank-a-thon party to write thank you notes to their scholarship and stethoscope donors. They are truly grateful for all the support and encouragement they receive from the School of Medicine Alumni Association as they progress through medical school.

In this edition of Illuminations we continue to highlight some student artwork, photography and poetry how artistic expression allows students to reflect on their experiences in science and medicine (pages 18—20 and cover art work).

This edition also depicts how training in hematology/oncology at the U became a family affair for one Brazilian family, leading them to make a significant difference in bone marrow transplantation progress in Brazil and the United States. The magazine continues with highlights from the 2015 School of Medicine book, How the West Won Medicine, with this edition focusing on the pioneering work at the medical school occurring during the 1980s. News Notebook features significant prizes awarded to current faculty and important research and outreach occurring at the school. Of particular note is the article on research Thomas Lane, PhD is doing in the area of multiple sclerosis found on pages 26 and 27, These Mice Are Walking: New discoveries in MS research. This is a topic near and dear to my own heart as I have ridden in the MS 150 bike ride for six years raising money to support Dr. Lane and other researchers searching for a cure for MS.

We are looking forward to the 2017 School of Medicine Alumni and Community Weekend on October 13—14 and hope many of you will join us, even if it isn’t your reunion year, to participate in some of the wonderful programming, such as the UTEMED talks and Alumni Awards Banquet. We plan these activities to connect our alumni from across the entire generational continuum to learn from one another and stay involved with their alma mater. Hope to see you there.

See you in October!

Kristin Wann Anderson, Executive Director, School of Medicine Alumni Relations
In 1965 Ricardo Pasquini was 27 years old and just finishing his medical degree at the Federal University of Parana in Brazil. To help support himself while in medical school he worked in a lab doing chemical analysis of blood and urine and became very interested in hematology. He began a residency in Brazil in internal medicine, but knowing of Maxwell Wintrobe, MD, from his renowned textbook on hematology, *Wintrobe’s Clinical Hematology*, he decided to write a letter to Dr. Wintrobe, the former chair of the internal medicine department at the University of Utah, inquiring if he could pursue hematology training in Utah. Dr. Wintrobe replied, inviting him to come to Utah to pursue a fellowship in hematology. From 1967 to 1971 Ricardo transplanted himself, his wife, and his young son and daughter to a Sugar House neighborhood while he trained under Dr. Wintrobe and George Cartwright. Dr. James Kushner, future chair of the Division of Hematology and Hematologic Malignancies, was his co-fellow. He returned to Brazil in 1971 and his son, Marcelo Pasquini was born in 1973. Upon his return Ricardo took on many leadership positions in the hospital, became the head of the internal medicine residency program and continued his work in hematology. Eventually he went to UCLA to study further with Robert Peter Gale, MD and Richard E. Champlin, MD to learn more about bone marrow transplantation. Bringing that knowledge back to Brazil, in 1979 he performed the first bone marrow transplant in Brazil on a patient with severe aplastic anemia. This transplant was performed in his hometown of Curitiba, at the Universidade Federal do Parana (UFPR) and was a milestone transplant for all of Latin America. This was the start of the first formal transplant program in Latin America.

Ricardo then helped start the Brazilian Society of Bone Marrow Transplantation and served as its first president. He also served as the president for the Brazilian Hematology Society. Because aplastic anemia is endemic in Brazil, he became a specialist in performing bone marrow transplantation for this indication in Curitiba and the program grew rapidly. He maintained his US connections by attending annual meetings and frequently held conferences bringing various hematologists, scientists and bone marrow transplant pioneers from the United States and Europe to Brazil to teach, including luminary E. Donnall Thomas, MD, who was awarded the Nobel Prize for Physiology or Medicine in 1990 for his groundbreaking work in bone marrow transplantation.

In the 1980s, UFPR transplant program established a relationship with the International Bone Marrow Transplant Registry (then IBMTR, now CIBMTR - Center for International Blood and Marrow Transplant Research) at the Medical College of Wisconsin. It was the first transplant program in Latin America to routinely report data on transplant activity and outcomes to an international registry. Ricardo became an active participant in the IBMTR research activity, working as a member of the Advisory Committee for many years. In his role as president of the Brazilian Society of Bone Marrow Transplantation he organized a meeting in Curitiba for the society in 1992. As customary during that time, he relied on his adult children to assist the foreign invited speakers.
during their stay with transportation and sometimes to show them the city. During that meeting, Dr. Mary Horowitz, scientific director for the IBMTR, was among the invited speakers for the meeting. Marcelo, who was in his first year of medical school, was responsible for chaperoning Dr. Horowitz during her stay.

Since childhood, Marcelo was very interested in learning English, since his siblings, who attended elementary school in Salt Lake, always spoke English when they didn’t want him to know what they were talking about. He was fascinated looking at slides of his parents’ and siblings’ time in Salt Lake City with the beautiful snow covered mountains in the background. He hoped to further his medical training in the US, so he came to the States three times during medical school, twice to work at St. Jude’s Children’s Hospital in the laboratory and once to the MD Anderson Cancer Center.

In 1997, Marcelo applied to an internal medicine program in the United States through the William J. Harrington Program for Latin America and the Caribbean. The program accepts 12 applicants each year from Latin America. He married Silvia and together they moved to Miami to embark on his postgraduate training. In his second year he did an externship at the University of Washington’s, Fred Hutchinson Cancer Research Center in bone marrow transplantation and during that time he decided he wanted to specialize in hematology/oncology.

Upon completing his internal medicine residency Marcelo applied for a fellowship in hematology/oncology. Part of University of Utah’s hematology/oncology application required him to write a slightly different personal statement, and specifically address why he wanted to come to Utah. He told the story of his dad and was immediately called for an interview. Jim Kushner, his father’s former co-fellow, was the chair of the Division of Hematology and John Ward was the chair of Oncology and director of the fellowship program. He matched to the fellowship position at Utah and he and Silvia picked up and, following his father’s footsteps, moved to Utah to begin his fellowship in 2001.

He joined a K-30 clinical research training course coordinated by Jim Kushner, which focused on didactic sessions to enrich the research experience during fellowship. Marcelo joined the stem cell research lab led by Dr. Schickwann Tsai as part of his research training.

In the meantime Silvia began volunteering for the Salt Lake City Olympic Committee, which she found a very exciting and fun experience. She and Marcelo bought an Olympic brick at the Gateway shopping area in the name of his parents, Ricardo and Francylena, for starting the Salt Lake connection with their move in 1969. Silvia also worked part-time for the David Eccles School of Business managing federal and international grants, and became pregnant with their first child, a daughter, Larissa, who was born in Salt Lake City in 2002. Ricardo and Francylena, along with Marcelo’s brother and sister came to visit and reminisced about the time they lived in Salt Lake City, visiting with friends, driving by their old house in Sugar House and the local elementary school they had attended.

As Marcelo was completing his training in 2004 he was unsure what his next step should be. He had come over on a J-1 visa which needed to be renewed every year and was good for up to seven years. By the end of his training there was only one year left on the visa. The J-1 criterion stated he would have to go back to Brazil to work after that year unless the US government specifically needed him for his work experience.

Trying to figure out his next steps it dawned on him he should call Dr. Mary Horowitz, the scientific director of the IBMTR, who he’d met in Brazil many years before for advice. She offered him a one-year fellowship in bone marrow transplantation and an opportunity to learn clinical research through working in the IBMTR. After looking at a map of the US to figure out where Milwaukee was, he went for the interview and accepted the position. He was able to transfer credits from the K-30 course work to complete a master’s degree in Epidemiology and Statistics at the Medical College of Wisconsin.

Once that year was over he was planning to return to Brazil and go into partnership with his dad and work at the UFPR transplant program. Before he left he passed his Oncology boards. When the division chief of hematology/oncology at the
Medical College of Wisconsin heard that he had passed his boards he offered Marcelo a position as assistant professor of medicine at the Medical College of Wisconsin and work as a clinician at the VA Medical Center. Working at the VA, which is a federal position, would enable Marcelo to change his visa status from a J to an H, which is an on-going working visa tied to the job. As long as he maintained his work status he could stay and work in the US. However, because of his commitment with his father, Silvia wanting to return to her family in Brazil, and the VA position being so heavy on clinical medicine, he wasn’t sure he wanted to stay.

Dr. Mary Horowitz offered the possibility of continuing to work in research in the IBMTR along with the clinical position in the VA Medical Center. In 2005, he and Silvia purchased their house in Brookfield, WI, had a second child, Andre, and settled down. He worked three years in the VA Medical Center and then switched his clinical responsibilities to the Froedtert Lutheran Memorial Hospital (Medical College of Wisconsin) where he could work more actively with the Blood and Marrow Transplant Program. He now is an associate professor of medicine at the Medical College of Wisconsin and senior scientific director for clinical trials at the CIBMTR, where he is clinically active in the transplant program and focuses on clinical research in the field of transplantation and cellular therapies.

Marcelo has continued to work with and support bone marrow transplantation in Brazil, participating in the Brazilian Bone Marrow Transplant Conferences every year and hosting doctors and researchers from Brazil in their home in Milwaukee during short stays to learn about the transplant program and clinical research.

To complete the entire journey, which began in 1969, Marcelo and Silvia became US citizens in October 2016. His father, who is 79 and still in active private practice in Brazil, is a close collaborator with him, and they frequently discuss clinical cases and attend hematology and bone marrow transplant meetings together. The loop is now complete, and the influence of Max Wintrobe, his knowledge of hematology and generosity of inviting a foreigner to come train with him, has saved many lives and continues to impact cancer treatment and bone marrow transplantation both in the United States and in Brazil.
As the outside world grew bolder and more progressive, so did the enterprising men and women of Building 521 and their Health Sciences colleagues. University of Utah faculty and staff unleashed a flurry of noteworthy medical and technological advancements that ignited creativity, upended tradition and redefined paradigms of human possibility. Many bright medical minds and a handful of patients pioneered their way into history by pushing the frontiers of medicine and medical technology forward.
EXPANDING THE POSSIBILITIES

In 1981, the same year that Deer Valley Ski Resort opened for business and Robert Redford’s Sundance Institute began, the University of Utah unveiled its $63 million medical center expansion project. When it opened on Sept. 22, 1981, the brand-new facility had the space and resources to become one of the leading teaching hospitals in the nation.

To accommodate the growing hospital, AirMed services were increased with two helicopters serving the region. From its humble beginnings, University Medical Center had become one of the largest and most sophisticated hospitals in the Mountain West.

WELCOMING UTAH’S FIRST TEST-TUBE BABY

Larry and Shellie Larios wanted more than anything to add a child to their blended family, but having lost both fallopian tubes during an earlier operation, Shellie had no shot at conceiving naturally. In 1983, Shellie was one of the first women to undergo IVF at University Hospital. By joining two of Shellie’s eggs with her husband’s sperm in a petri dish, fertility specialist Ronald L. Urry, PhD, helped develop the embryo that was implanted into Shellie’s uterus. A month after the operation, Shellie received the news she’d been waiting to hear for three years: She and Larry were finally pregnant. Baby Letitia arrived five weeks before her due date. “We dreamed about it, and Letitia looks just like what we dreamed,” Shellie told the Deseret News a year later.

THE POWER AND POTENTIAL OF 8,000 SPIDERS

Tiny spiders were the beginnings of another big business that sprung from bright minds at the University of Utah. When Hunter Jackson, PhD, and Tom Parks, PhD, faculty in Neurobiology & Anatomy, began studying the medicinal effects of spider venoms on the nervous system in 1984, the research scientists never imagined their work would lead to the formation of one of the world’s premier rare disease biopharmaceutical companies, NPS Pharmaceuticals.

Investigating a way to apply natural venoms to human disease resulted in the stockpiling of 8,000 spiders at their University of Utah Research Park lab. Out of necessity, the pair launched a side business raising and milking spiders for their own research, then selling the venom to other researchers around the country. This unexpected income funded their next venture—developing a treatment for osteoporosis through a proprietary project that involved calcium receptors. But it was the early partnerships with Pfizer and FMC that enabled the company to further their research.

After setting up NPS in Research Park, the company developed the research labs that later discovered treatments for hyperparathyroidism, NPS continued to evolve, moving into the development of drugs to treat rare disease. Two FDA approvals later, NPS was positioned for its $5.2 billion acquisition in 2015.
1984 marked another year of tremendous growth and innovation, with the University of Utah continuing to attract influential leaders. Don Detmer, MD, was one of them. Dr. Detmer became the vice president for health sciences and fought hard to make the hospital an exemplary model for 21st century care. Seeing the link between the school’s underfunding and education, Dr. Detmer warned, “There’s a proverb. Teach a teacher and you teach a thousand. If we don’t provide adequate education for health care professionals of the future, society will be the loser.”

While the Medical Center had forged an important relationship with Howard Hughes Medical Institute (HHMI) in the late ’70s and recruited leading molecular geneticist Raymond Gesteland, PhD, to set up the University’s first HHMI lab, it was Dr. Detmer who nurtured the relationship. When HHMI was considering its commitment to the University of Utah, Dr. Detmer and Vice President for Health Sciences Chase Peterson convinced the medical research organization not only to stay but also to fund much of what became the Eccles Institute of Human Genetics.

Dr. Cecil Samuelson was another influential leader who guided the university during the ’80s. Despite earning his bachelor’s, master’s and medical degrees at the University of Utah, Dr. Samuelson wasn’t originally set on having an administrative career with the school. In fact, he turned down several offers from the university. Ultimately, Dr. Samuelson’s love for his alma mater would bring him back west and into a series of high-profile leadership positions, first at the University of Utah, next at Intermountain Healthcare, and later with the LDS Church and Brigham Young University.

Dr. William DeVries, ’70 held the entire world captive for seven hours while he performed the first total artificial heart implant at the University of Utah on Dec. 2, 1982 on Barney Clark, DDS.

Dr. DeVries stated about Dr. Clark, “He really did give his life for thousands of people. All medicine is like that—it came from someone who dared to do something like this.”

In 1985, 16-year-old Shepard received the first donor heart transplant in the state of Utah. Since the surgery, University Hospital has performed over 1,062 successful heart transplants. Over 30 years later, Shepard continues to enjoy the gift of life.

Excavation on a new $67 million pediatric hospital began in 1986 after two years of negotiations between Primary Children’s Medical Center (now called Primary Children’s Hospital) and the University of Utah. While the U wouldn’t own the new children’s hospital, the University’s faculty served as the physicians who worked alongside Intermountain Healthcare staff to enhance the treatment of complex pediatric problems and facilitate education for pediatric medicine.
In 1984, Dr. Homer Warner’s Department of Medical Biophysics & Computing was officially renamed the Department of Medical Informatics, becoming the first such department in the country. A true founding father of medical informatics, Dr. Homer Warner’s work was one of numerous inspirational advances in the University’s use of learning and technology, and it laid the foundation for the application of medical data to aid decisions about patient care both at Intermountain Healthcare and at the University of Utah.

One year later in the Spencer S. Eccles Health Sciences Library, additional technological innovation brewed as Suzanne Stensaas, PhD, began using one of the earliest forms of computer-based education. Dr. Stensaas discovered that the University’s Instructional Media Services could master a videodisc that could be used for teaching. The goal of these discs was to share among institutions the images needed for teaching the first two years of medical school. Out of this group of contributors, an annual workshop developed and grew into a project called Slice of Life.

To this day, ARUP is one of the University’s biggest businesses and one of the largest clinical reference laboratories in the U.S., with approximately 60,000 tubes of blood and other tissue specimens arriving into the laboratory daily. A unique hybrid of a successful academic and business enterprise, ARUP continues to serve clients in 50 states and mentors future generations of pathologists and fellows.

**DEFEATING INHERITED COLON CANCER**

In 1987, a group of University of Utah researchers led by Raymond White, PhD and including Randall Burt, MD, ’74, identified mutations in the APC gene as the underlying cause of an inherited colon cancer predisposition known as familial adenomatous polyposis (FAP). With this new genetic intelligence, patients with the inherited gene could be identified by genetic testing and screened frequently, so that doctors could catch and remove any polyps early, before they progressed to cancer.
In December 1984, at a meeting organized by University of Utah HHMI investigator Raymond White, PhD, researchers gathered at the crisp and wintry Alta ski resort near Salt Lake City, about 8,500 feet above sea level for a weeklong meeting dubbed the Alta Summit.

Researchers at the summit discussed whether scientists could track the radiation-induced mutations in the DNA of people whose ancestors were exposed to atomic bombs in Hiroshima and Nagasaki. After five days of debate and discussion, researchers left the Alta Summit with no conclusive answers, but instead with an off-hand proposal to sequence the entire genome. While the idea seemed ludicrous at the time, it sparked an idea in the minds of the participants, many of whom called the Alta Summit the best scientific meeting they’d ever attended. Just six years later, the Human Genome Project was officially launched, taking the dream of obtaining the entire sequence of a human genome and making it a global reality.

In 1988, University of Utah Hospital was named one of America’s best hospitals by the authors of the consumer book The Best Hospitals in America. The University was included in a roster that included Johns Hopkins, Mayo Clinic, Stanford and Duke University medical centers.

BEYOND SCIENCE FICTION: LASERS IN SURGERY

Computers weren’t the only kind of technology creating buzz on campus. In the early 1980’s, John A. Dixon, MD, ’47, former dean of the School of Medicine and vice president for health sciences, along with his team, performed some of the first experiments with laser technology in surgery. By 1985, Dr. Dixon and Richard C. Straight, PhD, class of ’79, had organized the Laser Institute, one of the first in the country. The Institute drew clinicians and researchers from 15 subspecialties in the School of Medicine, the College of Science and the College of Engineering.

“The laser is a new surgical tool which is much less invasive than standard technique,” said Dr. Dixon. “We can control bleeding to a degree never before possible; shorten operating times and deliver the laser beam through an endoscope to previously inaccessible areas.”
October 13-14
University of Utah School of Medicine
2017 Alumni and Medical Weekend

The School of Medicine Alumni Association is rolling out the red carpet for alumni, former residents and faculty during the 2017 Alumni and Community Weekend. Come back and attend some of the signature events and see what’s new at the U of U!

Friday, October 13, 2017

Department of Medicine Continuing Medical Education Grand Rounds
All alumni welcome
Spencer F. and Cleone P. Eccles Health Sciences Education Building (HSEB) Room 2120
8:00 am–10:45 am Continental Breakfast served and CME credit given.

• Innate and Adaptive Immunity and Lung Complications post-Stem Cell Transplant
  Bethany B. Moore, PhD, Professor, Department of Internal Medicine, Division of Pulmonary and Critical Care Medicine Professor, Department of Microbiology and Immunology
  Galen B. Toews, MD, Professor Pulmonary and Critical Care Medicine, University of Michigan

• A Needle in the Haystack: The Quest for Knowledge in Big Data
  Rashmee U. Shah, MD, MS
  Assistant Professor, Cardiovascular Medicine University of Utah School of Medicine

Interim Dean Wayne Samuelson, MD—State of the School Address
11:00 am, HSEB, Room 2120

Society for Supporting Leadership in Internal Medicine (SSLIM Society)
Luncheon—all returning alumni invited
Noon, HSEB, Room 2110

Class of 1967 Dean’s Round Table and luncheon
Noon, HSEB, Room 2120
Current medical students and Class of 1967 invited
Host, Dean Wayne Samuelson, MD
Guest, Thomas Cappin, MD ’67
Retired Pathologist and Colonel U.S. Army and former Director of Lab Services, Lakeview Hospital

UTEMED 2017
1:30 pm–3:30 pm / Post Theater in Fort Douglas–245 South Fort Douglas Blvd

Alumni Awards Banquet
6:30 pm – 9:00 pm Little America, 500 South Main
Scott A. Leckman, MD ’83
General Surgeon
Former Board Chair of RESULTS
Using Your Voice to Change the World
Dr. Scott Leckman is the chairman of the board of Citizens’ Climate Education, an organization that empowers constituents to educate elected officials about climate change. He is the former board chair of RESULTS, an organization dedicated to creating the political will to end poverty. In 2001, he helped initiate the Health Access Project, with the mission to improve access and coordinate comprehensive health care for low-income, uninsured individuals in Salt Lake County. For his efforts, he received the Surgical Volunteerism Domestic Award from the American College of Surgeons in 2014. As a civilian surgeon with Project Hope, working with the US Navy, he has operated in Indonesia after the tsunami, in Mississippi after Katrina, in Papua New Guinea and the Solomon Islands and in Latin America. He has taught local surgeons hernia repair using mosquito net for mesh in Nigeria, Peru, Cambodia, Ecuador, Thailand, and Kenya. In addition, he has taught laparoscopic surgery to surgeons in Mongolia. He regularly organizes trips for Utah Rotarians to India, where they participate in Rotary’s greatest project, the eradication of polio, by immunizing children with polio vaccine. In 2015, he was awarded The Rotary Foundation Certificate of Excellence in recognition of his valuable service to the cause of polio eradication.

Margaret (Peggy) Battin, PhD
Distinguished Professor of Philosophy and Adjunct Professor of Internal Medicine, Division of Medical Ethics and Humanities
Sex and Consequences: A thought experiment for saving the planet
A graduate of Bryn Mawr College, Dr. Battin holds an MFA in fiction-writing and a PhD in philosophy. She is the author, coauthor, editor, or coeditor of more than 20 books, including work on death and dying, ethics of religion, aesthetics, infectious disease, and drugs and justice. She has worked extensively on end-of-life issues, including suicide and physician aid in dying. In 2013, she and her husband were the subject of a New York Times Magazine cover article about end-of-life choices which she spoke about at a 2013 TED MED program. She is currently completing Sex & Consequences, a book on large-scale reproductive issues, including world population growth, reproductive rights for women and men and problematic assumptions we make in thinking about sex and reproduction. She is a past recipient of the University of Utah’s Rosenblatt Prize and has been named one of the “Mothers of Bioethics”.

Carl R. Kjeldsberg, MD
Pathologist
Former CEO and Chair of the Board of Directors ARUP Laboratories
Emotional Intelligence is Important
Dr. Carl R. Kjeldsberg received his medical degree at University of Edinburgh, Scotland in 1966. After joining the University of Utah School of Medicine, Department of Pathology in 1971 he became the chair of the department in 1993. Together with Dr. John Matsen he co-founded ARUP Laboratories in 1984 and later became the CEO and chair of the board of directors. ARUP is today the 3rd largest clinical diagnostic reference laboratory in the nation and has been rated number one in the country for service and quality. Under his leadership ARUP received multiple awards, including Fortune 100’s Best Companies to Work For, Utah’s Top 10 Family Friendly Companies Award, and American Psychological Association’s Psychologically Healthy Workplace Award. Dr. Kjeldsberg received the Ernst & Young Entrepreneur of the Year Award, and was recently inducted into the Utah Technology Council Hall of Fame. The American Society of Clinical Pathology awarded him the Ward Burdick Award for Distinguished Service to Clinical Pathology. Dr. Kjeldsberg has published over 150 scientific
articles related to malignant lymphoma and leukemia, and published 15 books on hematologic disorders and laboratory analysis of body fluids.

Jennifer Plumb, MD ‘00, MPH ‘96
Associate Professor of Pediatrics
Emergency Pediatrician
Co-founder of Utah Naloxone
Who Are the Life Savers?
Dr. Jennifer Plumb is the co-founder of Utah Naloxone with her brother Sam Plumb. She has personal experience with the devastation created by adolescent substance use and abuse. After losing her brother to a heroin overdose shortly before she began medical school. An alumnae of the University of Utah. Jennifer Plumb, MD, MPH, is a pediatric emergency medicine physician who is actively engaging statewide healthcare and community organizations to educate the community about Utah’s opioid epidemic and increasing the communities’ access to naloxone rescue kits to prevent deaths resulting from opioid overdose.

Catherine R. deVries, MD
Pediatric Urologist
Professor of Surgery (Urology) and Adjunct Associate Professor of Public Health
Learning to See
For over 25 years, Dr. deVries has been a devoted advocate for improving surgical and urological care in the low resource countries of Africa, Asia, Central America and the Caribbean. She inspired others to join the effort by founding the non-profit, IVUmed in 1995 to support urological training in more than 30 countries and has also supported global surgical training for over 200 urological residents from the United States. Dr. deVries served as the founding Director of the Center for Global Surgery at the University of Utah. She co-authored the seminal text, Global Surgery and Public Health: A New Paradigm, and the first global surgery chapters in Schwartz’ Principles of Surgery, and has edited and authored urology-specific books, chapters and journal articles. She serves on the editorial board and review panels for several professional journals.

Dr. deVries is Secretary of the Permanent Council of The G4 Alliance and works with the World Health Organization, non-governmental and governmental organizations and professional urological and surgical societies to improve access to and training for safe surgical care around the world.

Janet Iwasa, PhD
Research Assistant Professor, Biochemistry
TED Senior Fellow
Animating Biology
Dr. Iwasa’s broad goal is to create accurate and compelling molecular and cellular visualizations that will support research, learning and scientific communication. Dr. Iwasa’s award-winning illustrations and animations have appeared in scientific journals including Nature, Science and Cell, as well as in the New York Times. Her work has also been featured on television and in museum exhibits. Janet was named a 2017 TED senior fellow and recognized as one of the “100 Leading Global Thinkers” of 2014 by Foreign Policy magazine and one of the “100 Most Creative People” of 2012 by Fast Company magazine. As a postdoctoral fellow, she created a multimedia exhibit with Nobel Laureate Jack Szostak (Harvard University) and the Museum of Science, Boston, and later worked on biological visualizations as a faculty member at Harvard Medical School. She received her PhD in 2006 from the University of California, San Francisco for her work on the actin cytoskeleton in the laboratory of Dyche Mullins, and completed 3D animation training at the Gnomon School of Visual Effects later that same summer.
Richard E. Black, MD ’74

Dr. Richard Black received his MD from the University of Utah in 1974. Following graduation, he completed an internship and his residency in surgery at the U of U and Duke University, finishing with a fellowship in pediatric surgery at the Children’s Hospital of Cincinnati. He is board certified with the national board of medical examiners and in general and pediatric surgery.

He has committed his entire surgical career to the U of U, spending 33 years as an active faculty member. Dr. Black is a master technical surgeon who has served as a mentor to medical students, surgical residents, and pediatric surgeons starting in the field. During his time at the U, he led the Senior Honors Program in surgery and directed the Trauma Program at Primary Children’s Hospital. He is also committed to volunteer work, spending four years with the humanitarian group Interplast teaching plastic surgery techniques to surgeons in El Salvador, Belize, and Guatemala.

In addition to his teaching and volunteer work, Dr. Black belongs to numerous medical and surgical societies and served as president of the Pacific Association of Pediatric Surgeons in 2008. He has lectured in the United States and around the world and published 26 peer-reviewed papers in eminent journals, including The New England Journal of Medicine, The American Journal of Surgery, and the Journal of Pediatric Surgery.

Dr. Black is a respected member of the Division of Pediatric Surgery and proud alum of the School of Medicine, serving in various positions on the School of Medicine Alumni Board.

Dr. Geoffrey Tabin, MD

Dr. Geoffrey Tabin is a professor of ophthalmology and visual sciences, a John E. and Marva M. Warnock Presidential Endowed Chair in Ophthalmology, and co-director of the Division of International Ophthalmology at University of Utah’s John A. Moran Eye Center. He completed his undergraduate degree at Yale, earned an MA in philosophy at Oxford as a Marshall Scholar, and received his MD from Harvard Medical School.

He specializes in cornea, cataract, and refractive surgery and seeks to establish world-class eye care infrastructure. Dr. Tabin is committed to providing high quality ophthalmic care and education to all the patients he serves. He has traveled the world, conducting sight restoring surgeries and training local doctors. In 2009, he was named an “unsung hero” by the Dalai Lama for his dedication to eradicating unnecessary world blindness and implementing a model for sustainable ophthalmic care in the developing world.

Outside of his work, Dr. Tabin continues traveling the world, focusing on his other passion: mountaineering. He was the fourth person in the world to climb the seven summits—the highest mountains on each of the seven continents.
The School of Medicine Alumni Association Distinguished Service Award recognizes individuals, both alumni and non-alumni, who have made outstanding contributions to the field of medical education, service to the school, and service to the community.

Charles W. Sorenson, MD, FACS, House Staff ‘82

Dr. Charles Sorenson, a graduate of the University of Utah (BA, Biology) and Weill Cornell Medical College at Cornell University (MD), is a board-certified urologic surgeon and a Fellow of the American College of Surgeons (FACS). He is president emeritus of Intermountain Healthcare and previously served as Intermountain’s president and CEO and executive vice president and chief operating officer.

Under Dr. Sorenson’s leadership, Intermountain Healthcare implemented a disciplined, system-wide focus on best clinical and operational practices aimed at producing measurably better outcomes for patients at sustainable costs. He is the founding director of the Intermountain Healthcare Leadership Institute. Opening in 2018, the institute will offer select, high-potential leaders a variety of leadership development courses focused on how to make principle-based decisions and lead at the juncture of clinical and administrative expertise.

Dr. Sorenson has a long-standing interest in clinical process improvement and in the development of Intermountain’s integrated delivery system. In 1994, he was a founding member and board chair of the Intermountain Medical Group, an integrated practice of physicians and advanced practice clinicians employed by Intermountain. He is also dedicated to his urologic surgery practice at the Intermountain Medical Center.

In addition to his work with Intermountain Healthcare, Dr. Sorenson has served as president of the medical staff at LDS Hospital, president of the Utah Urologic Society, and as speaker of the Utah Medical Association’s House of Delegates. He also chaired the American College of Surgeons’ Committee on Young Surgeons and is an adjunct professor of surgery at the University of Utah.

The School of Medicine Alumni Association M. Paul Southwick Prize in Clinical Medicine and Teaching recognizes an internal medicine doctor in the community who excels in clinical medicine and is an exceptional mentor and teacher of medical students and residents.

Barry M. Stults, MD, House Staff ‘78

Dr. Barry Stults completed his undergraduate education at Brown University, medical school at the University of Rochester, internal medicine training at the University of Utah, and a pulmonary medicine fellowship at the University of Rochester and University of Utah. He joined University of Utah’s Division of General Medicine in 1979, working at both University Hospital and the VA Medical Center throughout his career, with division chief mentors Thomas Caine, MD and John Holbrook, MD, and researching the diagnosis and treatment of hypertension.

He was the Internal Medicine Residency Program director from 1989 to 1997 and collaborated with Department of Medicine faculty members to develop the Medical Interviewing/Physical Diagnosis Course in the School of Medicine. In 1998, Dr. Stults became the chief of the Division of General Medicine. Initially a temporary position, he remained the chief for nearly 20 years. During this time, Dr. Stults recruited a series of outstanding clinician-educator-administrators to the division.

He gives a special thanks to all the medical residents, office administrators, medical assistants, and faculty whom he has learned from and worked with over the past 40 years.
Saturday, October 14
Little America Hotel,
500 South Main, Salt Lake City

AGENDA

ESTATE PLANNING FOR PHYSICIANS
10:00 am-Noon
Join us for a conversation to learn more about estate planning techniques and how to best plan for the future. Review planned giving strategies and gift models that can save you money in taxes and provide income, while supporting your favorite charities. If you have not updated your estate plan in recent years and are interested in tax-savvy giving, this seminar is for you.

COMPHEALTH COMMUNITY CLINICAL FACULTY APPRECIATION LUNCHEON
12:30-2:00 pm
Join University of Utah alumni and faculty as they recognize two outstanding community clinical preceptors and learn more about the importance of community faculty in training our medical students and residents.

ALUMNI CLASS REUNIONS
6:00 p.m. Reception, 7:00 p.m. class dinners
Gather with classmates to relive medical school memories and catch up on what everyone’s been up to the last few, or many, years.

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In May the reunion class representatives for the 50-year class, the Class of 1967, gathered together at the School of Medicine Alumni Relations office to discuss reunion weekend, October 13—14, and their hopes for the reunion. Members include: John Holbrook, an emeritus professor of internal medicine at the U of U, who is now a consultant for LDS church missions, Thomas Coppin, a career army pathologist, who extended his career after 30 years in the army for 13 more years working at FHP and then Lakeview Hospitals, Gordon Brown, a radiologist in Utah Valley who retired in 2010; Kent Rasmussen, an OB/GYN doctor who retired from Salt Lake Clinic in 2015; and Elizabeth Hammond, an emeritus pathology professor at the U of U who continues to do pathology research, specifically related to cancer, at Intermountain Medical Center.

What’s your fondest memory of medical school?
All the jokes Hugh (Holly) Hogle told at lunchtime. The good esprit de corps of our class, people actively cared for one another. Graduation! The preparation for a wonderful life and career as a physician.

What are your hopes and plans for the October reunion weekend?
For everyone to show up!! This is a big deal and a great time to celebrate our class accomplishments, to share our experiences over our 50 years as medical practitioners. It’s a very nice dinner and award’s banquet where we’ll get initiated into the Half Century Society. Then the next night, at our reunion dinner, we’ll have more time to remember the fun and the difficult times we shared.

What faculty member do you remember most and why?
We had some excellent faculty members. Max Wintrobe, wrote the bible on hematology. He was a real taskmaster since he wanted us to be excellent. Luckily for us, he had toned down a bit from how rigorous he was with earlier classes. Louis Goodman, he was such a gentleman and a star of the medical school as one of the authors of Goodman and Gilman, THE book on pharmacology, but was very humble and always concerned for the students. Leo Samuels, a biochemist who was an excellent teacher. George Cartwright, a very bright and capable man and an excellent instructor. Ed Hashimoto, who could ever forget his two-handed anatomy drawings, his office would be banned in today’s world. Frank Tyler, a very wise, thoughtful and considerate man. Webster Jee, a great instructor of anatomy and a friend to the medical students.

What message do you want to send to your classmates?
Come back and let’s remember together. Do you all recall the arrangement we made with the pharmaceutical company to raise money for our yearbooks by doing math column tests while testing out an amphetamine? Or when they made us drink blood? The joke about John Holbrook and his bard arms? There were a lot of good times in the middle of the challenging times. Let’s all get back together and share our memories and where life has taken us these last 50 years.
TOOLS OF THE TRADE

BY JACOB SAUNDERS, MD ’17

STICKS AND STONES

—PHOTO COLLAGE
BY ANTIKONE KITHAS, MSIV

Submissions from Rubor: Reflections on Medicine from the Wastach Front
SILENT TEACHER

BY STEVEN NEVERS MSIII

Rooms with steel and fans
Chemically fixed tissues
His last gift demands

Structures framed
Language of topography
Everything is named

In life a good man
An honored teacher in death
Lessons to expand
ANESTHESIOLOGY

Bodine, Bill Garrett
University of Utah Affiliated Hospitals, Anesthesiology
Utah

Boud, Hewenfei Li
University of California, Los Angeles, Anesthesiology
California

Gardiner, Gareth Lance
University of Iowa Hospitals and Clinics, Anesthesiology
Iowa

Josten, George
Stanford University, Transitional/Anesthesiology
California

Leavy, Jane Deon
University of Washington Affiliated Hospitals, Surgery-Preliminary
Washington

Lee, Zachary
Brigham & Women’s Hospital, Anesthesiology
Massachusetts

Malan, Shawn Hamilton
Mayo Clinic College of Medicine and Science, Anesthesiology
Arizona

McDowell, Brittaney Jane
Penn State Hershey Medical Center, Anesthesiology
Pennsylvania

Olson, Kandice Marie
Texas A&M College of Medicine at Scott & White, Anesthesiology
Texas

Record, David Austin
Dartmouth-Hitchcock Medical Center, Anesthesiology
New Hampshire

Saxton, Heidi Jillanne
University of Minnesota Medical School, Anesthesiology
Minnesota

DERMATOLOGY

Eyre, Zachary Warren
University of Arizona College of Medicine at Phoenix, Medicine-Preliminary
Arizona

Emory University School of Medicine, Dermatology
Georgia

Gonzalez, Cristian Daniel
Dermatology Residency Program Candidate

Huber, Jordan
Mayo Clinic College of Medicine and Science at Arizona, Dermatology
Arizona

Michaelis, Timothy Corbett
Mayo Clinic College of Medicine and Science, Dermatology
Florida

EMERGENCY MEDICINE

Becker, Ian James
University of Missouri-Columbia School of Medicine, Emergency Medicine
Missouri

Debenham, Sierra Pearl
Grand Rapids Medical Education Partners, Emergency Medicine
Michigan

Enriquez, Camille Angelo
Kaweah Delta Health Care District, Emergency Medicine
California

Hartley, Melissa Katherine
University of Arizona College of Medicine at South Campus, Emergency Medicine
Arizona

Jacobs, Jr., John Christopher
Indiana University School of Medicine, Emergency Medicine
Indiana

Orchard, Jacob Evans
University of Texas Southwestern Medical School, Emergency Medicine
Texas

FAMILY MEDICINE

Avellar, Patricia Anabel
Pomona Valley Hospital, Family Medicine
California

Davis, Nicole Nielsen
Montana Family Medicine, Family Medicine
Montana

Orchard, Jacob Evans
Ventura County Medical Center, Family Medicine
California

Emerson, Haleigh Van Eerden
McKay-Dee Hospital Center, Family Medicine
Utah

Hartman, Hanna Dorothée
Oregon Health & Science University, Family Medicine
Oregon

Holman, Anna Jackson
University of Utah Affiliated Hospitals, Family Medicine
Utah

Johnson, Brian Christopher
Utah HealthCare Institute, Family Medicine
Utah

McNaughton, Leslie Jean
Utah Valley Regional Medical Center, Family Medicine
Utah

Saunders, Jacob Chad
McKay-Dee Hospital Center, Family Medicine
Utah

Selden, Stella Levy
University of Montana, Family Medicine
Montana

Winger, Gregory Lee
Utah Valley Regional Medical Center, Family Medicine
Utah

GENERAL SURGERY

Bacon, Brandon Todd
University of Missouri-Kansas City School of Medicine, General Surgery
Missouri

Frappier, Kelly A.
Penn State Milton S. Hershey Medical Center, General Surgery
Pennsylvania

Liechty, Shawn Thomas
Danbury Hospital, General Surgery
Connecticut

INTERNEAL MEDICINE

Black, Michael William
Kaiser Permanente Medical Center at Santa Clara, Internal Medicine
California

Borrero, Maria
Internal Medicine Residency Program Candidate

Breen, Kevin T.
University of Arizona College of Medicine at Tucson, Internal Medicine
Arizona

Gardner, Gregory Phillip
University of Arizona College of Medicine at Tucson, Internal Medicine
Arizona

Godefrey, Wesley Blaine
Ohio State University Medical Center, Internal Medicine
Ohio

Ilkun, Olesya
University of Utah Affiliated Hospitals, Internal Medicine
Utah

Kwendakwema, Chiwa Natasha
University of Washington Affiliated Hospitals, Internal Medicine
Washington
Limaye, Nikhil Santosh
Loma Linda University, Internal Medicine
California

McCandless, Sean Patrick
University of Utah Affiliated Hospitals, Internal Medicine
Utah

Miller, Alexander Thomas
Mayo Clinic College of Medicine and Science at Rochester, Internal Medicine
Minnesota

Miller, Dawn Alexandra
Wake Forest Baptist Medical Center, Internal Medicine
North Carolina

Rezaie, Aida
University of Nevada Reno School of Medicine, Internal Medicine
Nevada

Shih, Lauren Christine
University of Washington Affiliated Hospitals, Internal Medicine
Washington

Trane, Ahsley Lyne
University of New Mexico School of Medicine, Internal Medicine
New Mexico

NEUROLOGY
Keenan, Kendra Elizabeth
University of Utah Affiliated Hospitals, Neurology
Utah

Smyth, David Llewellyn
Rush University Medical Center, Medicine-Preliminary/Neurology
Illinois

Womeldorf, Matthew Robert
University of Rochester Strong Memorial Hospital, Neurology
New York

OBSTETRICS-GYNECOLOGY
Bahn, Jacqueline Ann
Oregon Health & Science University, Obstetrics-Gynecology
Oregon

Burnett, Brian Andrew
Wake Forest Baptist Medical Center, Obstetrics-Gynecology
North Carolina

Duncanson, Melissa Ellen
Washington Hospital Center, Obstetrics-Gynecology
District of Columbia

Erickson, Tiffani Ann
Washington Hospital Center, Obstetrics-Gynecology
District of Columbia

Folsom, Susan Michelle
McGaw Medical Center of Northwestern University, Obstetrics-Gynecology
Illinois

Roth, Lauryn Paula
Oregon Health & Science University, Obstetrics-Gynecology
Oregon

Soffe, Kylie Measom
University of Utah Affiliated Hospitals, Obstetrics-Gynecology
Utah

OPHTHALMOLOGY
Bair, Christopher Michael
University of Utah Affiliated Hospitals, Medicine-Preliminary/Ophthalmology
Utah

Quist, Tyler Scott
University of Iowa Hospitals and Clinics, Medicine-Preliminary/Ophthalmology
Utah

ORTHOPAEDIC SURGERY
Ricketts, Cassandra Anne
Geisinger Health System, Orthopaedic Surgery
Pennsylvania

Sneddon, Jacob Russell
University of Missouri-Kansas City School of Medicine, Orthopaedic Surgery
Missouri

PATHOLOGY
Cho, Joseph Hyosang
University of Chicago Medical Center, Pathology-Clinical
Illinois

Crosbie, Robert Richard
University of New Mexico School of Medicine, Pathology
New Mexico

PEdiATrics
Curtin, Thomas Patrick
University of Utah Affiliated Hospitals, Pediatrics
Utah

Holloway, Amanda Rae
University of Arizona College of Medicine at Tucson, Pediatrics
Arizona

Middleton, Jennifer Dawn
St. Vincent Hospital and Health Care Center, Pediatrics
Indiana

Miner, Amy Linda Faw
Pediatrics Residency Program Candidate

Nichols, Francesca Renee
University of Utah Affiliated Hospitals, Pediatrics
Utah

Nielsen, Amanda K.
University of Utah Affiliated Hospitals, Pediatrics
Utah

Pavia, Kathryn Ellen
Northwestern University-Lurie Children’s Hospital, Pediatrics
Illinois

Schwarz, Monica
Stanford University, Pediatrics
California

Vu, Wendy
University of New Mexico School of Medicine, Pediatrics
New Mexico

Wright, Melissa Ann
University of Utah Affiliated Hospitals, Pediatrics
Utah

PHYS MEDICINE & reHABA
Baillargeon, Elizabeth Ann
University of Utah Affiliated Hospitals, Physical Medicine and Rehabilitation
Utah

Clements, Nathan Donald
University of Texas Health Science Center at San Antonio, Physical Medicine and Rehabilitation
Texas

PSYCHIATRY
Applegate, Kara Arnold
University of Utah Affiliated Hospitals, Psychiatry
Utah

Barger, Corey
University of New Mexico School of Medicine, Psychiatry
New Mexico

Benson, Carlie McCall
University of Utah Affiliated Hospitals, Psychiatry
Utah

Black, Spencer Evan
University of Kentucky College of Medicine, Pediatrics/Psych/Child Psychiatry
Kentucky

Koncinsky, Jordan Barrie
University of Utah Affiliated Hospitals, Pediatrics/Psych/Child Psychiatry
Utah

Morris, James Pollock
University of Utah Affiliated Hospitals, Psychiatry
Utah

Tokiya, Kylee Fan
University of Utah Affiliated Hospitals, Psychiatry
Utah

RADIATION ONCOLOGY
Gan, Meng
Loma Linda University, Medicine-Preliminary
California

University of Kansas School of Medicine, Radiation Oncology
Kansas

Thorpe, Cameron Scott
Mayo Clinic College of Medicine and Science, Radiation Oncology
Arizona

RADIOLOGY
Barth, Talmage Hans
University of Arizona College of Medicine at Tucson, Surgery-Preliminary
Arizona

University of Iowa Hospitals and Clinics, Radiology-Diagnostic
Iowa

Gee, J. Michael
University of Minnesota Medical School, Radiology-Diagnostic
Minnesota

Haddadin, Zaid Muhammad
Tucson Hospitals Medical Education, Transitional
Arizona

University of California, Los Angeles, Radiology-Diagnostic
California

Han, Tiffany Sang-Mee
Baskwood Baptist Health, Medicine-Preliminary
Alabama

Norwalk Hospital, Radiology-Diagnostic
Connecticut

SURGERY
Brandenburg, Jacob Brian
Oregon Health & Science University, Surgery-Preliminary
Oregon

Jensen, Michael Ryan
Stanford University, Neurological Surgery
California

UROLOGY
Basilius, Jacob Richard
University of Utah Affiliated Hospitals, Surgery-Preliminary/Urology
Utah
University of Utah Health is no stranger to thinking about value in its everyday operations. The focus on value within the health care delivery paradigm has infiltrated the work within the School of Medicine (SOM), too. In 2015, Sara Lamb, MD, and Janet Lindsley, PhD, were awarded a three year, $75,000 grant sponsored by the American Medical Association (AMA) Accelerating Change in Medical Education initiative supporting their project: Bending the Cost Curve: Developing a Metric to Optimize the Value of Undergraduate Medical Education. Thirty other schools are part of the ChangeMedEd consortium and the SOM’s project is unique among them. While the other schools’ work focuses primarily on curricular innovations, Lamb and Lindsley’s project aims to answer the question, “What are the highest value experiences in undergraduate medical education?” Modeled after the Value Driven Outcomes (VdO) initiative at University of Utah Health, they are applying similar concepts of defining value in health care to defining value in medical education.

To start, they first had to identify the cost of the medical school program. In January 2016, the grant team began their work. Collaborating with broad membership of the Dean’s Office, the Senior Vice President of Health Science’s Office of Finance, and the VdO team, the group developed a framework to capture the yearly cost of delivering undergraduate medical education. By February 2017, the team arrived at their conclusion: $32.7 million, or $79,000 per student per year for the delivery of the medical student program. These findings are important to share with students. With tuition alone ringing in at $36,094 per year, it is evident that the institution significantly subsidizes the students in obtaining their education. The SOM is very conscientious of keeping costs to students down and the financial burden of attending medical school as manageable as possible.

The group presented their findings at the American Association of Medical Colleges (AAMC) Regional Education Conference in Salt Lake City in late February 2017 and at the Spring AMA Consortium meeting at the Mayo Clinic in Scottsdale, Arizona. Dr. Lamb will also be presenting the cost outcomes at the AAMC annual meeting in Boston in November as well as on an international scale at the Association for Medical Education in Europe’s annual meeting this fall.

What’s next? The team is using their cost system to investigate the value of various elements of the four year program. The education value equation used by the group is modeled after the value equation used by the health system: V=Q+E/C where value (V) is increased by heightening the quality (Q) of the program, the quality of the experience (E) or by reducing the cost (C) of delivery. The second year of the project is well under way and aims to define what constitutes quality in medical education. Key stakeholders (e.g. students, patients, residency program directors, etc.) with perspective on what quality means in this context will be providing the team with insight into the indicators of quality. With this quality information the team can evaluate the value of key elements of the medical student program. They expect this will promote a cost-conscious, value driven system of ongoing programmatic improvement for the medical school.

This year, Lamb, Lindsley and their team are planning to collaborate with institutions represented within the AMA ChangeMedEd Consortium expecting that a host of schools will use their framework to calculate the cost of their programs. This will promote a broader understanding of what the range of cost of medical education is across the country. There is a lot of work yet to be done in arriving at consensus on what defines quality and value in medical education but the team is excited about the journey thus far. Developing a model to best understand what works in medical education, and at the right cost, will help the SOM optimize the return on the investment it is making in medical student education. This will help the SOM continue to fulfill its mission of creating the next generation of outstanding physicians for the state of Utah.
COMMENCEMENT 2017

Moving forward from Match Day, 93 MD students were joined on May 19 by 25 undergraduate students, 114 master’s level students and 34 PhD students to receive their degrees. The commencement address, highlighting the importance of imagination for graduates as they further their careers and training in health fields, was given by Louise Aronson, MD, MFA, author and professor of geriatrics, University of California, San Francisco.

Zaid Haddadin being hooded

Amanda Nielsen

L to R Cass Ricketts, David Record, Katie Pavia, Heidi Saxton, Lauryn Roth
Dr. Brian E. Shiozawa is well known for his work in the community. Currently serving his second term as Utah state senator, Dr. Shiozawa is often seen on the late-night news serving in his role as an ER physician at St. Marks Hospital and Lone Peak Hospital. Here’s what he shared recently with University of Utah medical students in a Dean’s Roundtable interview conducted by Dr. Cecil O. Samuelson, former dean of the University of Utah School of Medicine.

How he got into emergency medicine:
“I came out of University of Washington and matched with the University of Utah family practice program for my residency. I’ve been in the state of Utah ever since and call it my home with pride. While I was in residency, I did some rotations in various emergency departments—Primary Children’s Hospital and Holy Cross (now Salt Lake Regional Medical Center), and it just resonated with me at that time. Back then, you could still become board certified in both family practice and emergency medicine, and so I did that. It suits my particular personality. They say in emergency medicine, you find the problem, fix it, then move on to your next job. It’s been great serving as a physician and my latest endeavor is serving the state as a Utah state senator.”

How he got into public service:
I’ve been active in the Utah Medical Association (UMA) since residency. As president of the UMA, one of my roles was to advocate on the hill for various issue. I remember one time five or six years ago, there was a bill that allowed doctors to dispense a full course of medicine from their own practices to patients who could not afford them, so they would have that treatment and not go without. I would patiently wait outside the doors of the House and the Senate to get the attention of someone to plead the case for our patients.

While I don’t recall the outcome of that bill, I do remember that I was approached by some people who said, “If you really want to have influence you should be inside the chamber and actually craft bills and vote on the bills and have a say in the appropriations and administration.” I went ahead and took those steps, declared a candidacy, and one thing led to another and here I am.

Thoughts on the 2017 legislative session:
House Bill 395 is the only bill that I sponsored that did not pass last session. The bill dealt with ‘surprise billing’ or ‘balance billing,’ [which is] being billed independently of what your insurance company will allow or cover for emergency care.
Benefits of having a trained physician in the Senate:

One of the Senate bills that we passed this year was the EpiPen bill. Utah state law prior to that passage was epinephrine could only be done through one particular type of injector and that one source’s pricing had made a huge jump in price. The last night before we started the session I’m working in the ER and we had a Latina patient come in. She was having a food allergy to shrimp and her throat was tightening up, so we rushed her back, got the IVs in, and we hit her with epinephrine and the usual things, and that helped temporarily. We eventually got her up to the ICU without intubating her, but without epinephrine it would have been a real problem, but the price for that epinephrine was very high. The genesis of this bill was it would have been a real problem, but the price for that had increased fraction of that and is only going up. When Medicaid gets hit with a bill, that impacts taxpayer dollars. When you think about policy making, one, you think about efficiency, delivering a service for a certain amount of cost, but, the other, is to make sure that you have the right service for that particular problem.

Another bill talked about the delegation of services between physicians and physician assistants. Regardless of [your specialty], you’re going to have nurse practitioners and PAs working with you. Number one, we don’t have enough doctors. Number two, these people can extend your practice and take care of many of the things that we have typically done in the past, but can give your patients better access and bring down the costs of care, and still represent you. The bill streamlined the agreement of delegation of services between physician assistants and their supervising doctor—preserving the relationship but allowing it to have more flexibility so that they could do more things. This will really help in rural, underserved areas here in the state of Utah where it’s hard to recruit and sustain enough doctors to work.

Decision to fund the new Medical Education Building ($50M)

This demonstrates a tremendous commitment on the part of our state to the future and excellence of the School of Medicine—the leaders, the teachers and faculty, the researchers and the students. Our future really depends on the students. It was really an honor to advocate for that. Because of the reputation of this complex and this group up here we could go forth and say, “Look, you have a world-class institution that desperately needs additional funding to keep us at the top and to take care of decaying and aging infrastructure; without this, we’ll lose private funding which is key to making this public-private collaboration happen. Now is the time to act.” And, fortunately the budget allowed us to do it. This has so much value for the future.

Thoughts on National Health Care:

Among many people in town hall meetings and across the state there’s quite a bit of opposition to Obamacare/Affordable Care Act (ACA). Nationally, the House has not come up with a bill, they’re still looking at it. And the question is, will this be a repeal (of Medicaid) and replace, or will this be a modification of the existing ACA? When I talk to Orrin Hatch and Governor Herbert about this they’re saying let’s wait before we try anything more in the state of Utah until we see what’s happening nationally.

We’ll probably spend as the state of Utah $600–800 million this year in taxes going back to DC, and we won’t get a lot of that back because we didn’t expand Medicaid. As a fiscal conservative, that makes me crazy because if we brought in that money, we could create, what we estimated conservatively, thousands of high-paying, quality jobs here in the state of Utah, and we could take care of thousands of patients who are below 133 percent of the federal poverty level and lack health insurance. The downside is the state would have an increased fraction and obligation as the Medicaid match decreased. This was a real debate and Speaker Hughes and I had many late-night sessions where we went back and forth on this.

I will tell you that tonight when I work in the ER, 20 percent of my patients will be uninsured. We will go ahead and stabilize them with a CAT scan or surgery, and we’ll send them home with thousands of dollars of medical bills, and who will pay for them? You will, I will—indirectly or directly.

Advice for first and second year students:

There is no greater earthly profession than being a physician, in terms of helping people and the chance to do great things. If you have a chance and interest, get involved, because people really respect that white coat. You will bring credibility to neighborhoods, to communities, to whatever job you do because of your background. People trust you with their lives, why wouldn’t they listen to you on other issues?
How would it be to wake up one morning and your vision is blurry and doesn’t clear? Or to find that one side of your body isn’t working properly? Or to not know when you’re suddenly going to be so exhausted you can’t get out of bed, play with your children and go to work? This is the reality that is multiple sclerosis (MS). A neurodegenerative disease that strikes most people in the prime of their life, it is progressive and unpredictable in nature. MS is a disease of the central nervous system (CNS) where damage occurs to the protective myelin coating around the nerve fibers in the brain and spinal cord and to the nerve fibers themselves. This interferes with the transmission of nerve signals between the brain, spinal cord and the rest of the body. This disruption of nerve signals causes the symptoms of MS, which vary in scope and intensity from one person to another depending on where and when the damage occurs.

Tom Lane, PhD, is a professor of pathology at the University of Utah in the Division of Microbiology and Immunology. He arrived in Utah in 2012–2013 when he and his family took a year sabbatical from UC Irvine and came to the U. He choose Utah for his sabbatical because he had several ongoing collaborations with scientists here and had been a guest lecturer on numerous occasions at the U. Luckily for Utah, and the work going on in the field of MS at the U, the year sabbatical became a permanent stay. Other than missing the ocean, he and his family have come to really enjoy Utah and the lifestyle afforded here.

As a MS researcher, he knows this disease well and the significant negative impacts it has on peoples’ lives, which is why he is working so hard to find a cure.

Dr. Lane’s interest in MS began early in his career. After completing his PhD in microbiology and immunology at
UCLA he began his career as a post-doctoral fellow at the Scripps Research Institute in La Jolla, CA, studying viral infections of the brain. That work led to his interest in MS. Researchers have known for years that, along with the strong genetic link for MS, something in the environment, like a virus, most likely triggers the disease in susceptible people.

After a couple of years at Scripps he joined the faculty at UC Irvine and set up the MS Research Center where he collaborated with clinicians and other researchers for 16 years, working to discover the underlying causes of MS with the goal of creating potential treatments. The center inspired his drive to find a cure for MS due to the opportunity he had to work and interact with many MS patients. Seeing the impact this disease had on individuals made the work in the laboratory more meaningful as he and his students saw the toll the disease took on individuals’ lives.

While at UC Irvine Dr. Lane and his research collaborator, Hans Keirstead, discovered a protein that was instrumental in tracking disease—causing cells in the central nervous system and were able to block the function of that protein, which caused a dramatic slowdown of the disease in animal models. They started targeting this protein in spinal cord injuries and it had the same dramatic effect. He and Keirstead developed antibodies to this specific protein to block its function and prevent disease progression in their animal models for MS and spinal injury. This led them to start the company Ability BioMedical to develop a human antibody targeting this protein for eventual use in humans. To accomplish this, they partnered with Medarex Inc. and patented the antibody they discovered. Eventually, Bristol-Myers Squibb purchased Medarex, and the antibody Tom and Hans discovered for this protein is now FDA approved and in stage II clinical trials for the treatment of inflammatory bowel disease (IBD). At this time, the results from the clinical trials for IBD are promising and if successful for this disease, Tom hopes it will one day be studied further for both MS and spinal cord injury.

While at Irvine, and continuing since he moved to Utah, he began to study stem cell implantation in mice to help reverse the symptoms of MS. Tom’s laboratory uses several different mouse models of MS that develop clinical symptoms similar to MS and demyelination. Tom used these mice to test whether human stem cells implanted in the mice’s’ spinal cords could potentially grow and remyelinate demyelinated axons, slowing or reversing the disease. The tests were promising, with the stem cells helping mice that couldn’t move originally resume the ability to walk. The long-term goal is to develop a therapy to surgically engraft human stem cells into spinal cords of patients to see if they could get the same alleviation of symptoms as the mice.

From his work with implanting stem cells, Dr. Lane has come to believe that a special type of immune cell—a regulatory T cell (Tregs)—could also be useful in slowing or reversing symptoms associated with MS. He thinks what he saw in the mice occurs because the stem cell implant led to the secretion of factors that allowed for the expansion of Tregs, and these cells both dampen neuroinflammation, inhibiting the disease from progressing and also promote remyelination repairing nerve fibers. His lab was one of the first in the country to argue that Tregs could be contributing to repair and remyelination. Due to this work they were awarded a $1 million NIH grant for further study, and many other labs across the country are also now pursuing this line of research, pushing the bar forward in untangling the mystery that is MS.

Dr. Lane’s current research focuses on what factors are secreted by the Tregs to discover what component or combination of proteins helps repair myelin. The ultimate goal is to isolate them and develop a drug that mimics their action in humans. He feels he is on the correct track and has the right team to do this. His lab received the only Collaborative Center Grant from the National MS Society awarded this year to continue their work studying different mechanisms associated with both disease and repair in pre-clinical MS models.

Recently, he has also been working on creating a good transgenic mouse model for progressive MS. Treatment options for the most common form of MS, remitting relapsing MS, has come a long way in the past 20 years due to more targeted specificity in drug treatment and the introduction and evolution of oral medication. However, progressive MS, the most debilitating form of MS, does not respond to any of the newer remitting/relapsing drugs. There is only one new anti–CD20 drug, ocrelizumab, which specifically depletes B cells (a specific type of white blood cell), and has had positive results in recent phase III trials to treat the progressive form of the disease. This has led Tom and others to speculate that an entirely different population of cells contributes to this disease and to further study the immunological consequences of the depletion of B-cells. He believes they are isolating that population of cells, and their findings have been consistent with other findings around the country.

All in all he is optimistic about the current progress of MS research, though he knows it can be agonizingly slow for many patients. He believes the U has been known for quite a few years for their clinical treatment of MS patients because of amazing MS clinicians like John Rose, MD. He is hoping all the work he and his lab are doing will help find a cure and will elevate the U to be a primary location for excellence in MS research.
The University of Utah has a long history of working in the West African country of Ghana. In recent years, faculty and staff from the Division of Public Health in the Department of Family and Preventive Medicine have worked with donors Lynette and Robert Gay to guide the establishment and ongoing operations of the Ensign College of Public Health in Kpong, Ghana. This college accepted its first class of masters of public health students in 2014, graduating 23 students in 2016 and preparing to graduate an additional 47 students in 2017.

In March, the University of Utah Board of Trustees approved a plan to establish an Extended University of Utah Public Health Program at the Ensign campus. This is the first step in establishing University of Utah West Africa, at what will become the Ensign global campus. The University of Utah West Africa joins the Asia campus in Incheon, South Korea as one of two global locations for the University of Utah. The Ensign campus is located in the Eastern Region of Ghana along the banks of the Volta River. Its 50 acres has 11 buildings that include academic and administrative space, housing, hospitality services, and an infirmary. It also boasts uninterrupted electricity, ecologically sensitive water and sanitation, high-speed internet, and full-time security services.

The Ensign College of Public Health was founded to fulfill the vision of philanthropist Lynette Gay to create an academic institution that engages communities in promoting healthy lifestyles in Ghana, the West African region, and beyond. This is coupled with her husband, Robert’s, interest in how innovation can assist community efforts to improve health and well-being. This transition to an Extended Public Health Program and establishment of University of Utah West Africa builds upon these ideas and follows the University of Utah goals to 1) promote student success to transform lives, 2) develop and transfer new knowledge, 3) engage communities to improve health and quality of life, and 4) ensure long-term viability of the university.

Establishing the University of Utah West Africa builds upon existing partnerships to increase opportunities for advancing scholarship. There is a long-standing tradition of bi-directional learning through global work at the University of Utah, which results in improved quality of life around the world, but also brings new knowledge and approaches to healthcare back home to benefit communities throughout Utah. This ranges from scientific discoveries that benefit people regardless of where they live to new approaches for engaging communities to be partners in education and life improvement. The Health-2-Go project is an example. This project was developed by Dr. Stephen Alder, chief of the Division of Public Health, who is leading the development of the Extended Public Health Program, and Rick Haskins, founder and director of the Cast A Pebble foundation. The premise behind Health-2-Go is to bring high-quality health services to communities rather than making community members travel to health facilities to receive these services. This program is being developed in partnership with the Ghana Health Service to make it possible for all people in a developing country like Ghana to have access to health services and provides a model that can be replicated throughout the world, including in Utah.
Biochemistry Professor Dana Carroll elected to the National Academy of Sciences

Distinguished professor of biochemistry, Dana Carroll, who has devoted much of his career to developing precise genome editing platforms, was elected on May 2 to the prestigious National Academy of Sciences. Carroll is among 84 US scientist-scholars and 21 foreign associates elected by the Washington DC-based academy in 2017. He joins 2,289 active members and 475 foreign associates who have received this honor.

Carroll joined University of Utah Health in 1975. He began working on genome editing platforms 21 years ago and claims the title of the first scientist to develop the zinc-fingered nucleases (ZFNs) — chemical scissors that cut DNA at specific sites — as a tool for genome engineering. His curiosity in the application of ZFNs as a way to manipulate genes arose from his interest in DNA recombination and repair.

Carroll’s storied career, which included 24 years as chairman of the U’s Department of Biochemistry, is credited with advances that have led to dissecting gene function, engineering disease-and drought-resistant (or hardy) crop plants, and correcting genetic diseases in people. “CRISPR, which works in much the same way as the original ZFNs, is a direct outgrowth of what we started,” said Carroll. “It is exciting to see the tools getting better and the approaches getting easier.”

Carroll has received the 2017 election to membership in the American Academy of Arts and Sciences, the 2012 Edward Novitski Prize from the Genetics Society of America, and the 2014 Herbert Sober Lectureship from the American Society of Biochemistry and Molecular Biology. He also received the 2016 Distinguished Innovation and Impact Award from the University of Utah. He credits much of his success to the talented men and women who have worked in his lab throughout the years. “They have been instrumental in helping advance this technology, and I am grateful for all of their work through the years,” Carroll said.

Biochemistry Scholar Wes I. Sundquist Awarded U’s Rosenblatt Prize

The Rosenblatt Prize is presented annually to “recognize, encourage and honor excellence in teaching, in research and administrative efforts, collectively or individually.” The Rosenblatt endowment was established in 1983 by the Joseph and Evelyn Rosenblatt family to honor the civic leadership and generosity of Joseph Rosenblatt’s parents, Nathan and Tillie Rosenblatt.

Wesley I. Sundquist, distinguished professor of biochemistry at the University of Utah, was honored with the Rosenblatt Prize for Excellence, the U’s most prestigious faculty award. The $40,000 gift is presented annually to a faculty member who displays excellence in teaching, research, and administrative efforts.

Sundquist began his career at the University of Utah in 1992 as an assistant professor in the Department of Biochemistry. He became the Samuels Presidential Chaired Professor in 2015 and a distinguished professor in 2017. He has served as cochair for the Department of Biochemistry with Chris Hill since 2009. Under their leadership, the department has increased in size by 50 percent, and the department consistently ranks in the top 20 biochemistry departments in total National Institutes of Health funding.

He is internationally recognized for his research discoveries in Human Immunodeficiency Virus (HIV) replication and fundamental processes in cell biology and is one of the most cited researchers in the field of HIV/AIDS. His work has transformed the understanding of the architecture, assembly and budding of HIV, and his research on viral structures is leading to new strategies for HIV therapeutics that have transformative potential for human health. He is the director of a $24 million award that involves 18 principal investigators from nine institutions across the country. He is a member of the National Academy of Science and American Academy of Arts and Sciences.

“Dr. Sundquist is a rare scientist with a combination of vision, creativity, knowledge, rigor, and drive that have made him truly transformative to his field,” said a nominator. “His body of work is extraordinarily impressive not only for the importance of the insights he has provided, but also for the diversity of structural, biochemical and genetic approaches that he has employed.” As a mentor, Sundquist has trained more than 40 graduate students and postdocs, many of who currently hold positions in academic and private-sector institutions. “His passion for science is genuine and contagious,” said a nominator and former student.
The Department of Internal Medicine welcomed Molly Conroy MD, MPH, as the new chief of the Division of General Internal Medicine within the Department of Internal Medicine at the University of Utah Health. Dr. Conroy replaces Dr. Barry Stults who served as division chief since 1998. In his tenure as chief, Dr. Stults expanded the hospitalist program, increased the numbers of hospitalists, and supported many of them in their development to leadership roles. Due to his leadership and mentoring, patient satisfaction scores improved at the general internal medicine outpatient clinics. Additionally, he supported internal medicine residents through his continued commitment to teaching and mentoring excellence in clinical practice.

Dr. Conroy will build on the legacy left by Dr. Stults to carry on the tradition of a strong education space for resident trainees. Along with her compelling background in internal medicine, Dr. Conroy brings with her a significant vision for the future of the Division of General Internal Medicine, which is directly aligned with the tri-fold mission of the Department of Internal Medicine. “I am looking forward to building on the solid foundation of clinical and educational programs established by Dr. Stults,” Dr. Conroy said. “I hope to also expand the mission of research and scholarship, particularly by including our trainees more directly in that process.”

Dr. Conroy joins us from the University of Pittsburgh, where she has been on the faculty since 2004, after completing residency, a general internal medicine fellowship, and Masters in Public Health at Massachusetts General Hospital/Harvard School of Public Health. Since residency, her primary research interest has been cardiovascular disease risk reduction and lifestyle change, with a focus on primary care. Her areas of clinical expertise match that focus by including lifestyle counseling, physical activity prescription, weight management, and hypertension.

Talmage D. Egan, MD, ‘86 recognized with Lifetime Achievement Award

Dr. Talmage D. Egan, MD ‘86, current chair of the Department of Anesthesiology and holder of the Dr. K.C. Wong Presidential Endowed Chair in Anesthesiology, was recognized by the International Society for Anaesthetic Pharmacology (ISAP) with its Lifetime Achievement Award in October 2016. According to the ISAP criteria, the Lifetime Achievement Award honors individual scientists for outstanding contributions to anesthetic pharmacology. The award recognizes a meritorious career in drug research, excellence in direct patient care or very important contributions to patient care, and a distinguished teaching career.

Dr. Egan is internationally regarded as a pioneer in the development of total intravenous anesthesia techniques, particularly the clinical application of the short acting opioid remifentanil, and the characterization of the interaction between propofol and opioids. His research has focused on the clinical pharmacology of sedatives and analgesics, the development of novel intravenous anesthetics and alternative propofol formulations, the development of optimal drug administration regimens based on pharmacokinetic-pharmacodynamic concepts, the identification of factors (e.g., gender, body weight, shock, etc.) that influence drug behavior, and computer controlled drug delivery technology. These interests have resulted in successful entrepreneurial ventures, patents and trademarks.
Michael Kay, MD, PhD, receives Graduate Student and Postdoctoral Scholar Distinguished Mentor Award

Michael Kay, professor of biochemistry and director of the Biological Chemistry Graduate Program, was honored this spring with the Distinguished Mentor Award for his consistent work serving as a mentor for graduate and postdoctoral students.

Dr. Kay trained at Cornell University, BA in biology and chemistry; Stanford University, MD/PhD in biochemistry; and MIT, Damon Runyon Postdoctoral Fellow; before arriving at the U in 2001. He mentors one postdoctoral and five predoctoral trainees and has graduated eight PhD students. Tackling important scientific problems is intense work and he believes that the best training comes from sharing in all aspects of it—the excitement and joy of discovery, along with the challenges of troubleshooting and fundraising, all while keeping an optimistic attitude and a sense of humor. His mentoring philosophy can be summarized by the maxim “a week in the lab saves an hour in the library.”

Elevating Others: A New Endowed Chairholder in Radiology and Imaging Sciences

By Kirsten Mallik

Dr. Anne Osborn, internationally recognized professor of neuroradiology at the University of Utah, has endowed a fourth chair in her home Department of Radiology. She and her late husband, Ronald E. Poelman, JD, previously created three endowed positions in the Department of Radiology and one in the Department of English. The new Anne G. Osborn and Ronald E. Poelman Chair for Young Clinician Investigators in Radiology is a lasting memorial to Ron, who passed away in 2011, and reflects an understanding of the challenges faced by young physician-scientists in the early stages of their career.

“There’s just no time in clinical medicine,” Osborn relates. “You have to be in clinic, in the reading room, in the operating room, every minute. If you can have another half or full day at a time when you’re working on major projects that can define your career, it makes such a huge difference.”

Dr. Rulon Hardman is the remarkable young faculty member just awarded this chair, and he agrees. “Most programs don’t realize that important research takes time,” he said. “I’m so appreciative of this opportunity.”

Hardman came to the U of U Health as a full faculty member in 2014. He is a specialist in the exploding field of Interventional Radiology (IR): the art of minimally invasive, image-guided procedures ranging from biopsies and implants to precisely targeted therapy. In addition to advancing his own projects, Hardman hopes to eventually establish a more lasting framework for research in his interventional radiology group. He wants to build a culture that encourages science and helps trainees develop their own research ideas and design studies. “It goes beyond one person,” Hardman said. “We’ll be trying to elevate everyone to reach their research goals.”

It’s an ambitious generosity of spirit that resonates with Osborn and one that Ron Poelman would certainly have appreciated too. “I hope his career will bloom and flourish,” Osborn said. “I’m so pleased with the selection.”

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Chronic pain is estimated to affect up to one-sixth of the world’s population. A particularly difficult type of chronic pain to treat is neuropathic pain, resulting from nerve injury. Causes of neuropathic pain include diabetes, trauma, surgery, infection and cancer chemotherapy.

For unclear reasons, the pain of acute injury may become chronic, continuing months or even years beyond the initial injury. Treatment options are limited. Physicians and patients often turn to powerful pain killers known as opioids. While opioids are potent analgesics, their long term use is complicated because patients develop tolerance to the analgesic effects, often necessitating increasing doses. Fatal overdose is all too commonly the outcome. According to the CDC, between 1999-2015 over 183,000 Americans died from prescription opioid related overdoses. In 2014, almost 2 million Americans were dependent on or abused prescription opioids.

Enter the cone snails. University of Utah researchers have been working on solutions from a seemingly unlikely source, a marine snail genus known as “Conus.” Cone snails are venomous carnivores. They utilize a highly complex mixture of compounds in their venom to incapacitate their prey, which may include worms, other snails and even fish. There are hundreds of species of cone snails, each with venom containing a unique combination of over 200 components. Altogether there are estimated to be tens of thousands of neuro-active compounds selected by Mother Nature.

One compound, isolated from the fish hunting Conus magus or the magician cone, acts on calcium channels necessary for transmission of nerve signals. Thirty-six years ago, Michael McIntosh, then a new undergraduate student working in the laboratory of cone snail pioneer Baldomero “Toto” Olivera, purified this venom component, which would later become an FDA approved drug known as Prialt. Prialt is used for treatment of severe pain such as that resulting from cancer or HIV. It now appears that the cone snails provided the inspiration for another solution. This time, Conus regius, a worm-hunting cone, was utilized. A venom component, known as RgIA was shown to block pain in rats that had suffered a nerve injury. More remarkable was that RgIA not only treated the pain, but also appeared to speed recovery of the injured nerve. Further experiments revealed that if RgIA were given soon after nerve injury, many of the nerve fibers were spared and other markers of nerve injury improved. Importantly, the development of long-term pain was prevented.

Unfortunately, a major problem was discovered. Although RgIA worked well on the rat nicotinic receptor, McIntosh, now a professor of psychiatry and biology, and his team found that the cone snail component only had weak activity for the human receptor. This meant that impractically high doses would need to be used were it to become a drug. As a result, for the past several years a group of students and staff made synthetic variants of the cone snail peptide with the aim of developing a template for a human drug. Their results paid off. A new derivative compound, known as RgIA4, has 1000 times more potency for the human receptor than RgIA. RgIA4 is made in a test tube, so no cone snails are required. Importantly, RgIA4 has retained the pain alleviating properties of the parent compound.

In a recent study, published in the Proceedings of the National Academy of Sciences, RgIA4 was shown to prevent the development of chemotherapy-induced neuropathy. The chemotherapy drug (oxaliplatin) used in the study is a first-line drug to treat colon cancer; however, oxaliplatin-induced injury to nerves often causes long lasting-pain and sensitivity to cold. RgIA4, when given together with oxaliplatin, was shown to prevent the development of the neuropathic pain. Researchers hope that a drug, based on RgIA4, will someday be used in humans to prevent the nerve injury complications of chemotherapeutic agents. In addition, the mechanism of action of RgIA4 appears promising for treatment of other disorders such as diabetic neuropathy and low back pain. The technology transfer office of the University has patented RgIA4 and licensed the technology to a start-up firm, Kineta, Inc. Kineta is seeking investors or corporate partners to raise the hundreds of millions of dollars needed to complete human clinical drug testing. In the meantime, McIntosh and his team will keep looking for additional drugs from the sea.
In April 2017, a team from the John A. Moran Eye Center and Utah Lions Eye Bank (ULEB) completed a historic medical mission in Bolivia to help establish the country’s first eye bank at the Instituto Nacional de Oftalmologie (INO), a charity eye hospital and clinic in downtown La Paz.

The trip marked a turning point for sustainable eye care in the country and a new commitment from Moran’s Global Outreach Division to provide yearly training to physicians there.

“Our first official outreach trip to Bolivia was in 2013,” explained team leader and Moran cornea specialist, Mark Mifflin, MD. “By 2015, much-needed eye bank equipment donated by the LDS Foundation was in place, but it wasn’t being used because of lack of training.”

Along with Wade McEntire, technical director of the Utah Lions Eye Bank (ULEB), and Moran fellows, Brent Betts, MD, and Severin Pouly, MD, the team delivered corneal tissue donated from several U.S. eye bank sources and spent a week performing 50 cataract surgeries and 30 corneal transplants, all the while training local ophthalmologists.

Training in the art of eye banking, a complex process that requires collecting and carefully processing donated corneas, is especially critical. In countries where most residents have low incomes and the magnitude of corneal blindness is greatest, the availability of donated corneas is very low. This is due in large part to the lack of local eye banks and a lack of understanding about the donation process.

During a week that also included lectures, classes, and intensive skills transfers, the team was able to strengthen ties with INO physicians who had spent time learning at the Moran Eye Center at the University of Utah through its International Observer Program and then returned to Bolivia to continue their practices—all in keeping with Moran’s goal of creating sustainable eye care worldwide.

“Establishing an eye bank is a landmark event for the people of Bolivia,” said McEntire. “While Bolivian surgeons can always obtain tissue from US eye banks, the key to sustained eye health is having locally recovered eye tissue. This allows for healthier and fresher tissue, but above all else, it allows the people of Bolivia to give the gift of sight.”

During the trip, Mifflin, McEntire, and Joel Moya, MD, an INO physician and former Moran observer, met with Bolivia’s deputy minister of health to “start the process of change” in eye care in that country.

“We still have a long way to go,” said Mifflin. “There’s a need for better surgical training, which Moran can support with ongoing outreach trips—mostly for cataract and corneal surgeries. They need more skills transfer in eye banking, which we can also support with visits, and we can send corneas.”

An important element for success will be creating social change in the form of donor awareness. It’s something the team will work on with local officials.

“I think in 10 years, or maybe even five, Bolivia will have a functioning eye bank,” said Mifflin.
In June 2017, HCI opened a new 220,000 square-foot expansion, doubling its research capacity. The new Primary Children’s and Families’ Cancer Research Center will become the foundation for advances for children impacted by cancer. It will also trace familial cancers and accelerate the development of new treatments and cancer prevention strategies. Other research enhancements include a Biotechnology Center, with the latest advanced genetic sequencing and imaging equipment.

“This new research space is essential to HCI’s mission to relieve the suffering of cancer patients through understanding cancer, and bring that understanding to the development of new and improved cancer treatments,” said Mary Beckerle, PhD, CEO and director of HCI. “By bringing together the most innovative scientific minds with leading-edge technologies, we will accelerate cancer research discovery.”

Principal support for the $116.7 million expansion was provided by the Jon M. Huntsman Family, Huntsman Cancer Foundation, The Church of Jesus Christ of Latter-day Saints, Intermountain Healthcare, and the state of Utah.

This addition marked HCI’s fourth major construction phase. The first phase, The Jon M. Huntsman Research Center, was completed in 1999, and comprises 231,000 square feet with three floors of research labs and a floor of outpatient clinics. The second phase, a 286,000 square-foot cancer specialty hospital with 50 inpatient rooms, opened in 2004. In the fall of 2011, a major expansion of the cancer hospital was dedicated, which doubled clinical capacity.
After years of planning and preparation, University of Utah Health’s Division of Transplantation and Advanced Hepatobiliary Surgery has launched its Living Donor Liver Transplant Program. According to the American Transplant Foundation, in 2015 only 359 liver transplants (or about four percent of all liver transplants performed that year) were made possible by living donation. During the U of U Health’s first year of living donor liver transplantation, it has already transplanted a total of three recipients through living donation. With an ever increasing need for livers, both in the state of Utah and across the nation, this procedure offers an opportunity for more liver transplant patients to receive a life-saving organ before they get too sick or wait too long with their liver disease. It also has a ripple effect, as it gives others on the waitlist a better opportunity to become the recipient of a deceased donor.

According to the Division Chief, Dr. Robin Kim, “living donor liver transplant is a technically demanding procedure, but it’s deemed to be very well-accepted throughout the world. In parts of Asia where it is not culturally appropriate to donate after being deceased, they rely almost solely on live donor liver transplants. We’ve learned lessons from these centers, and at University of Utah Health our patients are doing well because of our inherent capabilities and our desire to learn and grow.”

In an effort to provide the best care possible, the division is also conducting research in the medical aspects of liver transplantation to maximize the level of care provided. If you, or someone you know, would like to learn more about living donor liver transplant you can visit the website healthcare.utah.edu/transplant/living-donor/. If you would like to make a donation to help with transplant research please contact the division manager, Alec Rosales, at Alec.Rosales@hsc.utah.edu.
Yuan Chang, MD ’87 and Patrick S. Moore, MD ’85 MPL ’86, University of Pittsburgh School of Medicine faculty members, have been awarded the 2017 Paul Ehrlich and Ludwig Darmstaedter Prize, an international research prize considered one of the most prestigious in the field of medicine. The award is given annually to medical researchers who have made significant contributions in the fields of immunology, cancer research, microbiology, and chemotherapy.

The duo’s Chang-Moore Laboratory is credited with discovering two of the seven known human viruses that directly cause cancer. Chang and Moore discovered the Kaposi’s sarcoma-associated herpes virus, or human herpesvirus 8 (KSHV/HHV8), in 1994. The virus causes Kaposi’s sarcoma, the most common AIDS-related malignancy and one of the most frequently occurring cancers in Africa. Prior to this discovery, medical researchers had worked for nearly 15 years to find an infectious agent associated with Kaposi’s sarcoma. The pair also identified Merkel cell polyomavirus (MCV)—the cause of Merkel cell carcinoma, one of the world’s most clinically aggressive skin cancers—in 2008.

A pathologist and virologist, Chang is an American Cancer Society research professor and a distinguished professor of Pathology in the University of Pittsburgh School of Medicine. She earned a bachelor’s degree in biology at Stanford University and her doctor of medicine degree at the University of Utah. Chang has been a faculty member in The Pittsburgh School of Medicine since 2002. In 2015, then-President Barack Obama appointed Chang to serve on the United States National Cancer Advisory Board, which advises the National Institutes of Health on promising cancer research. Chang was a past recipient of the 2010 Howard Taylor Ricketts Award from the University of Chicago and the 2003 Paul Marks Prize for Cancer Research from the Memorial Sloan Kettering Cancer Center.

An epidemiologist and virologist, Moore is the director of the Cancer Virology Program at the University of Pittsburgh. He earned a bachelor’s degree in biology at Westminster College, a master’s degree in chemistry at Stanford University, a doctor of medicine degree at the University of Utah, and a master of public health degree at the University of California, Berkeley. He is an American Cancer Society research professor, a distinguished professor of microbiology and molecular genetics, and the Pittsburgh Foundation chair in innovative cancer research in the University of Pittsburgh School of Medicine. Last year, the National Cancer Institute recognized Moore’s contributions to medical research with its Outstanding Investigator Award.

American Diabetes Association recognizes Frank Q. Nuttall, MD ‘55, PhD

Frank Q. Nuttall, MD, PhD, former chief of the Endocrinology, Metabolism and Nutrition Section at the Minneapolis Veterans Affairs Medical Center, was awarded the Outstanding Physician–Clinician Award in Diabetes by the American Diabetes Association. This award is the association’s highest scientific award for an individual actively involved in the clinical care of patients with diabetes. It honors Dr. Nuttall’s meritorious achievements and career history as both a mentor and a health care provider. The senior faculty of the Endocrinology Department at the Mayo Clinic, Rochester, MN submitted the nomination for this highly competitive award. Their nominating letter highlights Dr. Nuttall’s long and distinguished record of outstanding teaching and his focus on a scientific approach to the dietary treatment of diabetes. The American Diabetes Association has 16,000 professional members and is the leading diabetes organization worldwide.

This award builds on Dr. Nuttall’s distinguished career, having received both the Annual American College of Nutrition Award in 2006 in recognition of his outstanding achievements as a research scientist-teacher-scholar in clinical nutrition, and the David M. Worthen Award in 1999 for Academic Excellence from the Department of Veterans Affairs.

U Alumni Awarded Paul Ehrlich and Ludwig Darmstaedter Prize

New Scholarships in the School of Medicine

Endowed Scholarships: minimum endowment level is $25,000 which can be established over five years

• The Nabendu Pandey, MBBS and Gouri Pandy, RN Endowed Scholarship in the School of Medicine
• The Grewal Family Endowed Student Scholarship in the School of Medicine established by Prabhjot “Nina” Grewal, MD ’03

Expendable Scholarship Gifts of $10,000+

• Marriner S. Eccles Foundation
• Pat and Bill Childs
• Gary F. Larsen, MD ’66
• Stephen D. Quinn Foundation
IN MEMORIAM

FRANK G. MOODY, MD

Dr. Frank G. Moody, 88, University of Utah Health Department of Surgery chair from 1971 to 1982, died on August 12, 2016. Internationally recognized for his research and surgical treatment of diseases of the digestive system, Dr. Moody was a pioneer in the field of bariatrics; and led an obesity research program while at the University of Utah, studying the genetics and treatment of morbid obesity.

Prior to joining the School of Medicine faculty, Dr. Moody held faculty appointments at the University of California in San Francisco (1963—66), and the University of Alabama (1966—71). In 1982, he was recruited to UT Health in Houston to lead the Department of Surgery as chairman until he retired in 1994.

Later in life, Dr. Moody found more time to spend with family and pursue his love of mountain hiking and skiing at his homes in Utah and Sweden that he shared with his long-time companion, Inger. He recently was honored by the prestigious American Surgical Association with the 2016 Medallion for Advancement of Surgical Care.

PATRICIA A. CANEPA (PAT)

In November 2016 the Nora Eccles Treadwell Foundation, the Nora Eccles Harrison Cardiovascular Research and Training Institute (CVRTI) and the University of Utah’s School of Medicine lost a dear friend and advocate, Patricia A. Canepa (Pat). From 1994 until 2016 Pat served as chair of the foundation. Her dedication to the legacy of her longtime friend, Nora Eccles, was a major factor in the outstanding contributions of the foundation. Under Pat’s able leadership the foundation provided more than $42 million to the University of Utah School of Medicine for cardiovascular and rheumatology research. Of special note are the many years of generous foundation support to the CVRTI, a world-class research facility.

Pat will be succeeded as chair and CEO of the foundation by 30-year foundation veteran, Spencer F. Eccles, Nora Eccles’ nephew, thus insuring Eccles family continuity as Nora had always planned.

January 2017–June 2017

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<th>Year</th>
<th>Name</th>
<th>Title</th>
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<td>Joseph E. Jack, MD</td>
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<td>1950</td>
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<td>1956</td>
<td>Richard A. Aldous, MD</td>
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<td>1959</td>
<td>Vincent S. W. Chiu, MD</td>
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<td>Bryan J. Ditty, MPAS,PA-C</td>
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<td>2010</td>
<td>Rachel Lee Alpern, MPAS,PA-C</td>
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<td>5/13/2017</td>
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I Know You...Or Do I?

If you believe you know the identity of the person in the photograph, send your guess to somalumni@hsc.utah.edu by September 15, 2017. We’ll draw one of the correct responses and announce the winner in the winter edition of Illuminations. The winner will receive a prize from the School of Medicine Alumni Relations office.