

DREXEL UNIVERSITY

# College of Medicine

ALUMNI MAGAZINE

STUDENT UNLOCKS  
NEW HIV SECRETS | 6

BEFORE THE FIRST CUT:  
SURGICAL SIMULATION | 18



PAINTERS | MUSICIANS | PHYSICIANS  
**DOCTORS OF ARTS**



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May 1 & 2, 2015

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#### Dining with Dinosaurs Reception

The Academy of Natural Sciences of Drexel University

### SATURDAY, MAY 2

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- Back to School Brunch
- Alumni Lounge
- Out in Our Community: Impactful Student Initiatives Panel
- Medical Mysteries in Music: Who or What Killed Mozart?
- Choose Your Demo: SimMan® or TraumaMan®

#### Dean's Award Luncheon

- Le Méridien Philadelphia, Abele Library

#### Evening at University City Campus

- Alumni Couples Champagne Reception
- Class of 1990 Silver Dragon Reunion Induction Ceremony and Reception
- Drexel After Dark: Drexel Through the Decades Party

**ALL ALUMNI AND GUESTS ARE WELCOME.**

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**SPRING 2015**

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**ON THE COVER:**

Second-year medical students (l-r) Anu Somashekar, Elizabeth Cummings and Brian Lefchak are officers of DUCOM Classical, a performing and music interest group.

**COVER STORY**

**MEDICINE & THE ARTS**



*Tango*, by alumnus Herb Rigberg, is composed of what the artist calls “mind bytes.”

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Thesis work by doctoral student Lauren Bailey has made important contributions to HIV research at the College.

Current Enrollment:

Medical Students

1,083



Graduate Students

939

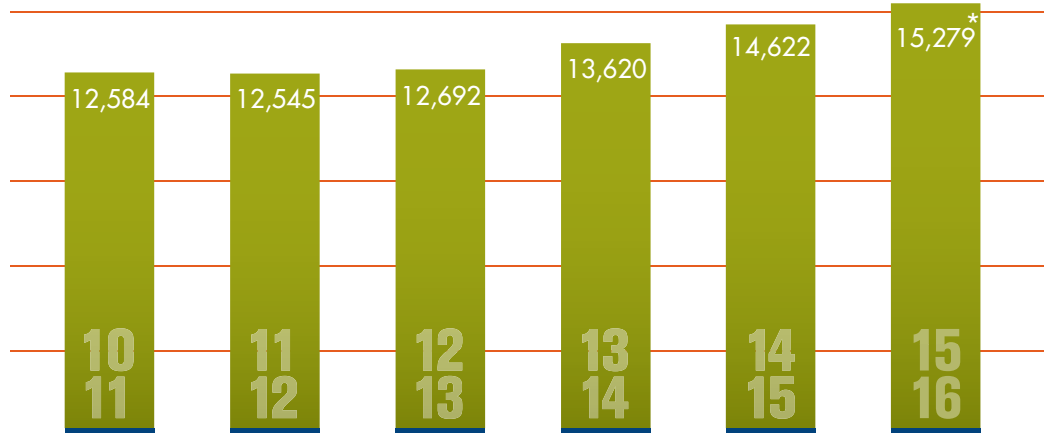


Medical Residents and Fellows

556



Growth in Applications to MD Program:



\*as of January 2015

LETTERS

Salute from a Reader

As a classmate of Tom Rozanski, Hahnemann 1956, I was thrilled to review his medical career in the military (Winter/Spring 2014). I completely agree with Tom that all physicians should complete a tour in the medical services.

From personal experience in the Navy Medical Corps, I agree with Jerry Frankel's comments that military medicine is not for all (Spring/Summer "Letters"). But I strongly encourage a commitment for society in other areas, such as public health, medically underserved areas, etc.

The exposure to the broad and demanding military medicine is a lifelong educational opportunity which has immeasurable benefits in a long career of clinical practice.

May I add that we who have benefited by a medical education have an obligation to "pay back" in some way to society.

A two-year tour caring for military personnel, their families and retirees is not an excessive obligation for recent graduates.

I cherish my time as a Navy physician with the 1st Marine Division.

Louis W. Welsh, MD  
Huntingdon Valley, Pa.



*CORRECTION: In the story "All in the Family: Alumni Legacies" in the Summer/Fall issue, we mistakenly referred to Fay Wright, MD, MCP '87, as "Fay Wright Margolis," using her husband's surname. We regret the error.*

**WE WELCOME YOUR LETTERS**

Correspondence may be mailed to Editor, Drexel University College of Medicine Alumni Magazine, 1601 Cherry Street, Suite 11484, Philadelphia, PA 19102, or emailed to [jtracy@drexelmed.edu](mailto:jtracy@drexelmed.edu). Please include your contact information. The magazine staff reserves the right to edit for space and style.

# We're in Demand

In the last magazine, Alumni Association Board President Ray Schreyer, MD, HU '78, shared some exciting statistics with you about the progress of our medical school. Today, I am happy to report those trends continue.

Our MD program received over 1,000 more applications for 2014/15 than for the previous year. The total number of applicants to U.S. medical schools rose to a new high in 2014 — 49,480 — and 30 percent of them (14,622) applied to Drexel. Now we have 15,279 applications for next year. These numbers make for a very difficult screening process; however, by all measures it seems we're doing a good job.

Alumni ask me what it is like to be one of the largest medical schools in the country. I am happy to report many of our students have shared with me their feeling that this is a big school with a small-school atmosphere, and this is what is transmitted to applicants and visitors. The faculty is available, and there is greater camaraderie than in other places. It is part of our cultural DNA handed down from our legacy schools.

At Drexel, students operate with their brains and their hearts, not with their elbows. In other words, this is not the kind of place where people are pushing each other out of the way to get ahead. A great majority are involved in socially minded causes — helping children, working in free clinics, truly giving of themselves — because they have a vocation of service.

I believe that training-program directors and leaders of health systems across the region and the country know that our students make great residents. I often hear praise for our students and graduates, from our academic partners and affiliates, practitioners in the field and patients; they recognize that our students are well prepared, have great bedside manners and are outstanding examples of professionalism.

I am telling you this for several reasons. First, I want you to be proud of our students, and your medical school. Second, to thank you for all that you do to support our enterprise. The gifts of your time, your financial support and your advocacy are critical to our continued success. Lastly, to ask you to engage with our students and your fellow alumni — attend reunion, mentor a student, participate in career networking programs.

You, and our school, will be measurably enriched if you do!

Cordially,



Daniel V. Schidlow, MD  
Walter H. and Leonore Annenberg Dean  
Senior Vice President of Medical Affairs





Jim Greipp

Ashley Huber (left) and Jane Lee are the College's first Herbert Kean Distinguished Scholars.

# PREPARING TO MAKE THEIR MARKS:

## Ashley Huber and Jane Lee

First-year medical students Jane Lee and Ashley Huber may not appear to have much in common.

Lee is a lifelong Californian. She earned her bachelor's degree in biology with honors from UCLA, which, with nearly 30,000 undergraduates, is the size of a small city. Her older sister is a physician, a Drexel graduate in fact, but Lee wasn't always sure what she herself wanted to do.

Huber grew up in a suburb of New York City. She majored in human science, finishing cum laude, at Georgetown University,

undergrad population 8,000. The only physician in her family is a cousin, but Huber always knew she wanted to be a doctor.

Lee and Huber, however, have commonalities besides stellar credentials from top-ranked schools. They are the College of Medicine's first Herbert Kean Distinguished Scholars, recipients of an award that recognizes their outstanding accomplishments and continues for four years. The scholarship was created by alumnus Herbert Kean, MD, HU '56, and it came as a complete surprise to both of them.



## Open to Possibilities

Originally from Clovis, California, Jane Lee “always had medicine in mind,” but was unsure she wanted to pursue it as a career. “I did a lot of related activities — research, volunteering, anything I could to get to know the field a little bit better and see if it was right for me,” she says. As an undergraduate at UCLA, Lee worked in the urology department, both as a research lab assistant and shadowing her PI during his surgical procedures. She is even first author of a review chapter they published. Lee also worked behind the scenes in the ophthalmology department and was a hospital volunteer at Ronald Reagan UCLA Medical Center.

Lee’s older sister, Mimi, graduated from Drexel University College of Medicine in 2006, while Lee was in high school. Once Lee decided to pursue a medical degree, she says, her sister’s enthusiasm for the school was contagious. “They really challenged her,” Lee says, also noting that her sister made friends with whom she still keeps in touch nine years later. After visiting the Drexel campus, Lee decided this was where she wanted to be.

A few days after Lee was accepted by the College, the Admissions Office called to offer her the Kean scholarship. Lee, who had not been aware of the scholarship before, describes the experience as literally unbelievable. “There’s a three-hour time difference [between Philadelphia and California], and it was the morning. I’m thinking, ‘Am I still dreaming? This is insane.’”

Many months later, feet on the ground in Philadelphia, Lee is very happy with her decision. Coming from UCLA, she appreciates that her class at Drexel is on the larger size compared to other medical schools. “I always feel with a larger class, there are a variety of people to interact with and learn from. I feel like I’m surrounded by people who are different, but who are united by a common interest. ... They motivate me to work harder,” she says.

Being away from family for the first time has been Lee’s biggest challenge as she tries to adjust to the Northeast and to medical school. She has enjoyed exploring her new city, though. As a fashion blogger, she particularly notices the style differences between the two coasts. “That may be an L.A. influence,” Lee laughs. “Right now, my education and career are number one, so I’ve put that a little bit to the side,” she adds.

Lee also finds creativity in medicine. “I feel that medicine is very creative even though the foundation is the sciences,” she says. “What makes it creative for me now is when you are interviewing a patient and trying to get their history. Even though patients may have the same symptoms, each person has a different lifestyle, different genetics.”

As a Kean Scholar, Lee was invited to meet the scholarship donors, alumnus Dr. Kean and his wife, the Honorable Joyce Kean, a former judge of the Philadelphia Court of Common Pleas. “It was really nice to meet them,” she says, “putting a face to ‘Dr. Herbert Kean.’ Finding out what a great person he is was even better,” she adds, a sentiment echoed by Ashley Huber.

## Fulfilling a Dream

During high school, Huber participated in service trips to Mexico. In college she continued her outreach work on a trip to Appalachia, and she volunteered for Georgetown’s student-run ambulance service beginning freshman year. She also undertook semester-long research internships and spent summers in research programs at Georgetown and Albert Einstein College of Medicine, for which she received competitive grants. One summer, she traveled to Buenos Aires on a translational research internship focused on pediatrics.

“I really took advantage of research opportunities, kind of as a way to explore medicine before I was able to do that in medical school,” Huber explains. After graduating from Georgetown, she worked at Einstein for two years, conducting research into HIV microbicides, and was selected to train collaborating researchers in Nairobi, Kenya.

As she began to research medical schools, Huber says, “Drexel felt like a great fit. ... I really loved the idea of quickly getting into the field and getting to see patients through the ‘Physician and Patient’ course, and Drexel’s affiliations for third- and fourth-year clinical rotations are great.” The Community Experience programs also drew Huber’s attention, and she currently volunteers in the student-run clinic at the Eliza Shirley House, a shelter for mothers and children.

Huber says her experience so far has been a dream come true. “It’s a lot of work,” she says of medical school, “but it’s really interesting.”

Like Lee, Huber is very grateful for Kean’s generosity. His gift is helping “fulfill my dream of medical school,” she says.

Both young women express their appreciation for the opportunity to develop a relationship with Kean. Lee says, “I think that’s important and different from anything I expected my medical school experience to be like. It’s a really great thing they’re trying to do with the scholarship, allowing us to get to know alumni and connect the current with the past.”



*Mutual admiration society: Herbert Kean, MD, HU '56, and his wife, Joyce, with the Kean Scholars. “He’s a very accomplished physician. It was an honor to hear his story,” Huber says.*

Research by PhD candidate Lauren Bailey is helping to advance our understanding of the structure of HIV and how an inhibitor may cause the inactivation of the virus.

# UNLOCKING THE SECRETS OF HIV

## LAUREN BAILEY, PHD CANDIDATE

By Catherine McCorkle

From the time she was in elementary school, Lauren Bailey wanted to be a doctor. Influenced by her mother, who was a nurse, she fully intended to apply to medical school.

All that changed during her senior year at St. Joseph's University when she started conducting research in the chemistry lab of Jean M. Smolen, PhD, director of the university's environmental science program. Bailey was drawn to Smolen's environmental studies, and her passion for chemistry was ignited.

"I switched my goal from being a doctor to full immersion in basic research as a result of my work with Dr. Smolen," Bailey explains. "We were studying variables, such as pesticides, that affect the reductive dissolution of iron oxides, which are commonly found in soil. We were looking at how pollution or pesticide use in everyday processes can react with iron oxides, thereby





posing a human health risk. This research inspired me to pursue my PhD in biochemistry.”

Bailey chose biochemistry because she wanted to add a more in-depth understanding of cellular systems to her strong background in chemistry.

Before pursuing her PhD, she worked for a year in a generic pharmaceutical company. “I really loved that experience,” she says, adding that she might like to become part of a pharmaceutical research and development team after receiving her PhD. “I would also consider working for a branch of the government like the Environmental Protection Agency. Researching environmental pollutants has always been an interest for me as well.”

Bailey chose to pursue her PhD at Drexel because “the professors wanted to know what techniques I was interested in learning, not just what I already knew. They made it clear that whatever I wanted to know, someone here would help me. That’s what really appealed to me. As a multidisciplinary university, Drexel has really benefited my thesis research because, even if my lab doesn’t specialize in a particular area, there are so many other professors throughout Drexel that I’m able to utilize. That has been a great experience for me.”

Working in the lab of Irwin Chaiken, PhD, for her thesis project, Bailey has been investigating why an HIV inhibitor identified by a previous student causes the inactivation of HIV.

“Our group works on molecular mechanisms and protein interactions in biology and disease,” explains Chaiken. “Our current research is focused on interaction mechanisms of the HIV-1 envelope surface and the attempt to find inhibitors of the surface protein complex — known as Env — that targets cells for infection.”

“During Lauren’s thesis work, we learned that when a particular Env-binding inhibitor [a peptide triazole thiol] is mixed with the virus, it causes the virus surface membrane to develop holes, so the contents of the virus leak out and the virus itself becomes non-infectious,” Chaiken continues. “Lauren’s project was to try to understand how the thiol component is able to cause virus lysis. She has submitted a very important paper on this topic. The first major part of her thesis was to use a synthetic approach to determine the structural relationship between that thiol, the Env protein binding site in the peptide, and the binding site for the peptide in the Env. She followed this up with computational modeling in collaboration with another student and more recently a postdoctoral fellow to find out where that thiol group could be interacting with the Env protein. Her project has advanced unique hypotheses about how the thiol actually can cause the inactivation of HIV after peptide triazole docking onto the virus,” he says.

“The second part of her project is to try to deepen our understanding of the way the thiol works,” Chaiken continues. “We now know that it’s important, that it has a specific spatial relationship to groups in the envelope protein. In this next phase, we’re trying to understand mechanistically how the thiol functions.”

Bailey hopes that another therapeutic for HIV could be developed as a result of her research. “Even if our group doesn’t develop a therapeutic, just knowing more about the structure of HIV and getting more information about inactivation mechanisms can help toward down-the-line development of therapeutics. It’s exciting to be advancing science with our work,” she says.

Bailey says she has grown as a scientist under Chaiken’s mentorship. “One of the great things about Dr. Chaiken is that he isn’t always looming over your shoulder. If you have questions, he’s willing to answer them. But then he gives you your space and independence. He really appreciates seeing PhD students and post-docs take initiative. So he won’t necessarily tell you what your next steps are, he wants you to tell him what you think your next steps should be. That’s been a great experience for me because it has allowed me to think in depth about what’s actually going on in my research,” notes Bailey, who expects to complete her PhD degree in the fall of 2015.

Chaiken says Bailey is “one of the most motivated, goal-oriented students I’ve had. It defines her. She’s had great perseverance and focus throughout her doctoral training period and has made important contributions to our research. The biological implications of the project she’s working on are extremely strong. Her work is helping to show a correlation between the deactivation [of the virus] we see in the absence of cells and the infection we see in the presence of cells. This correlation could provide important insights into how the Env protein functions in cell infection as well as suggest implications for the treatment of HIV.”



*Bailey is co-president of the Graduate Student Association and served as student ambassador on the research day committee.*

# DAUNTLESS:

## S. JAY MIRMANESH, RESIDENT '88

Shahram Jay Mirmanesh, MD, MBA, Resident, MCP '88, came to America as a teenager to become a doctor. Despite not speaking English when he arrived, he achieved his goal – and then some. The pediatrician and neonatologist has helped and inspired countless others, from his own family to patients to medical students. He is dauntless in pursuit of his goals, and there have been many.

Dr. Mirmanesh wanted to be a physician for as long as he could remember. As a child growing up in Tehran, he was inspired by an uncle who became a surgeon. It was the 1960s, and his uncle had been recruited from abroad to study at the Medical College of Pennsylvania. In his uncle, Mirmanesh saw “how much you can help and do good things” as a doctor. When Mirmanesh was 18, he left for America with this goal.

In the United States, Mirmanesh parlayed a love for soccer into some ability with street hockey. He learned English through these pick-up games. “I was getting used to the country, getting used to different things,” he says. “When you are young, you acclimate very quickly.”

Mirmanesh procured a student visa and began his studies at Camden County College in New Jersey, transferring to Temple University after two years. “There were many obstacles I had to overcome,” he says, laughing. To earn money, he drove a cab in Philadelphia. This was in the mid-1970s. “You have to know where you are,” he comments, referring to the city. He once parked near a church, assuming a sacred space would be safe. It wasn't. The taxi window was smashed. “You learn very quickly,” he deadpans.

### MAKING THINGS HAPPEN

With his eye on medical school and carrying an undergraduate course load, Mirmanesh was also working toward another goal, bringing his parents and four siblings from Iran. About a year after he arrived, he brought over his 16-year-old brother; three years later, a sister, and so on, until the whole family was here.

Although Mirmanesh did well in chemistry, math and physics, his beginner's English hurt his overall GPA. Undeterred, he applied to and was accepted by Ross University School of Medicine on the island of Dominica. During his third-year clinical rotations, he found pediatrics.

By  
Catherine McCorkle

Mirmanesh returned to Philadelphia in the mid-'80s for his residency in pediatrics at MCP. “It was an absolutely great experience,” he says. While he praises the school's faculty and staff, he firmly attributes his positive experience to his residency cohort. “Everybody got along so well. Everybody worked so closely together. We were on call so often — even with that, everybody was happy.” He also rotated through St. Christopher's Hospital for Children during his second and third year. “We worked hard, but the work was good,” he says.

Following his residency, Mirmanesh completed a fellowship in neonatology at the Children's Hospital of Philadelphia. The next few years brought administrative roles. He helped open the first neonatal intensive care units at Memorial Hospital in Burlington County (now Virtua Memorial) and Easton Hospital, becoming medical director of the NICU each time. This professional shift prompted him to pursue his MBA through an executive program at the University of South Florida. By 1994, he was opening his own pediatric practice. He now has offices in Voorhees, Marlton and Sicklerville, New Jersey.





Jim Greipp

Michael Mirmanesh, MD '14, shakes hands with his proud father before turning around to receive his hood.

The painting of the Statue of Liberty that hangs in the office was a gift to Jay Mirmanesh from his son Michael.



## JOY IN HIS WORK

For Mirmanesh, the ability to heal children is an amazing feeling. "I love what I'm doing so much," he says. "Every day is a great day." He acknowledges that some aspects of his work are difficult. "Recently I had a little one, a newborn, whose sutures [fibrous material that connects the bony plates of the skull] had closed too early. We made the diagnosis and told the parents the baby would have to have surgery. The whole family was very upset. Surgically, it's not a big deal — the end result is going to be very good — but that was of course upsetting."

Mirmanesh's joy in his practice inspired his two sons to follow him into medicine. "I like it so much, I got my kids to pursue it. That's such a great feeling," he says. His older son, John, is in practice with him, and his younger son, Michael, MD '14, is a resident in plastic surgery at the University of California, Davis. Mirmanesh's wife, Lisa Ann, works with him as the Voorhees office administrator.

In recent years, Mirmanesh has opened his practice as a preceptor for Drexel medical students during their pediatrics rotation. Not only does he enjoy engaging with the students over the course of the workday, but also, he says, the parents of his patients appreciate the students' presence, since more information is communicated in a teaching environment than might be during

a traditional visit. "They're a lot smarter than we were," he says of the Drexel students. His attitude is, "You're teaching me more than I'm teaching you."

## STILL MORE TO DO

"I have been so impressed by Drexel and their students, their knowledge, their outlook," he elaborates. That and having seen his son's experience at the College have prompted him to become more invested in the school. "I really want to be involved," he says. When he was invited to become a member of the College of Medicine Advisory Board, he readily accepted.

Mirmanesh overcame many obstacles to achieve his vision, and he brought others along with him. The first brother who joined him here graduated in biomedical engineering from Drexel. Their sister and the two youngest brothers are doctors. Considering his personal and professional arc helping others, inspiring his family, and teaching, Mirmanesh reflects, "I love what I'm doing, and I get paid for it, too. It can't get any better."

When he tells his sons he will one day retire — leaving them to take over — he says they respond, "No, Dad. You're going to come around in a wheelchair and tell us, 'Do this ... do that.'" I love it," he laughs.

# Medicine & the Arts: Multi-Talented Physicians

Artists and scientists, who are sometimes both, have more in common than many people would guess. The products of their work may be poles apart, but the creative processes are similar. Consider the shared vocabulary: observation, discovery, discipline, empathy. Alma Dea Morani, physician and artist, wrote that the study of art helps physicians understand the human condition. Another source suggests that the actual practice of art makes them more resilient. For the highly accomplished musicians and visual artists who tell their stories here, the practice of art is central to their being.



## Wilma Bulkin Siegel, MD MCP '62

### PAINTER

*During a distinguished career as an oncologist, Wilma Bulkin Siegel also worked with some of the first patients diagnosed with AIDS and established one of the first AIDS hospices. Her award-winning art has been exhibited across the country. She is president of the Foundation for the History of Women in Medicine.*

When I was 7 years old, I decided to be either an artist or a physician, and in reality I'm both. And it is a passion. Art has taught me so much about the human being, and of course medicine has taught me so much about the human being. I've been passionate about bringing art into medicine because I believe it's a way of teaching medical students why they're doing what they're doing.

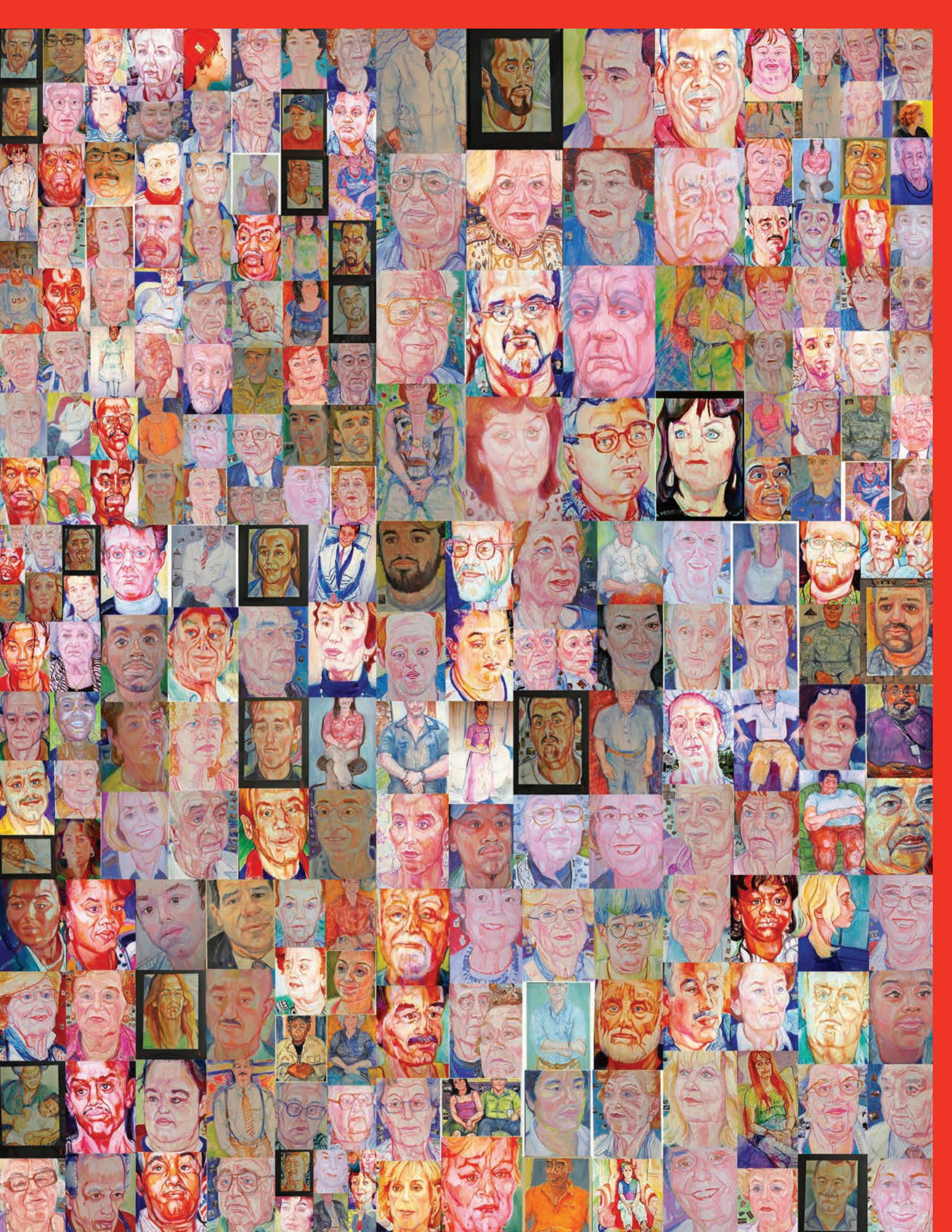
All throughout my career I did art. I used art as stress management for myself when I was dealing with oncology. I went to the New School in New York City to do sculpture. Because the cancer was tearing down bodies and so was chemotherapy, in some ways doing sculpture and building up bodies helped me emotionally.

In the process of transition from practice to retirement, I went to the National Academy of Design, and they told me I was already an artist. I've always done painting — in high school, I did murals for the dances, and I did cartoons for the newspaper in high school and college. I was also pretty much an expert in theater makeup.

As I developed my art, I became a portraitist. Initially I was doing paintings of subjects who were dealing with the illnesses that I took care of, such as AIDS and breast cancer, and I grew to understand that some of that was a healing process for them. I wrote a narrative to go along with the painting, and so it was very similar to what I was doing in medicine, in that I was doing the history, and then as I was drawing and painting on the paper or canvas, it was almost like doing a physical examination; and

A collage of hundreds of Dr. Siegel's watercolor portraits (most are 30-by-40 inches) includes examples from several series: Holocaust Survivors, Second-Generation Holocaust Survivors, Female Doctors, and Returning Veterans. Website: [wilmabulkinsiegel.com](http://wilmabulkinsiegel.com)







when I brought it back to the studio to develop the painting, it was the diagnosis and the treatment, as I did with the patient. Many times when I would spend time and validate that person in what they were dealing with, it was healing for that individual. I found as I went into more social issues — such as Holocaust survivors and liberators — that it's still the same process, that I'm validating who they are, making that individual be as important as everybody else, telling their story and painting who I see in a psychological viewpoint.

I am now adding video to some of the portraiture, so it's a contemporary approach to portraiture. I do a video so the actual person can be seen alongside my interpretation in the portrait, and what they have to say [can be heard] alongside my interpretation in the narrative.

My most recent series was returning veterans from Iraq and Afghanistan. I do an individual portrait from life — I always do the portrait from life — and then I tell their story as I've received it. They often edit the story; I won't expose it to the public unless they agree. I will give them their portraits when I am finished showing the series.

I think there is creativity in science and there is science in art. In medical school so often it is so left-brain logical training that we need to have that other, intuitive training. [Involving medical students with art] is really to stimulate the right brain. Art helped me be a better physician, I think. It helped me better see the whole, and I believe it stimulated my creativity in medicine: I went into oncology when it wasn't a field. I went into hospice when it wasn't a field. And I went into AIDS when it wasn't a field. All that is because I was seeing the whole and the needs of the whole.

My mentor, Alma Dea Morani, was a woman who promoted art in medicine. The Foundation for the History of Women in Medicine created a "Renaissance Woman" award, which we named the Alma Dea Morani Award, and she was the first to receive it. Before she died, she said to me, "Wilma, carry on the vision." I continue to carry on whatever I can.



## Alma Dea Morani, MD WMC '31

### SCULPTOR

*The late Alma Dea Morani (1907-2001), clinical professor of surgery, was known as the first female plastic surgeon in the United States. The daughter of a sculptor who wanted her to follow in his footsteps, she was a skilled artist who thought the study of art had a vital place in medical education.*

The closeness between art and science has long been recognized, although the relationship is difficult to define. The end goal of both art and science aims to improve the education, comfort, and enjoyment of people. We accept that both art and science require study, thought, reasoning, talent, and discipline, and both subjects are best learned through years of study and largely through visual impact. ...

Few of us recognize that art, when really understood, is the province of every human being, for it is simply "doing things well." It makes for self-expression and finding gain in the work itself. ... There is ample proof that a desire for some creative activity is present in all humans and that it gives satisfaction to the creator. We refer to the cave drawings of prehistoric man as proof of man's need to express his emotions.<sup>1</sup>

Art has been given a number of definitions. My accepted one is that art is a means of communication. ... I feel art is not a luxury as many in the world do. Art is a necessity in life because everyone has a fundamental need for self-improvement, self-expression. Even a child of a few years old — give him a pencil and he'll start scribbling something. ...

The ability to express oneself with paint or clay or sculpture becomes art. Music is an art. A lot of doctors have musical talent. We even have a doctor's symphony orchestra in Philadelphia. We have an art club for physicians.<sup>2</sup>

*When Morani retired from surgery in 1972, she sharpened her focus on art in medicine, publishing and lecturing on the subject. In 1985, she gave MCP her art collection:*

[The Morani Art Gallery was my] gift to the Medical College of Pennsylvania because I was grateful to them for my good medical education. ... We started by having six lectures on art and medicine by professional art teachers. I gave one. Then I donated my collection of art artifacts. ... It's the only medical school in the country that [does this].<sup>2</sup>

Dr. Morani honed her inborn talent with private art lessons in the 1950s. She created this bust of her father, Salvatore Morani, around 1962. Of Italian birth, he studied sculpture in Naples and Rome before immigrating to the United States.

<sup>1</sup> Excerpts from Morani, Alma Dea, MD. "Art in Medical Education: Especially Plastic Surgery" in *Aesthetic Plastic Surgery* (Springer, January 1, 1992) <sup>2</sup> Excerpts from Roslyn Coskery Souser, MD, FACS. "Tribute to Alma Dea Morani, M.D., FACS, Sculptor, Plastic Surgeon, Teacher in the Year of the Woman, 1993: A Biographical Interview" in *Worldplast: World Journal of Plastic Surgery* (Vol. 1, No. 1., 1995).



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## Anupam Somashekar **Medical Student**

### VIOLIN

*Anu began to study music at her mother's behest, but grew to love it. As officers of DUCOM Classical, she, Canning and Lefchak organized the winter concert and performed in it.*

The violin was the first instrument I tried. I started playing when I was 6. There are no musicians in the family, but my mother wanted me to have the opportunity to learn, and it is because of her that I stuck with the instrument at first. Then I started to teach myself piano as I made connections between the instruments. I can play piano — not very well — it's just something I like to fiddle with in my free time.

Once I started appreciating music, it became something I turned to when I was stressed or sad or happy or feeling pretty much any emotion!

I did consider pursuing violin professionally. When I was in high school, I was the concert master for the Chester County Youth Orchestra, and I loved it. I used to play for hospice patients, and that also helped me realize how helpful simply spending a day with patients could be. In college I was also, on and off, concert master

of the Drexel University Orchestra. However, I loved sciences and medicine more, and so I chose to pursue a career in medicine. I do like playing in my free time, and hope to be able to play as we get further into medical school.

I like to play most styles of music — from Bach to Stravinsky to Coldplay. I can't really pick a genre. My favorite part of the violin is its ability to transfer multitudes of emotions and styles, by simple manipulations of the bow.



play, perform publicly, and write music all the time — something I can do now and during my career as a physician — and that in itself is the best blessing I could ask for.

I wish I was able to play classical music more often, but generally these days I play whatever the next music project entails. When I'm not [preparing for something], I often tell people to name a pop song on the radio and I'll pretty much have it figured out within a minute or so (whether that speaks to my skill as a pianist or the lack of originality in today's pop music is open to interpretation). I really like playing drums and doing piano/vocal sorts of ballads as well. But I can easily find myself enjoying anything from Rachmaninov to jazz standards to hip-hop.



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## Elizabeth Canning **Medical Student**

### PIANO AND FRENCH HORN

*Elizabeth started piano lessons at age 5; well before that, she was plunking out notes on her own. She went to Penn State as a music major but was drawn to science.*

I began trumpet lessons in elementary school, and switched to French horn in high school. I continued studying piano and horn and performed in almost every high school music ensemble. I also played horn with the Harrisburg Youth Symphony Orchestra.

My intention was to become an elementary school music teacher, set up a private studio to teach at home, and learn to play the organ, for church. But during my freshman year of college, I found I also loved math and science. I switched my major to nutritional sciences and minored in music. Throughout college, I continued to perform.

Right now, my favorite thing to do on the piano is sight read from my church hymnal; it keeps me grounded in my faith. I also like playing the Chopin waltzes. I would love to play in a horn or chamber ensemble.

Music and medicine require many of the same human characteristics. First, both require impeccable listening skills. Musicians need to be listening to the rhythm, rate, dynamics, pitch, and tone quality of themselves and of the other people in their ensemble in order to make beautiful music together. Similarly, physicians need to be listening to their patients' concerns and physical signs (heart and lung sounds with rhythm, rate, dynamics, pitch, and tone quality). Physicians also need to be listening to themselves in order to match the patient's feelings with appropriate empathy and self-expression.

Above all, I feel that much of both music and medicine is about reading between the lines. The late classical and baroque composers often did not mark how the music should be played. Likewise, many times a physician must notice the importance of what the patient is *not* saying. In either case, to do our best, it is our job to learn as much as we can.

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## Brian Lefchak **Medical Student**

### PIANO

*He loves to play classical music, but Brian enjoys nearly every genre. He struggled with the violin before finding his inner musician.*

Out of the blue in fourth grade, I told my parents that I wanted to take up piano. Naturally, they were skeptical, but it wasn't long until my piano teacher told them I was going to need more than a little electric keyboard, and the rest is history.

I don't think the idea of music as a career has ever left me entirely. But I figured rather early on that I couldn't commit the time necessary to make a career out of classical music. Then when I started contemporary music, around 10<sup>th</sup> grade in high school — dabbling in songwriting and other instruments like drums and vocals, and eventually live performances and studio sessions — I saw firsthand how devoted one must be to the craft. I felt the uncertainty of the business was too much for me. But the best part about music is that it isn't a black and white game. I still



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## Ben Cocchiaro MD/MPH student

### GUITAR

*Ben plans to go into family medicine. He studied epidemiology and biostatistics for his master's in public health. He serves on the board of directors for Prevention Point Philadelphia, an organization that serves Philadelphia's homeless and injection drug using communities.*

I started playing guitar in earnest when I was about 12. At the time I was listening to a lot of punk music — visceral, angry stuff played by do-it-yourselfers that fit my reaction to a world whose suffering and injustice I was only beginning to understand. The sentiment stuck with me as my tastes turned toward folk music, and I soon found in artists like Phil Ochs the same power and advocacy that had originally drawn me to louder groups like Dillinger Four.

When I first saw fingerstyle guitarist and Chet Atkins acolyte Tommy Emmanuel at the 2003 Philadelphia Folk Festival, the guitar was reinvented for me as an instrument capable of profound expression — what the late ethnomusicologist Bob Brozman called “the intimate relationship between feeling and muscle action.”

Playing music has always been a cathartic experience for me. I play almost every day. I'll do maybe three to four gigs a year. This past year I had the distinct honor of playing the Philadelphia Folk Festival, where I shared the bill with Tommy Emmanuel.

In addition to my original ragtime compositions, I also arrange shape note tunes for banjo, guitar, and voice. Using a four-shape system of musical notation, patented in Philadelphia in 1798 and preserved as a living tradition of community singing throughout the United States, shape note music is choral singing that takes place with singers facing each other rather than an audience. On fourth Thursdays, I make the trek from my home in Kensington to the A-Space [an anarchist community center in West Philadelphia], and we'll take turns leading songs from either *The Sacred Harp*, first published in 1844, or *The Shenandoah Harmony*, published by some friends of mine in 2013.

The music is powerful, and while the poetry can be rather macabre, I find it particularly relevant to the practice of medicine. My first day in anatomy lab, I couldn't drive John Leland's “Evening Shade” from my mind: “We lay our garments by, / Upon our beds to rest: / So death will soon disrobe us all, / Of what we here possess.” Singing this music with a couple dozen of my friends helps to give new meaning to Dr. E.L. Trudeau's edict “to cure sometimes, to relieve often and to comfort always.”

Ben Cocchiaro sings, plays, arranges and composes. Have a listen at his website: [thewh.bandcamp.com](http://thewh.bandcamp.com).

Since starting medical school, I've been involved with the House of Grace Catholic Worker Clinic. They help support the Kay Lasante clinic outside Port-au-Prince, Haiti and have been doing this since before the earthquake. All proceeds from my music go directly there.

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## Herbert Keyser, MD HU '58

### VOICE

*Dr. Keyser began life with a song in his heart, and throughout the years he has been able to join his passion for musical theater with his passion for medicine. At Hahnemann he was part of the medical school choir; as a practicing physician, he sang wherever he went.*

When I was 15, I was certain I was going to become the biggest star in the history of Broadway. I wheedled my way into singing and dancing choruses whenever I could. I even did some television commercials. The production company liked the fact that I had no Philadelphia accent even though I grew up there. That was because my parents were both totally deaf. I spent my childhood enunciating very clearly so my parents could read my lips. It is ironic that I grew up in a house with no music whatsoever.

I received a scholarship to Temple University, but I attended rarely because I devoted my time to trying to make it in show business. When I finished college, I had no idea what I wanted to do except perform. I applied to medical school under pressure from my parents.

I found that I was as deeply in love with medicine as I had been with show business. I became an obstetrician and served as co-chair of the department at one of the largest hospitals on Long Island. I adored being in medicine, but I always had music in the back of my mind.

In the late '70s, I began writing about health care; then other topics. My first book about music, *Geniuses of the American Musical Theatre: The Composers and Lyricists*, was published





in 2009, and I'm working on a sequel about the performers of that era.

I've been performing on cruise ships for about 10 years, singing and lecturing about the theatre people I've written about. Since retiring from medicine three years ago, I do it about three months every year. So my life has gone full circle. It gives me a huge amount of pleasure.

While I was in practice, I also became interested in painting. Now my paintings hang all over our house. My father was very talented that way. Without any training, he became an artist and one of the foremost gilders in the United States. I have a picture of my father on top of the Philadelphia Museum of Art, gilding by hand the sculptures at the very top of the museum. My father never knew anything about music because he was deaf, but everyone who worked with him said that he always hummed while he was painting. You could imagine the music going on in his brain. I guess the apple didn't fall far from the tree.



## Herbert B. Allen, MD

### CELLO

*Professor Herbert Allen, MD, is chairman of the Department of Dermatology at Drexel University College of Medicine. He studied cello at the Juilliard School and science at Columbia University before entering medical school at Johns Hopkins.*

My family was musical and we were each encouraged to play an instrument. I started on the violin but found the positioning contorted so I chose the cello instead. I began playing at age 9.

After first studying near my home, I went to study music at the Juilliard School (the college division) with Leonard Rose for four years. He also taught Yo-Yo Ma, who became the number one instrumental soloist in the world. He was in the prep school at the time, about 12 years old, and had his lessons just before me. I wanted to be a soloist, and even though I was very accomplished, I found out very quickly that talent stratifies, especially when you are classmates with Yo-Yo Ma.

Our exams were sheer terror. You would perform solo in front of a jury. Then the jury voted on your performance, and your scholarship was dependent on the jury. Fortunately, it went well for me and I kept my scholarship all the way through.

Halfway through Juilliard, I decided that even though I liked music and the cello, I wasn't destined to be a soloist. I liked orchestral playing, but not enough to make a career of it. Medicine was in my family, so I began studying simultaneously at Columbia University and ultimately decided to pursue a medical career.

I'm glad that music is still part of my life. My wife is a pianist, and we play together at events such as fundraisers, weddings and funerals. Communicating



Dr. Allen sees definite connections between music and medicine.

with the audience through music is really gratifying to me. With a Juilliard background, you are trained as a professional musician, and that carries with it the desire to do a good job. So there is stress as well as pleasure in playing at special occasions. That's a mindset I think I'll have till I pass.

I enjoy newcomers to the field — they are really amazing. My vintage is almost gone; musicians such as Itzhak Perlman and Yo-Yo Ma have come to the twilight of their careers. Folks like Perlman are doing more conducting than playing these days. I've gone to see Perlman perform. I met him before he was famous. My wife was friends with his future wife. I knew Yo-Yo Ma just as a classmate, but I've gone to see him play and have almost all his recordings.

I see definite connections between music and medicine. In both disciplines, you have to stick to a problem and learn to work through it. As a physician, you want to do the best job you can, just as a musician does.

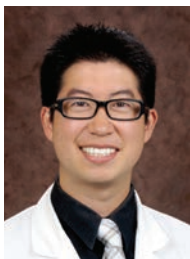
I can also recognize talent — tell who has it and who doesn't, which is important in music and medicine. For 25 years, I was affiliated with the nationally recognized training orchestra Symphony in C, as the artistic representative on the board of directors. I gave Alan Gilbert his first job, as music director of Symphony in C, and he is now music director of the New York Philharmonic. I also gave Rossen Milanov his first job, and he is still music director of Symphony in C, as well as other highly regarded orchestras around the world.

I recognize talent in medical students and residents when they have a really quick uptake, a pleasant bedside manner, and they're able to apply what they've learned effectively. I admire those who are thoughtful outside the bounds of ordinary things. I keep pushing residents to expand the envelope as much as possible, to consider things that haven't been thought of before, put them in a new light and see how it goes. This is not much different than what the best musicians do.

## Brian Chen, MD '09 Resident '13

### PAINTER

An ophthalmologist who is fellowship trained in glaucoma treatment, Brian Chen was exhibiting his work at an Old City gallery when he was a medical student. In fact, before coming east to Drexel, he had already had two shows at UC Berkeley.



Art has always been a very important part of my life. It gives me a creative outlet, and I feel like it balances me out. I do mostly acrylic paintings — just like I was doing in medical school — but since moving back to California [in 2014], I haven't had a chance to exhibit out here. It's something I'd love to get involved with.

For me, art and medicine always went hand in hand — there are actually a lot more similarities between art and medicine than a lot of people think. In college, when I was doing my molecular and cell biology major, I was an art minor at the same time, so I always thought

of them together.

I work a lot with my hands in ophthalmology, especially in fine detail. Just treating patients in general takes some self-expression, just the same way you can express yourself on a canvas (or however you like) with art as well. There are definitely a lot of similarities between the two.

I trained classically in art in college so I did a lot of illustra-

tion, sculpture, and installations; but I ended up using acrylics because I liked how it felt. I also liked the vibrancy of the color in acrylics. While I was going through medical school and training, I was also constantly moving around, and acrylics were very portable versus sculpture or oil painting.

It is definitely not a coincidence that I chose to go into the field of ophthalmology. I feel that everything is interconnected: your eyes help you appreciate art and, at the same time, art helps you appreciate your eyes.

I do a combination of quick pieces and more studied pieces. I am working on something now, and I have a few more pieces I've added within the past couple of months. If I can amass a collection, I may try to get a show together.

## Herbert S. Rigberg, MD HU '64

### DIGITAL ARTIST

Herb Rigberg retired from practice as an obstetrician/gynecologist and became medical director of the Arizona Quality Improvement Organization, Health Services Advisory Group. After 12 years, he retired again, only to return two years later as the organization's CEO. Five years later, he really retired and found himself becoming a professional artist.

Earlier in my life, I felt I had no time for photography. Then, on a trip to Botswana in 2005, I took a camera because it would have seemed criminal not to. I was so satisfied with the pictures I took, I became tantalized.

My wife and I started to travel more and I took more photos. I began to think, "Anybody can take a picture, but what if I could manipulate the images I took?" I began doing this with bits and pieces of various images I had saved — "mind bytes" preserved in my photographs. I combined and arranged these, using available computer programs. Then I added freehand work to my method, first mapping out compositions and then utilizing photographic bytes to achieve the finished pieces.

Someone who saw my early pieces suggested I offer one for the Phoenix Art Museum Contemporary Art Auction. It sold for \$1,500. Moreover, an attendee at that auction turned out to be the curator of the University Hospitals of Ohio art collection. She bought 22 of my images.

Encouraged by the responses to my work, I have begun to spend up to eight hours daily on my photography. Last year I had a show at the



*Blossom and Tusk and Pearl*  
by Brian Chen





*Jib Jam* by Herb Rigberg includes elements from a trip to Bergen, Norway, when the tall ships were in. See more of Rigberg's work on his website: [rmdphoto5.com](http://rmdphoto5.com).

Cattle Track Art Compound in Scottsdale. The compound is well regarded for the artists who have worked or exhibited there. I felt honored to have my works there. I am also very pleased that the show did well and I sold several pieces. This year, I have had a show at a new gallery in Scottsdale.

Early in our marriage, my wife's interest in art drew my attention. The first piece of art we ever bought was from a gallery in downtown Philadelphia. It cost \$50. That was the amount on my monthly paycheck. So the dealer arranged for us to buy it over four months. My interest in collecting art took off from there. But for years, I could only enjoy other people's works. What a kick it is to create my own works as well as to appreciate others'.

There's a lot of variety in my work. The photographic images I have taken provide the material out of which I complete a new piece. I am most interested in finding and using less-anticipated, less-previously-explored images. To that end, instead of a whole building, I might focus on a water pipe. Instead of a man walking a dog, I might direct my attention on the leash in a hand. I'm really not primarily interested in backgrounds, either. Instead, I go to work constructing my images out of bits and pieces, and occasional hunks, of my own photos. I have thousands of images I have used. I actually like to reuse

images. I can alter them so much they are hardly recognizable. Or I can change them only slightly.

I love color. I don't care if colors are keyed to reality. I don't mind if they clash as long as they work for me. The nice thing about working on computer is how easy it is to make physical alterations. The terrible thing about working on computer is the almost infinite number of choices and changes available. Right now, I am thinking about hand-coloring and drawing on computer-generated images. I recently saw a wonderful photographic exhibit in which the artist used hand-tinting as part of her method.

What similarities are there between art and medicine? My dad was a physician, and a graduate of Hahnemann Medical School. To people of his era, doctors practiced the ART of medicine. Now things have changed. If my generation became bound by rules, guidelines and protocols, this generation perceives medicine itself almost entirely as a science. Still, the necessity for discipline defines both then and now, medicine and art. Art, conceptually, may seem boundless and without discipline. But the more I work at it, the more I discover that discipline is central to success in both medicine and art.





# Dr. Fix-It:

## Lawrence Greenawald, MD, Resident

By Catherine McCorkle

Enter the lair of Lawrence Greenawald, triple dragon (Drexel BS '06, MD '10, surgical resident), and you can't be sure who or what you will find. For this is the realm of simulation: populated by virtual patients and mixed-reality humans. If not otherwise engaged, TraumaMan might even drop by. Here, Greenawald and colleagues in the Laboratory for Simulation & Surgical Skills are creating advanced tools and constructs for teaching not just future surgeons, but others who practice medicine. With his training and passion for surgery, the ability to see where something can be improved runs deep — and this includes how students learn to become doctors.

After completing his first two years in the Drexel/Hahnemann General Surgery Residency program, Greenawald shifted gears to spend time as a research resident, an option for four to six surgical residents available each year. His mentor is D. Scott Lind, MD, professor and chair of the Department of Surgery. Lind, who began developing virtual and mixed-reality patients more than a decade ago at the University of Florida, has a national reputation for innovation in medical simulation. Under his leadership, Greenawald, with other residents and faculty, has been developing and validating simulation models for the surgical curriculum.



Jim Greipp

For most doctors, even of his generation, Greenawald points out, the first time they performed a surgery was when “a patient in the middle of the night needed it done.” As new approaches, such as minimally invasive surgery, were developed, techniques for training in those methods were developed as well. But open surgery? That was learned in the operating room. And although the majority of abdominal surgeries are still open surgeries, there has been no validated tool to assess fundamental surgical skills. Now, Greenawald, Lind et al. have presented such a tool. The novice is videotaped performing a basic open laparotomy on a simulated abdomen. Blinded evaluators review the video and score the student on 16 essential steps.” Greenawald sees tremendous opportunity for students to gain experience before they enter the OR. “The benefit of simulation is that you get their hands to start working,” he says. “Then you can teach them the fine points later.”

Greenawald and Lind have been working on several collaborations with the School of Engineering, including an enhanced computerized model of a prostate examination; a mixed-reality patient with simulated tumors in the breast; and a project using



computer algorithms to detect surgical items left behind after a procedure.

Looking into the mind of the surgeon, or student of surgery, is the focus of another interdisciplinary research program. Functional near-infrared imaging is used to measure blood flow in the frontal cortex and assess cognitive workload. With this technology, not only could you examine changes associated with learning procedural skills, Greenawald explains, but you could examine two people who have had exactly the same training and see if there are differences in how the work — or time of day — affects them. “People theorize about this,” he says, “but there have not been any physiologic measures.” Potentially, the results could be used to optimize surgical training regimens and surgery schedules.

The Department of Surgery has been fortunate to enjoy a history of working with the College of Engineering, Greenawald says. “Our lab has a great collaborative group across colleges and schools,” he adds. “Our attitude is that our best chance of success comes with active and open collaboration. If you approach it with that attitude from the outset, you’ll get lots of results. We’ve built some very good relationships, which we’re grateful for.”

Greenawald approaches teaching with the same collaborative spirit. “The meaning of the word *doctor* is ‘teacher,’” he says. His mother is an educator and his father taught for a time as well. Sharing what one has learned is part of doing one’s job. “I really enjoy working with my junior residents, with medical students, and sharing the knowledge I’ve been able to gather,” Greenawald says.

A lifelong resident of Doylestown, Pa., Greenawald first came to Drexel in 2002 as an undergraduate. He wanted to be in the city for college and was intrigued by Drexel’s commitment to applied science, evidenced by the co-op program. He was also very interested in the school’s partnership with MCP-Hahnemann. Greenawald says, “I felt like [Drexel] would not only foster my pre-medical education, but give me the chance to transition to medical school and succeed in that.”

Although Greenawald liked engineering, he focused on biology and chemistry as an undergrad. Medicine ultimately appealed to him for two reasons. First, “You spend your days helping people,” he explains, “and hopefully effecting some positive good in the world.” Second, he enjoyed the intellectual challenge posed by medicine.

Greenawald’s professional path began to reveal itself in Gross Anatomy Lab (coordinated by Dennis DePace, PhD) during his first semester as a medical student. “That’s where I fell in love with the anatomy of the human body — how it works and how it can fail,” he explains. “That’s obviously the first part of becoming a good surgeon, because you have to understand how the body works, how it can fail, how you can fix it.”

Professor Michael Weingarten, MD, a vascular surgeon and “passionate educator,” was “probably the biggest influence” for anyone considering surgery, Greenawald says. Another faculty member had good advice for him as well. During the third-year clerkships, Samuel Parrish, MD, then associate dean for student affairs, recommended that students take something else into account when considering potential areas of specialization: “It may not necessarily be what interests you most, but who are the people you want to work with the rest of your life,” he recalls Parrish saying.

For Greenawald, those people were, without a doubt, surgeons. As a child, he says, he was always “taking things apart and putting them back together.” He once considered this curiosity the sign of an engineer; now he believes you also need this investigative drive as a surgeon. Surgery, he says, “especially the how-to-fix-it part, is the ultimate representation of that challenge.”

The pragmatic nature of surgery also greatly appeals to Greenawald. “You evaluate a patient who comes in with a problem. Within an hour or two, you could be fixing said problem in the operating room.” He elaborates: “Surgeons have the perception of being first and foremost problem-solvers. We like to find something and do something about it. The patient’s happy. We’re happy. That has its own reward.”

In June, Greenawald will leave his post in research and return to the hospital to complete his residency. He credits Lind — and is grateful for his mentorship — with getting him “attuned to how academic surgery works.” When he accompanied Lind to the annual meeting of surgery program directors, Greenawald notes, “there was basically a line of people waiting to greet Dr. Lind. Half the people there seemed to be surgeons he had trained himself.”

Whether it is as a surgeon, a researcher or an educator, Greenawald wants to understand how things work so he can make them better.

“We like to find something and do something about it. The patient’s happy. We’re happy. That has its own reward.”

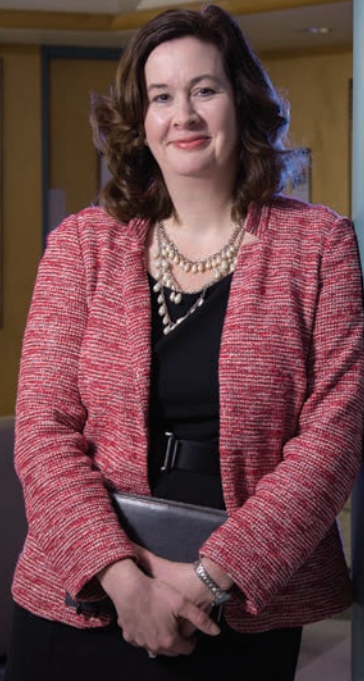


\* Lawrence Greenawald, MD; Mohammad Shaikh, MD; Jorge Uribe, MD; Faiz Shariff, MD; Barry Mann, MD; Christopher Pezzi, MD; Andres Castellanos, MD; D. Scott Lind, MD. “Construct Validity of a Novel, Objective Evaluation Tool for the Basics of Laparotomy Training Using a Simulated Model.” This work was funded by a grant from the Association for Surgical Education and the Association of Program Directors in Surgery.

# Q&A

## Valerie Weber, MD

Vice Dean for Educational Affairs



Valerie Weber, MD, MS, FACP, joined the College of Medicine in October 2014 after serving as a member of the senior leadership team that founded The Commonwealth Medical College in Scranton, Pa., in 2009. Her previous experience as division chief of general internal medicine and geriatrics at Geisinger Health System and as clinical associate professor at several medical schools added to the breadth of experience she brings to her new role at Drexel University College of Medicine.

Jim Greipp

### WHAT ATTRACTED YOU TO Drexel University College of Medicine?

I was fascinated by the school's story and how quickly the Drexel brand took hold. When you go to national medical education meetings, everybody knows who Drexel is. The College is well known for its women's leadership program ELAM — and for forward thinking in the use of technology in medical education. Being part of Drexel University affords us some unique opportunities to continue to be leaders in medical education, and I wanted to be part of that.

### WHAT INITIATIVES do you have planned?

We are embarking on a curricular renewal process. There is nothing wrong with what we're doing currently. It's just that the world our graduates face has totally changed over the past 15 years, since the last major curricular review was conducted. Our graduates now need to understand health informatics, quality and patient safety, and more about the business of medicine. They also need to know how to work on an interdisciplinary team and how to be leaders in many different areas. Having the opportunity to partner with other Drexel schools and colleges will give us a great advantage in developing innovative programs. Drexel University's strengths in engineering, informatics, public health and other areas afford us opportunities that no other medical school has.

### HOW WILL THE CURRICULUM renewal process work?

In December 2014, we launched a curriculum renewal website that can be accessed by everyone in the College of Medicine community ([webcampus.drexelmed.edu/curriculum21](http://webcampus.drexelmed.edu/curriculum21)). We've posted the values of the process: to include all stakeholders in the College, to be transparent, and to ensure that every voice is heard. People can comment through a blog on the website. The more people we hear from, the better.

In January, we held a retreat attended by 59 people, including eight students. Every person we invited came. We discussed what we want our graduates to look like. What things are unique to the College? What strengths can we enhance to build an even stronger program? Now a steering committee of 12 people is writing a high-level framework for the curriculum with input from the retreat. The class entering in 2017 will be the first class to have this new curriculum. Since that class graduates in 2021, we're calling this "Curriculum 21."

Before the retreat, we surveyed faculty members and some key alumni. The number one theme that surfaced is that we produce excellent, caring physicians. Other strengths that were identified include our history of women in medicine, our dearly held principles of diversity and inclusion, and our service and community mission. Our focus on urban health and women's health can help to differentiate us. Others commented on our commitment to education technology and

simulation. We have a proud tradition, and we have a strong curriculum now. But, to paraphrase A.J. Drexel, "We must change as the world changes or we'll be left behind."

### PLEASE EXPLAIN THE LONGITUDINAL PATIENT CARE experience you would like to include.

Most medical students train through clinical clerkships that are mainly hospital based. Some medical schools offer programs in which students spend a year intermingling all six core disciplines; they stay with preceptors, mostly in ambulatory settings, the whole year. Instead of rotating through hospital wards, they follow the preceptors' patients in the office or the hospital. This model produces more empathetic physicians because they are following specific patients rather than rotating through wards where they see patients for a few days and then never see them again. We would like all students at Drexel to have this type of longitudinal patient care experience.

### IS THERE ANOTHER GOAL you would highlight?

We want to teach students to be self-directed learners. Many medical schools have prerecorded lectures that students view independently. When they come to class, there is interaction, small-group learning, and patient-centered cases to learn from. They learn how to assess their knowledge and knowledge gaps in real time. Physicians who are lifelong learners are much better able to succeed throughout their careers.



**1,083** Medical Students  
**556** Residents and Fellows  
**+ 939** PhD and MS Students  

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**Medical Education:** 1 of **1,083** reasons to give

**Jasmine Lemmons**, third-year medical student, exemplifies the very best in academic success and community service. She is a leader in student government locally and regionally and was one of 10 medical students in the country who received the 2014 AMA Foundation Minority Scholars Award.



**Patient Care:** 1 of **556** reasons to give

Surgical resident **Francisco Cuoto, MD** (on the left), performing surgery to repair a severed aorta on TraumaMan, who was stabbed with a kitchen knife. The Laboratory for Simulation & Surgical Skills, founded and supported by gifts, provides surgical residents and medical students a safe environment where they can become proficient in their procedural skills prior to treating patients.



**Research:** 1 of **939** reasons to give

**Ryan Wyrofsky**, third-year PhD candidate, is working to define how the endocannabinoid system regulates the stress-related peptide corticotropin-releasing factor in the brain noradrenergic neurons across the sexes, and how changes in this system could potentially affect emotional states and stress-related disorders.



**Questions? Contact:**

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# Alumni Calendar

## MAY

1 & 2

### Alumni Weekend

[drexelmed.edu/alumniweekend](http://drexelmed.edu/alumniweekend)

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### American College of Obstetricians and Gynecologists Annual Meeting Reception

San Francisco Marriott Marquis, 6–8 p.m.

13–15

### 50 Year Reunion

[drexelmed.edu/50YearReunion](http://drexelmed.edu/50YearReunion)

14 & 15

### Grand Classes Gathering

[drexelmed.edu/grandclasses](http://drexelmed.edu/grandclasses)

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### Commencement

Philadelphia

## AUGUST

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### White Coat Ceremony

Philadelphia

20  
15

#### Details:

Email [medical.alumni@drexel.edu](mailto:medical.alumni@drexel.edu)

or call 215.255.7345