



The Penn Surgery Society News is published quarterly for its members, colleagues and friends of the Department of Surgery. For submissions, inquiries or comments, please contact clyde.barker@penmedicine.upenn.edu.

Message from the Chair

Happiness, Independence, Keystones, and Surgery

I had to do some driving out of state recently. I returned to Pennsylvania along several different routes and noticed a variety of Welcome Signs. The first one instructed me to pursue my happiness (Figure 1). The next one declared Pennsylvania as the State of Independence (Figure 2). Common to both signs was a



Figure 1



Figure 2

hexagon, which symbolizes a keystone. A keystone is the central stone at the apex of an arch (Figure 3). It is the last stone inserted and it secures all the other stones in place,

allowing the weight of the arch to support itself. While previous civilizations had built arches, the Romans invented the keystone. A capstone is distinct and is a stone placed on top of an arch, while a cornerstone is the first stone to be placed when laying a foundation.

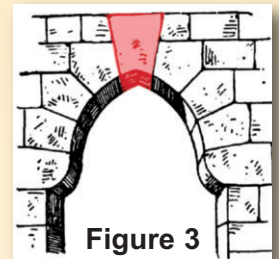


Figure 3

Why Pennsylvania is called the “Keystone State” is not entirely clear. It may be due to its central geographic location that linked the other 12 American colonies together (Figure 4). But it also may have resulted from Pennsylvania’s deciding vote to separate from Britain during the Second Continental Congress held in Philadelphia in 1776.

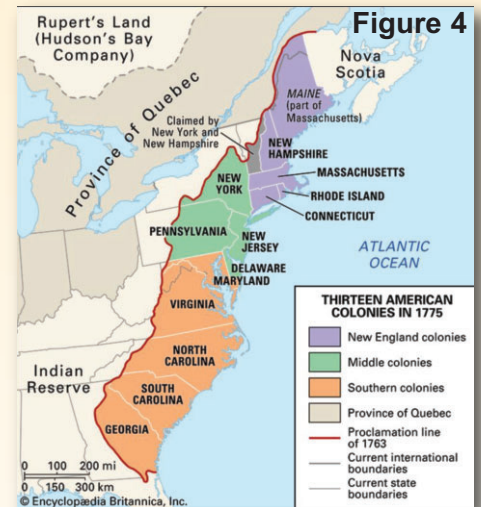


Figure 4

While I was previously oblivious to keystones, now I see them everywhere. There is one on every PA license plate (Figure 5) and many road signs (Figure 6).

Since our department was the first of its kind in the U.S., it could be considered the cornerstone of American surgery. The

pandemic has taught us that surgery is the keystone to the success of health systems.



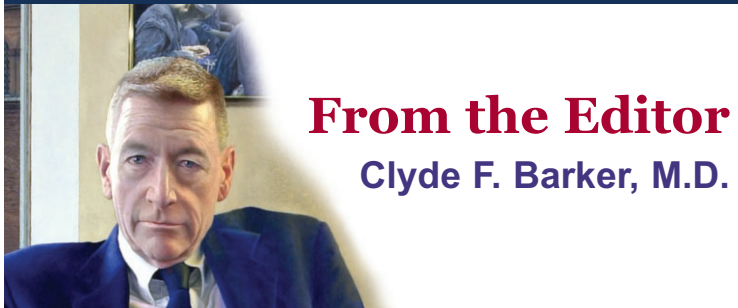
Figure 5



Figure 6

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From the Editor

Clyde F. Barker, M.D.

Our modern, scientific Department of Surgery was born in 1927 when the Chairman, Charles Frazier, sent 33-year-old I.S. Ravdin to England for a year of basic research. Before that in the department's first 162 years, the only project that looks even vaguely like basic research is the demonstration that castration shrinks the prostate, a finding of J. William White, the only department chair with a PhD before Dr. Drebin. In England, Ravdin worked in the labs of Sharpie Schaefer and Henry Dale, both PhDs and Dale a Nobel laureate. He came home thinking that meaningful surgical research might require the participation of PhDs. A few years later when he got control of the Harrison \$2.7 million endowment, he was in a position to test this hypothesis. With his characteristic exuberance, he set out to build a research faculty of professional scientists, i.e. PhDs. His ambition was to establish his own complete set of basic science units including immunology, physiology, biochemistry, bacteriology, neuroscience, and histopathology—in essence, a full-time faculty to rival that of the medical school.

He also had in mind that his PhDs would work with the department's clinicians on surgical problems and stimulate and enhance their productivity. To a surprisingly meaningful extent, he was successful. Ravdin's main research interest was nutrition and ultimately a way to feed patients who couldn't eat. For years, he and his successor Jonathan Rhoads assigned a series of their surgical residents to devote their research efforts to this goal. Eventually, they succeeded. It has now been almost completely forgotten that Rhoads and Dudrick could never have been successful in establishing Total Parenteral Nutrition (TPN) without the active participation of Ravdin's PhD biochemist, Harry Vars. Vars concocted the nutritional solution they employed and also constructed the harness that protected the delivery tubing that allowed 24/7 infusion.

The department's other PhDs were also productive, but for the most part they developed their own projects that were of marginal interest to the clinical faculty or surgical residents. In the 1950s and 60s,

research funding was so easy to get that the PhD researchers largely supported themselves with grants. But by the 80s, support of the research and salaries of the PhDs consumed a large part of the Department's endowment. PhDs were not replaced and retirement eventually solved that problem, but recent surgical chairs have not been tempted to revisit Ravdin's model.

Although the department has had many highly successful surgeon-scientists without PhDs, e.g. DeMatteo, Stedman and others, there is considerable evidence that a PhD gives investigators an edge. Consider the careers and research of the department's small cadre of recent PhDs, e.g. Ali Najji, Jim Markmann, Brian Czernecki, Avi Shaked, Ken Brayman, Andy Posselt, Hooman Noorchashm, Dan Kreisel, Ken Lee, Paige Porrett, Matt Levine and Carrie Sims. Many young surgeons say that they would be interested in doing basic research, but that it has become too complex and demanding for a clinical surgeon with only limited research training. This assertion is hardly new. It was constantly repeated throughout the last five decades while at the same time, surgeons were generating their share or more of medical advances, e.g. open heart surgery (John Gibbon), transplantation (Joe Murray and Tom Starzl), endocrine manipulation of cancer (Charles Huggins), multicenter trials of chemotherapy for cancer (Bernard Fisher), vascular surgery, and metabolic response to trauma (Francis Moore). There is no doubt that clinical surgeons could contribute substantially to progress in today's basic research such as gene therapy. The only question is whether they are willing to commit the time and effort needed to acquire the tools necessary to compete in this field. If so, a PhD is a good way of starting. It has the major advantages not just of membership in an exclusive club but of belonging to and having the support of a graduate group of experts in the specific field of the candidate, course work and the stimulus to write and defend a thesis. But nothing important is easy or free. Young surgeons are

deterred from undertaking PhD study for two reasons: 1) the delay in starting practice and a faculty career, and 2) the expense of adding additional years of education. Dr. DeMatteo, with help from a Measey Foundation grant, has alleviated one of these problems—the expense. He now offers support to surgical residents for the additional years necessary to get a PhD. So far, Ian Folkert and Anna Garcia have taken advantage of this new program. Hopefully more HUP residents will participate.



Ian Folkert and his wife, Dr. Hilary Bollman, at his graduation from the PhD program.

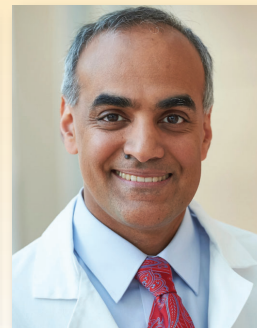
Resident Research Presentations

Contributed by Rachel Kelz, MD, MBA and Sunil Singhal, MD

On July 14, 2022, the General Surgery and Cardiothoracic residents who completed their research presented their findings during Grand Rounds. Below is a summary of their findings.



Dr. Rachel Kelz



Dr. Sunil Singhal

Dr. Feredun Azari - "Developing Artificial Intelligence Algorithms for Real-Time Optical Biopsy of Indeterminate Pulmonary Nodules During Intraoperative Molecular Imaging Guided Resections"

Feredun worked in the laboratory of Dr. Singhal in the Thoracic Surgery Research Lab. He developed and validated artificial intelligence algorithms that seamlessly analyzed more than 10,000 data points a minute during NIR guided cancer resections, which ultimately calculated the risk of a malignancy potential through optical biopsy. The AI system he developed is able to generate probability of cancer in 2.7 seconds with 100% positive predictive value and 98% specificity. Prospective pilot study of the AI system demonstrated significant reduction in operating room costs and time under anesthesia without any harm to the patient. Additionally, Feredun through his collaboration with Dr. Gregory Kennedy, has been able to apply the power of AI and design a novel system that analyzes high-fidelity NIR data from needle confocal laser endomicroscopy to predict malignancy. These research endeavors has allowed Feredun to file two patents which have garnered interest from multiple Fortune 500 companies who look to employ the optical biopsy techniques for IMI guided resections.



Dr. Jason Han - "Talking About Surgery Plainly and Openly"

Jason worked on projects that focus on improving communication in surgery, using highly accessible avenues such as writing, videography, and social media. That is because even though more than 100 million people undergo surgery worldwide each year, it remains a mystery that most people fear more than they understand. He continued writing his column for the Philadelphia Inquirer, and joined the editorial board of the Journal of American College of Cardiology, Artificial Organs Journal, Multimedia Manual of



Cardiothoracic Surgery. He published narrative pieces for the New England Journal of Medicine, the Annals of Surgery, and others. He developed the Aspiring CT Surgery Blog on behalf of the Society of Thoracic Surgeons, and a monthly newsletter on behalf of the Thoracic Surgery Resident Association. He taught a writing course for students at the Perelman School of Medicine for three semesters, and worked towards a Masters Degree in Bioethics.

Dr. Alan Herbst - "Successful Cardiac Targeting of a Superoxide Dismutase-Loaded Nanoparticle in a Rodent Ischemia Reperfusion Model"

Alan worked in the laboratory of Dr. Pavan Atluri in the division of Cardiothoracic Surgery. Dr. Atluri and his collaborator, Dr. Andrew Tsourkas, in the Department of Engineering developed a semi-porous nanoparticle loaded with an antioxidant that ameliorates the effects of reperfusion injury following revascularization after myocardial infarction. Dr. Herbst hypothesized that targeting the nanoparticle to cardiac muscle may improve retention and minimize washout. Dr. Herbst proceeded to develop, formulate, and demonstrate specificity of the nanoparticle for isolated cardiomyocytes. He has also generated early in vivo data that demonstrates cardiac targeted nanoparticle preserves function at 4 weeks post-ischemia reperfusion injury in rodents. Alan's research is ongoing and will include further in vitro and in vivo characterization of the benefits of the cardiac targeted nanoparticle loaded with antioxidant as well as start large animal studies.



Dr. Greg Kennedy - "Single-Cell Optical Detection of Lung Cancer in Real Time by Targeted Near-Infrared Confocal Laser Endomicroscopy Imaging"

Greg worked in the lab of Sunil Singhal, MD in the Division of Thoracic Surgery. His research focused on the intraoperative molecular imaging (IMI) of lung



Resident Research *(continued from page 3)*

and esophageal cancer, spanning mechanistic studies of novel imaging agents in animal models to clinical trials of cathepsin activity-based and pH-activatable probes for IMI of lung cancer. His work culminated in the development of a novel technique—near-infrared needle-based confocal laser endomicroscopy (NIR-nCLE)—for the detection of cancer at the cellular level in real-time during biopsy procedures. Greg tested NIR-nCLE in preclinical models of pulmonary nodule biopsy including human specimens. He found that the technology had the resolution to identify a single cancer cell among normal fibroblast cells when co-cultured at a ratio of 1:1000, and could detect cancer cells in human tumors less than 2 cm in diameter. NIR-nCLE rapidly delivered images that permitted accurate discrimination between tumor and normal tissue by non-experts. The proof-of-concept study analyzed pulmonary nodules as a test case, but the results may be generalizable to other malignancies. Greg's work was published this spring in Nature Communications and won the C. Walton Lillehei Award at the 2022 AATS Annual Meeting.

Dr. William Patrick - *“Improving outcomes after cardio-aortic surgery through clinical research”*

Will worked in the laboratory of Dr. Nimesh Desai in the Division of Cardiac Surgery. His projects were in the domains of implementation science and clinical outcomes with a focus on the field of cardiac surgery. Using large national data registries, he studied levels of adherence to the medical management of aortic disease across the county, the efficacy of surgical ablation in patients with atrial fibrillation undergoing aortic valve surgery, and the implications of malperfusion in aortic dissection.”



Dr. Omar Ramadan - *“The Impact of Medicaid Expansion on Outcomes and Disparities after Vascular Surgery”*

Dr. Ramadan Omar worked with Dr. Grace Wang in the Division of Vascular Surgery while also obtaining a Master of Science in Health Policy Research — supported by a T32 training grant — and a certificate in Healthcare Leadership in Quality. He presented two studies documenting the impact of Medicaid expansion on outcomes after vascular surgery using difference-in-differences analysis. First, using data from the Vascular Quality Initiative, he showed that, for Hispanic patients after periph-



eral vascular intervention, Medicaid expansion was associated with decreased odds of major amputation at one year. In addition, Medicaid expansion was associated with lower odds of urgent/emergent procedures among all patients and nonwhite patients. Second, using data from the State Inpatient Databases, he found that Medicaid expansion was associated with decreased probability of in-hospital mortality after abdominal aortic aneurysm repair among all patients. Among Medicaid or self-pay patients — i.e., the patients most impacted by Medicaid expansion — an even larger decreased probability of in-hospital mortality was observed. Taken together, his work demonstrates the beneficial impact of insurance expansion for vascular surgery patients.

Omar also worked with Dr. Jeffrey Silber at the Penn Center for Outcomes Research. His work focused on redefining multimorbidity in older surgical patients, as the conventional definition is overly broad and hence of limited clinical utility. Using distinct combinations of comorbidities and functional status indicators, he helped create new specialty-specific multimorbidity definitions for general, orthopedic, and vascular surgery patients. These definitions were able to identify far more specific, higher-risk pools of patients than the conventional definition. By constructing more clinically useful multimorbidity definitions that also reveal the particular comorbidity combinations contributing to a multimorbid patient's elevated risk, these definitions may enable patients, surgeons, hospitals, and policymakers to make better-informed clinical decisions and pinpoint opportunities for improving quality and safety.

Dr. Richard Straker - *“Sentinel lymph node biopsy in patients with clinical stage IIB/C cutaneous melanoma”*

Dr. Straker worked with Dr. Giorgos Karakousis and Dr. John Miura in the Division of Endocrine and Oncologic Surgery. His work primarily focused on translational and outcomes studies for patients with soft tissue malignancies including melanoma, sarcoma and Merkel cell carcinoma. In the current presented study, he evaluated patients specifically with clinical stage IIB/C cutaneous melanoma to determine the importance of sentinel lymph node biopsy for staging and prognostication. He showed that a significant survival difference exists between those who have a positive versus negative sentinel lymph node biopsy result, even with this stage of disease. The group is continuing their work to now quantify the benefit sentinel lymph node biopsy provides



(continued on page 5)

Resident Research *(continued from page 4)*

in regard to predicting a patient's risk for death from melanoma. These data can help guide clinicians in determining which patients may be the optimal candidates to receive adjuvant therapies even in the setting of a negative sentinel lymph node biopsy.

Dr. Andrew Tieniber - "Tyrosine Kinase Inhibition Alters Intratumoral CD8 T cell Subtype Composition and Activity"

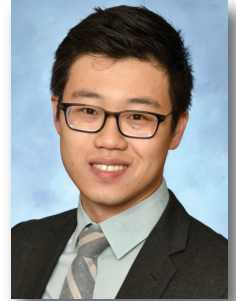
Drew worked in the laboratory of Dr. Ronald DeMatteo in the Division of Endocrine and Oncologic Surgery. He focused his research on studying limitations imposed by imatinib on the anti-tumor immune response in GIST. First, he showed that imatinib reduced effector CD8+ T cells and increased naive CD8+ T cells within mouse GIST, which coincided with altered tumor chemokine production, CD8+ T cell recruitment, and reduced CD8+ T cell intracellular PI3K signaling. Imatinib also failed to induce intratumoral T cell receptor clonal expansion. Consistent with these findings, human GISTs sensitive to imatinib harbored less CD8+ T cell effectors but more naive CD8+ T cells. Second, he demonstrated that combining an IL-15 superagonist with ima-



tinib restored intratumoral effector CD8+ T cell function and CD8+ PI3K signaling resulting in greater tumor destruction.

Dr. Jason Tong - "Giving Voice to the Unheard-Leveraging Consumer Reviews to Better Understand Discrimination in Healthcare"

Jason worked with Dr. Rachel Kelz in the Division of Endocrine and Oncologic Surgery. He presented his work as a National Clinician Scholar examining the role of consumer reviews in highlighting the presence of discrimination in healthcare. First, his qualitative analysis of consumer reviews highlighted recurring themes of discrimination to be used for the future development of a healthcare-specific measure of discrimination. Secondly, he demonstrated how traditional hospital ranking systems are associated with the presence and extent of reported discrimination. Lastly, he demonstrated how patient complaint data holds great promise in elucidating the link between interpersonal discrimination in healthcare and patient outcomes.



Distinguished Graduate Award Isabelle Bedrosian

On June 9, Isabelle Bedrosian delivered the Julius Mackie lecture as the Department's 2022 Distinguished Graduate. Dr. Bedrosian is a Phi Beta Kappa and summa cum laude graduate of Tufts University and received her MD AOA from Northwestern University Medical School in Chicago. After her chief residency at HUP in 2001, she completed a surgical oncology fellowship at the University of Texas, M.D. Anderson Cancer Center in Houston, TX. She joined the faculty there in 2004 and is currently Professor of Breast Surgical Oncology.

Dr. Bedrosian's research program focuses on prevention of breast cancer. Her laboratory uses genomic approaches to characterize molecular pathways in early tumorigenesis that may serve as novel targets for prevention of breast cancer and approaches to finding biomarkers predictive of breast cancer risk. Her research has been supported by grants from the



NCI, the Susan G. Komen for the Cure, the Avon Foundation, the Society of Surgical Oncology, and the American Society of Oncology. Dr. Bedrosian has published more than 174 peer reviewed papers in journals including Oncogene, Clinical Cancer Research, Journal of the National Cancer Institute, and Proceedings of the National Academy of Sciences. In addition she has authored multiple invited reviews and book chapters. Dr. Bedrosian is a member of many national societies and committees including the Society of University Surgeons and the American Academy of Surgeons. She has also been Co-Chair of the Prevention Committee for the Alliance Cooperative Group, a member of the NCI's Cancer Prevention Steering Committee, and Co-Chair of ASCO's Expert Panel on Germline Mutation Testing in Breast Cancer.

Major Kenneth Lee Appointed General Surgery Program Director

Effective July 1, 2022 Cary Aarons stepped down as the Program Director for General Surgery and was succeeded by Major Kenneth Lee. Dr. Aarons has overseen the General Surgery training program since 2018 during which time he championed an innovative holistic recruitment methodology that has greatly enhanced the diversity of our trainees while further promoting our culture of excellence at Penn Surgery. Recognized nationally as a progressive thought leader in the recruitment and retention of the underrepresented in medicine (UIM), Dr. Aarons was also the past Program Chair for the Association of Program Directors in Surgery annual meeting in San Antonio. In addition to his busy colorectal surgical practice, Dr. Aarons will continue his work in medical education as a leader in the Perelman School of Medicine's Admissions Committee and as an Assistant Dean for Graduate Medical Education in which he serves as the Director for UIM Affairs. The Department is most appreciative of Dr. Aarons tenure as the Program Director. He created a positive and productive learning environment for both housestaff and faculty, despite the difficult challenges posed by the Pandemic.



Cary Aarons



Ken Lee

Major Kenneth Lee is a 1999 summa cum laude graduate of the University of Pittsburgh where he majored in Molecular Biology and was elected to Phi Beta Kappa. He is a 2006 MD PhD graduate from the Perelman School of Medicine where he received both the Clyde F. Barker Award for Surgical Research and the I.S. Ravdin Award as the most outstanding student in Surgery. Dr. Lee took his General Surgical training at HUP followed by a

fellowship in hepatobiliary and pancreatic surgery at the Washington University School of Medicine. During his surgical training Ken received the Penn Center for Surgical Excellence Award for the highest ABSITE score (2009), the Leonard J. Perloff Chief Resident Award for contributing most to the education of the junior residents (2013) and the Keith Reemtsma Surgical Resident of the Year Award in 2012. Following recruitment to the faculty of the GI Surgery Division in 2014, Dr. Lee has rapidly established himself as one of the premier complex HPB surgeons in the region. His instruction to the surgical housestaff on the intraoperative technical conduct and perioperative management of this complex patient population has set a high standard of excellence for surgical education. Dr. Lee's impact on the General Surgical training program was immediately apparent by his engaging, passionate, intellectually probing and Socratic oversight of the GI Surgery residents education conference and weekly Professor's Rounds. Additional accolades include the Ernest F. Rosato Faculty Teaching Award for the greatest impact on the education of the surgical residents (2020, 2021) and the William Y. Inouye Faculty Award chosen by the Chief Residents for leadership, caring attitude and surgical judgement that has been a model for the surgeon in training with whom a bond of mutual respect and friendship has been established (2019). Dr. Lee has been an Associate Program Director since 2019 and has enthusiastically approached his appointment as the next Program Director for General Surgery.

Mory Ziegler Endowed Chair

I recently learned that the University of Cincinnati has established in Mory Ziegler's name an endowed chair in pediatric surgery—just one more of the multiple honors belonging to this 1974 HUP chief resident and HUP and CHOP faculty member (1977 - 1989).

I looked on Wikipedia for the appropriate terms for multiple accomplishments. For three, such as goals in a hockey game, it's a hat trick. Everyone knows that for four in tennis or golf, it's a Grand Slam. This term has also been applied for less well-known accomplishments such as in entertainment (an Emmy, Grammy, Oscar and Tony, also called an EGOT) or for an explorer



(reaching the North Pole, South Pole and the Seven Summits). For a pediatric surgeon, Mory Ziegler certainly has done it: chief of surgery at major children's hospitals including Cincinnati, Colorado and Boston Children's; president of the major national societies including the Pediatric Section of the American Academy of Pediatrics; the field's highest honor—the William Ladd Award; and now, an endowed chair named for him. In fact, Mory has many more than four major accomplishments. Wikipedia calls this "a glut." Congratulations, Mory!

Remembering Dr. Douglas A. Canning

It is with the deepest sadness that we share the news that Douglas A. Canning, MD passed away on Memorial Day, Monday, May 30, surrounded by his loving family after sustaining severe injuries in a cycling accident.

Doug was Chief of the Division of Urology at the Children's Hospital of Philadelphia for the past 25 years, Vice-Chair for Clinical Affairs in CHOP's Department of Surgery and Professor of Surgery (Urology) in the Perelman School of Medicine at the University of Pennsylvania. He held the Leonard and Madlyn Abramson Endowed Chair in Pediatric Urology.

For decades, Doug served as a leader, clinician, investigator, innovator, educator and staunch patient advocate at CHOP, becoming a world-renowned expert in bladder and cloacal exstrophy and hypospadias care. Working with pediatric urology colleagues at CHOP, Boston Children's Hospital and Children's Hospital of Wisconsin, Doug led the Multi-Institutional Bladder Exstrophy Consortium (MIBEC) which has dramatically improved the lives of children worldwide born with this serious birth defect.

Doug was born in New London, CT. He attended Dartmouth College, where he earned a BA in Chemistry in 1979 and a Medical Degree three years later in 1982. He accepted an Armed Forces Scholarship and completed his post-graduate training in Urology at the Naval Medical Center at Bethesda, MD. He then pursued a pediatric urology fellowship at the Brady Urological Institute at Johns Hopkins in Baltimore, MD. After serving in the U.S. Navy at the Naval Medical Center in San Diego for four years, Doug returned to the East Coast and joined CHOP in 1992, becoming the Chief of the Division of Urology in 1997. He found it good, and he made it great!

For the past 25 years, Doug directed one of the largest and most comprehensive pediatric urology programs in the world. Under his leadership, CHOP Urology grew to 12 surgeon-scientists and 21 Advanced Practice Health Professionals and established six Endowed Chairs, while the CHOP Urology academic program trained more than 30 fellows and more than 100 residents. He was very proud that CHOP Urology was consistently ranked by U.S. News & World Report as the nation's top pediatric urology program and that the pediatric urology fellowship attracted its highest-ranked applicant in the match every year



during his tenure.

Doug received numerous awards and accolades. He was a leader: nationally, he was Past-President of both the Society for Pediatric Urology and the Society of Academic Urologists, and internationally, he was elected to the prestigious American Association of Genitourinary Surgeons. At CHOP, he was Past-President of both the Executive Committee of the Medical Staff and of Children's Surgical Associates.

Doug was deeply committed to his patients and their families, many of whom had his personal cell phone number on speed dial. He worked tirelessly to ensure that each patient he encountered received the best possible care at CHOP, which he always considered to be the best in the world, bar none. Whenever he encountered a difficult clinical issue, he would always counsel, "Start with the child and move out from there." He was a mentor to countless members of the CHOP community, as well as pediatric urologists nationally and internationally.

Beyond these countless medical accolades, Doug was a true friend and faithful confidante - a father figure to some and a brother to many others. He brought out the best in everyone. Doug was known for his broad inviting grin, his infectious upbeat personality and the unbridled passion with which he threw himself into every project. Doug also enthusiastically enjoyed the outdoor sports of downhill skiing, sailing, fishing and hunting.

Doug was a devoted husband to Annabelle, the love of his life, and a dedicated father to his children, John, Caroline and Madeline. Our thoughts and prayers are unabating for them in this difficult time. Doug was beloved by so very many and will be missed tremendously by all. It is said that the taller your structure is to be, the deeper must be its foundation. CHOP Urology stands tall on the shoulders of a foundational medical giant, Doug Canning.

Sincerely,

Thomas F. Kolon, MD

Acting Chief of the Division of Pediatric Urology

N. Scott Adzick, MD

Surgeon-in-Chief of CHOP

Accomplishments and Career Plans of the 20

As Contributed by the Residents

Dr. Kendall D. Brooks graduated from Virginia Tech in 2010 with a bachelor's degree in Biochemistry and Chemistry. He then attended medical school at the University of Virginia. In 2015, Kendall began his general surgery residency at the University of Pennsylvania. During his residency Kendall conducted clinical research with the Division of Plastic Surgery. Kendall also earned his master's degree in Clinical Epidemiology at the University of Pennsylvania Perelman School of Medicine, completing his thesis on surgical disparities in soft tissue sarcoma treatment. Upon completing his general surgery training, Kendall will be moving back south to complete a fellowship in plastic and reconstructive surgery at Emory University. Joining him in Atlanta will be his beautiful wife, Brittany, their daughter, Olivia, and coming in October baby number two.



Dr. Mark Stephen Etherington was born in Park Ridge, Illinois, and spent most of his childhood in the Chicago suburbs. He attended Vanderbilt University in Nashville, TN and graduated with a Bachelor of Arts in Neuroscience (yes, arts). Mark then attended the Perelman School of Medicine at the University of Pennsylvania where he developed a passion for general surgery and was awarded the I.S. Ravdin prize. As a medical student, Mark was inspired by Drs. Roses, Dempsey, Fraker and Karakousis who promoted by example a culture of thoughtfulness, ambition and unwavering dedication to their patients. Besides these mentors, Mark more importantly met Neha, the love of his life, in medical school. Mark was extremely fortunate to match at Penn where he worked alongside the best surgical residents in the country and participated in many complex operations, which served to reinforce his passion for surgical oncology. Mark and Neha were married after intern year, and welcomed their daughter, Rhea, into the world at the end of Mark's time in **8** Dr. DeMatteo's laboratory. Following graduation, Mark will



be pursuing fellowship in surgical oncology at the University of Pittsburgh Medical Center. He is exceedingly grateful for everyone who has helped him get to this point.

Dr. Justin Shigeru Hatchimonji was born in Torrance, CA, where he lived until moving to the East coast at the age of 10. He studied music at Yale and spent 5 years in New York City working in musical theater as a pianist and music director before deciding to pursue a career in medicine. After completing a post-baccalaureate at Columbia, he moved to Philadelphia to begin medical school at Penn in 2011. He decided to become a trauma surgeon after rotating on the trauma service at HUP in his third year, and hasn't change his mind since. While in residency, Justin has participated in research with several of the trauma faculty, including but not limited to Drs. Holena, Seamon, Kaufman, Martin, and Cannon. More importantly, Justin and his wife Danielle now have two kids, which is two more kids than they had at the start of residency – Evan (5 years old) and Jack (2 years old). Justin is incredibly grateful to the faculty for their guidance, to his co-chiefs, who are an endless source of inspiration and wisdom, and to Danielle, Evan, and Jack, for their patience and support. He looks forward to continuing to work with the faculty and residents as a trauma and critical care fellow at Penn starting this year.



Dr. Paul Hernandez was born in sunny San Diego, California. Like most young Californians, he enjoyed an idyllic childhood surfing, swimming, and deep-sea fishing with his father and first surgical mentor Frank Hernandez. Paul translated his love of the water to a successful career as a competitive swimmer on the Division 1 Men's Swimming and Diving team at the University of California, Berkeley. After college, Paul made the questionable decision to pursue a PhD in organic chemistry before realizing his mistake and making a slightly less, though



2022 Graduating HUP Chief Surgical Residents

still, questionable transition to medicine. Paul was lured away from the sun and sand in California and attended medical school at the Perelman School of Medicine at the University of Pennsylvania, where he was a Gamble Scholar and elected to Alpha Omega Alpha. Here, he was convinced to stay in Philadelphia by his incredible surgical mentors and his wife Orysia, a native Philadelphian, and was fortunate enough to stay at Penn for his surgical residency. After 11 years at Penn, he will be departing Philadelphia to pursue a fellowship in colorectal surgery at Weill Cornell Medicine next year. He is immensely grateful for his time in the greatest city on Earth (his wife made him say that) with the greatest co-residents and faculty mentors on Earth, and to his family and friends for their support.

Dr. Lauren Norell Krumeich was born and raised in Croton-on-Hudson, New York. She graduated as the valedictorian of her high school class and then obtained a Bachelor of Science in Neuroscience with honors from Brown University, graduating Magna Cum Laude. She received the Neuroscience department award for her dedication to teaching and research. She directly thereafter attended Yale School of Medicine, where she was drawn to a career in academic surgery. She found her ideal match for surgical training at the University of Pennsylvania. Since her arrival, she has extensively served our department, culminating in her role as the chair of the Residents' Executive Council. She was the first surgical resident-inductee into the Perelman School of Medicine Chapter of Alpha Omega Alpha National Medical Honor Society for her commitment to leadership, professionalism, research, teaching, and service.



Over the last seven years, Lauren has distinguished herself as a surgeon scientist in the field of immunology oncology. She was awarded an NIH TL1 grant to obtain a Master of Science in Translational Research at the University of Pennsylvania. She has continually contributed to the scientific literature and presented her work widely at national meetings, earning two research awards and most recently receiving the prestigious honor of delivering a podium presentation at the American Association of Endocrine Surgery. Lauren and her husband, Matt, are moving to Boston with their son, Declan, for her training in endocrine surgery at Harvard University. She will carry on the Penn legacy

proudly as she pursues a career as an educator and translational surgeon scientist in endocrine surgery.

Dr. Yun Song was born in Hangzhou, China, where she lived for 5 years before immigrating to Stockholm, Sweden, with her parents. She arrived in the United States at age 9, fluent in two Chinese dialects and Swedish, but spoke no English. Although she grew up in the South, Yun has called the Northeast home for most of her adult life. She attended the Massachusetts Institute of Technology, where she earned a Bachelor of Science in Biology, was inducted into Phi Beta Kappa, and met her future husband, Chuan Zhang. She then attended Harvard Medical School with the intent of becoming a medical oncologist and studying cancer biology. Little did she know that she would fall in love with surgery and have the honor of joining the Penn Surgery family. Yun was naturally drawn to surgical oncology, and her interest was reinforced during residency by strong mentorship from the entire Endocrine and Oncologic Surgery division, notably Drs. Roses, Karakousis, and Fraker. During her residency, she also spent two productive research years under the mentorship of Dr. Karakousis, studying clinical outcomes in melanoma and gastrointestinal cancers, and was awarded the 2020 Jonathan E. Rhoads Research Award. While in the lab, Yun and Chuan also welcomed their COVID-19 pandemic baby, Yi. Being Yi's mom has brought her more joy than anything else in the world. Yun is incredibly honored to have learned so much from the patients, attendings, and residents at Penn, and is especially proud to be graduating with a group of co-Chief residents who are not only accomplished, skilled surgeons, but also good people. After residency, Yun will be moving South again to begin her fellowship in Complex General Surgical Oncology at MD Anderson Cancer Center in Houston, Texas.



Dr. Charles R. Vasquez was born and raised in South St. Paul, Minnesota. He attended the University of Minnesota – Twin Cities, where he graduated with a Bachelor of Science in Neuroscience and also met his future wife, Anh. Charlie then completed medical school at the David Geffen School of Medicine at UCLA. During his time at UCLA, he was awarded a Howard

Graduates *(continued from page 9)*

Hughes Medical Institute (HHMI) Medical Research Fellows grant and spent a year working at the Dana Farber Cancer Institute in Boston, in the laboratory of Dr. William G. Kaelin, Jr. After medical school, Charlie was excited to move back to the East Coast to train at Penn.

Charlie always enjoyed taking care of the sickest patients, so it was no surprise that prior to entering his research years, he completed a fellowship in Surgical Critical Care at Penn, during which time he received the “Fellow of the Year” award, given annually by the Trauma-SICU nursing staff. Charlie was also one of only five surgeons in the country to pass the first-ever Examination of Special Competence in Critical Care Echocardiography.

He then completed a Master of Science in Clinical Epidemiology under the mentorship of Dr. Michael Shashaty in



the Division of Pulmonary and Critical Care Medicine. Charlie was academically productive, publishing over 25 manuscripts, including first-author publications in *Chest* and the *Journal of Trauma and Acute Care Surgery*.

Along with a track record for clinical and research excellence, Charlie strived to be a dedicated teacher for medical students and residents. In 2020, he was awarded the William Y. Inouye Resident Award, given to one surgical resident annually for excellence in teaching medical students in the Surgery 200 Core Curriculum. Charlie

is excited to be staying at Penn, where he will be working as an emergency surgeon and critical care attending.

Above all, Charlie is most grateful for the support of his wife, Anh, along with his parents, George and Rose, and the rest of his family.



2022 General Surgery Graduates

**(bottom row L to R) Cary Aarons, Justing Hatchimonji, Lauren Krumeich, Yun Song, Kendall Brooks, Ron DeMatteo
(back row) Mark Etherington, Paul Hernandez and Charlie Vasquez**

Career Paths of 2022 HUP Fellowship Graduates

Joanelle Bailey, MD (Traumatology, Surgical Critical Care and Emergency Surgery)
Assistant Professor of Surgery, Rutgers New Jersey Medical School, Newark, New Jersey

Gary Bass, MD (Traumatology, Surgical Critical Care and Emergency Surgery)
Assistant Professor of Surgery, Division of Traumatology, Surgical Critical Care and Emergency Surgery
Hospital of the University of Pennsylvania

Marten Basta, MD (Microvascular Surgery - Plastic Surgery)
Moffitt Cancer Center, Tampa Florida

Dale Butler, MD (Traumatology, Surgical Critical Care and Emergency Surgery)
Assistant Professor of Surgery
University of Texas Southwestern, Dallas, Texas

Melissa Chen, MD (Transplant Surgery)
Assistant Professor of Abdominal Transplant Surgery
University of North Carolina - Chapel Hill

Daniel Cho, MD (Craniofacial Surgery - Plastic Surgery)
Assistant Professor, Craniofacial and Pediatric Plastic Surgery
University of Wisconsin, Madison, Wisconsin

Todd Crawford, MD (Cardiac Surgery)
Aortic Surgery Fellowship
Hospital of the University of Pennsylvania

Jennifer Fieber, MD (Breast Surgery)
Assistant Professor of Surgery
University of Florida, Gainesville, Florida

Gabriela Garcia-Nores, MD (Microvascular Surgery - Plastic Surgery)
Plastic Surgeon, Emory University, Atlanta, Georgia

Frederick Gmora, DO (Traumatology, Surgical Critical Care and Emergency Surgery)
Attending Faculty, Emergency Medicine
Jefferson Torresdale Hospital, Philadelphia, Pennsylvania

Melissa Hornor, MD (Traumatology, Surgical Critical Care and Emergency Surgery)
Assistant Professor of Surgery
Loyola University Medical Center, Chicago Illinois

Christina Jacovides, MD (Traumatology, Surgical Critical Care and Emergency Surgery)
Assistant Professor of Surgery, Temple University Hospital

Prakash J. Mathew, MD (Microvascular Surgery - Plastic Surgery)
Virtua/Hospital of the University of Pennsylvania

Keri Mayers, MD (Colon and Rectal Surgery)
Division of Colon and Rectal, University of West Virginia
Morgantown, West Virginia

Jaclyn Milici, MD (Vascular Surgery)
Vascular Surgeon
Surgical Care Specialists, Jefferson-Abington Health

Gina Nguyen, MD (Lower Extremity - Plastic Surgery)
Department of Podiatry
Hospital of the University of Pennsylvania

Benjamin Schurhamer, MD (Robotics - Urology)
Assistant Professor of Surgery, Division of Urology
Hospital of the University of Pennsylvania

Keerit Tauh, MD (Aortic Surgery)
Clinical Professor of Surgery
Division of Cardiovascular Surgery
University of British Columbia, Vancouver, Canada

Holly Weis, MD (Traumatology, Surgical Critical Care and Emergency Surgery)
Private Practice, Urgent Surgery Associates, Dallas, Texas

Lauren Whipple, MD (Microvascular Surgery - Plastic Surgery)
Private Practice, San Antonio, Texas

Welcome New Residents

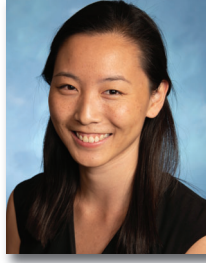
Categorical General Surgery Program



Omar Bushara
Northwestern



Michael Clark
Vanderbilt University



Katie Krupp
Penn



Sarah Landau
Penn



Clarissa Liu
Vanderbilt University



Lily Owei
Penn



Margaret Pichardo
Howard University



Russell Simons
University of Chicago



Jerica Tidwell
Philadelphia College of
Osteopathic Medicine

Plastic Surgery Program



Alan Makhoul
Vanderbilt University



Peyton Terry
University of Virginia



Zachary Zapatero
Penn



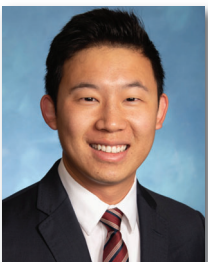
Rohan Shad Arora
Gura Teg Bahadur
Hospital, India



Matthew Brown
Georgetown University

Thoracic Integrated Program

Urology Program



Jimmy Ding
Penn



Christopher Herrera
Penn



Shirley Wang
Johns Hopkins



Cheyenne Williams
Penn

Vascular Program



Dasha Savage
Stanford University

New Residents *(continued from page 12)*

Preliminary General Surgery Program



Ammaar Abbasi
Aga Khan



Erum Baig
Aga Khan



Ryan El-Ghazal
American University
of Beirut



Sameer Khan
Aga Khan



Emily Kindall
Royal College
of Surgeons



Antonio Melhem
University of
Balamand - Lebanon



Hasaan Omar
Aga Khan



Thomas Seykora
Georgetown University



Omid Shafaat
Arak University



Loukas Stoupis
University of Athens

Post Fellowship Appointments - 2020 General Surgery Chiefs

◆ **Jennifer J. Chung, MD**

(Fellowship, Cardiac Surgery, University of Pennsylvania)
Aortic Surgery Fellowship
Hospital of the University of Pennsylvania

◆ **Brett L. Ecker, MD**

(Fellowship, Surgical Oncology, Memorial Sloan-Kettering)
Rutgers Cancer Institute, Division of Surgical Oncology
New Brunswick, New Jersey

◆ **Grace S. Lee-Riddle, MD**

(Fellowship, Abdominal Transplantation, Columbia University)
Assistant Professor of Surgery
Division of Liver Transplant and Hepatobiliary Surgery
Rutgers New Jersey Medical School, Newark, New Jersey

◆ **Andrew D. Newton, MD**

(Fellowship, Surgical Oncology, MD Anderson Cancer Center)
Ochsner Medical Center, New Orleans, Louisiana

◆ **Avery C. Rossidis, MD**

*(Fellowship, Pediatric General, Thoracic, and Fetal Surgery,
Children's Hospital of Philadelphia)*
Private Practice - Pediatric Surgery Associates
Las Vegas, Nevada

◆ **Catherine E. Sharoky, MD, MSCE**

*(Fellowship, Surgical Critical Care, The R Adams Cowley Shock
Trauma Center)*
Assistant Professor of Surgery, Division of Trauma Surgery
Hospital of the University of Pennsylvania

◆ **Andrew J. Sinnamon, MD**

(Fellowship, Surgical Oncology, Moffitt Cancer Center)
Moffitt Cancer Center
Division of Gastrointestinal Oncology
Tampa, Florida

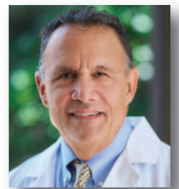
Alumni News

Faculty, Residents, Alumni of Penn Surgery
email your news to Clyde Barker
clyde.barker@penmedicine.upenn.edu

◆ **Ross Milner, MD** (HUP chief resident 2001) has been appointed Chief, Section of Vascular Surgery and Endovascular Therapy at the University of Chicago Medical Center, succeeding Christopher Skelly, MD.



◆ **William Hoff, MD** was appointed Adjunct Professor, Division of Trauma at Grand View. MD - Jefferson Medical College; General Surgery Residency - HealthEast Teaching Hospital; Trauma Fellowship - HealthEast Teaching Hospital.



New Faculty

◆ **Maria Altieri, MD, MS** was appointed Chief of GI Surgery at Pennsylvania Hospital. MD - George Washington University School of Medicine; General Surgery Residency - Stony Brook University Hospital; Minimally Invasive Surgery Fellowship - Washington University in St. Louis School of Medicine.



◆ **Michael F. Musso, DO** was appointed Adjunct Assistant Professor, Division of Trauma at Reading Medical Center. DO - A. T. Still University Kirksville College of Osteopathic Medicine; General Surgery Residency, Affinity Medical Center.



◆ **Said Azoury, MD** was appointed Assistant Professor, Division of Plastic Surgery at Pennsylvania Hospital. MD - Eastern Virginia Medical School; General Surgery Residency, Johns Hopkins Hospital; Plastic Surgery Residency, Hospital of the University of Pennsylvania; Reconstructive Microsurgery Fellowship, Memorial Sloan Kettering.



◆ **David Rose, MD** was appointed Clinical Associate, Breast Surgery, Chester County Hospital. MD - Columbia University; General Surgery Residency - Cornell University Medical Center; Surgical Oncology Fellowship, Memorial Sloan Kettering Cancer Center; Surgical Critical Care Fellowship, Reading Hospital.



◆ **Chase Brown, MD** was appointed Assistant Professor, Division of Cardiovascular Surgery at Penn Presbyterian Medical Center. MD - Cleveland Clinic Lerner College of Medicine; Cardiac Direct Surgery Program, Hospital of the University of Pennsylvania



◆ **Charles Vasquez, MD, MSCE** was appointed Assistant Professor, Division of Trauma Surgery at Penn Presbyterian Medical Center. MD - MD - David Geffen School of Medicine at UCLA, General Surgery Residency, Hospital of the University of Pennsylvania, Surgical Critical Care Fellowship, Hospital of the University of Pennsylvania; MSCE - University of Pennsylvania.



◆ **Christopher A. Butts, PhD, DO** was appointed Adjunct Assistant Professor, Division of Trauma at Reading Medical Ctr. PhD - University of Pennsylvania; DO - Philadelphia College of Osteopathic Med.; General Surgery Residency, Philadelphia College of Osteopathic Medicine; Surgical Critical Care Fellowship, Cooper Hospital.



◆ **Gary Bass, MD** was appointed Assistant Professor, Division of Trauma Surgery at Penn Presbyterian Medical Center. MD - Royal College of Surgeons in Ireland; Residency - Royal College of Surgeons in Ireland; Trauma/surgical Critical Care Fellowship, HUP.



◆ **Abigail C. Coots, MD** was appointed Adjunct Assistant Professor, Division of Trauma at Reading Medical Center. MD - University of Louisville School of Medicine; General Surgery Residency - Naval Medical Center San Diego; Surgical Critical Care Fellowship - Orlando Regional Medical Center.

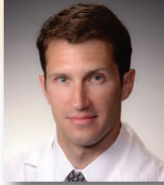


◆ **Benjamin Schurhamer, MD** was appointed Assistant Professor of Surgery, Division of Urology at HUP. MD - University of Arkansas; Residency - University of Arkansas for Medical Sciences; Fellowship Urology Robotics - HUP.








Alumni News *(continued from page 14)*

- ◆ **Nathan Belkin, MD** was appointed Assistant Professor, Division of Vascular Surgery and Endovascular Therapy at Penn Presbyterian Medical Center.
MD - Harvard Medical School; Integrated Vascular Surgery, Hospital of the University of Pennsylvania. 
- ◆ **Prakash J. Mathew, MD, MBA** was appointed Penn Medicine Clinician in the Division of Plastic Surgery at Virtua.
MD and MBA - University of California; General Surgery Residency - University of Arizona; Plastic Surgery Residency - University of Miami; Microsurgery Fellowship - Hospital of the University of Pennsylvania. 
- ◆ **Keith D. Calligaro, MD** was appointed Professor of Surgery, Chief, Vascular Surgery and Endovascular Therapy, Pennsylvania Hospital.
MD - University of Medicine and Dentistry of New Jersey; Residency - Saint Barnabas Medical Center, University of Chicago Medical Center; Fellowship - Albert Einstein - Montefiore Medical Center. 
- ◆ **Matthew J. Dougherty, MD** was appointed Professor of Surgery, Division of Vascular Surgery at Pennsylvania Hospital.
MD - Harvard Medical School; Surgery Residency - Massachusetts General Hospital; Vascular Fellow - Mayo Clinic. 

- ◆ **Douglas A. Troutman, DO** was appointed Associated Professor of Surgery, Division of Vascular Surgery at Pennsylvania Hospital.
MS - Philadelphia College of Osteopathic Medicine; Residency - Pennsylvania Hospital, Philadelphia College of Osteopathic Medicine. 

Departed Faculty

- ◆ **Eric Jablonka, MD** left to start Private Practice as a Plastic and Reconstructive Surgeon in Virginia Beach, Virginia. 
- ◆ **Ben Jackson, MD** was appointed Chief of Vascular Surgery at Lehigh Valley Health Network. 
- ◆ **Colleen Gaughan, MD** has joined the Orlando VA Medical Center. 
- ◆ **Brian Smith, MD** has joined Northeastern Vermont Regional Hospital in St. Johnsbury, Vermont as a General and Trauma Surgeon. 
- ◆ **Skandan Shanmugan, MD** was appointed to an academic position in Colon and Rectal Surgery, University of California-Irvine. 

(continued on page 16)

Robert L. Reis (1933-2021)

Robert Reis died on January 1, 2021. Among Bob's many accomplishments was developing one of the first artificial heart valves, now on exhibit at the Smithsonian Institution. He published more than 100 scientific papers and book chapters and was selected to serve on the Nobel Prize nominating committee in 1972.

After completing residency and fellowship at the HUP in 1965, Bob served as Senior Surgeon and Deputy Chief of Cardiac Surgery at the National Institutes of Health in Bethesda Maryland before accepting the position as Chief of

Cardiothoracic Surgery at the University of Kansas School of Medicine.

In 1976, Bob moved to Florida where he started the adult cardiac surgery program at Cedars Medical Center (now University of Miami Hospital) and developed the pediatric open heart surgery program at Variety Children's Hospital (now Nicklaus Children's Hospital).

Bob was an avid sailor and horticulturalist - taking great pride in the magnificent coconut palms he grew from seedlings.



Penn Surgery

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ALUMNI NEWS SUMMER 2022

Alumni News *(continued from page 15)*

Deaths - Victor Arthur Hanson Jr.

Dr. Hanson, Jr., (88) passed away peacefully at home on November 24, 2021. He was born in Syracuse, New York and graduated from Princeton University in 1955. He obtained his M.D. from the University of Pennsylvania in 1959. After internship he joined the Navy as a flight surgeon serving with the 3rd Marine Airwing, 1961-64. From 1962-63 he performed active duty with the 1st Marine Airwing, Far East, Vietnam and Laos. From 1963-1964 he was Group Medical Officer, 3rd Marine Airwing in Santa Anna California. Following military service he completed a Residency in General Surgery at HUP, 1961-1964; private practice in Syracuse, New York 1969-80; Surgeon at the Veterans Administration Medical Center, Wilmington, Delaware 1980-87; and private practice in Atlanta, Georgia.



Academic Appointments included Instructor in the Department of Surgery at the University of Pennsylvania; Assistant Professor of Surgery, Upstate Medical Center, Syracuse, New York; Assistant Professor of Surgery, Thomas Jefferson University, Philadelphia, Pennsylvania 1980-1990.

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Donald Guthrie Professor of Surgery

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