



Providing permanent support for research, education and patient care.



Welcome to the 2022 edition of Endowment Update, the Upstate Foundation's annual newsletter highlighting the vital impact of endowments on the work and mission of Upstate Medical University. These funds honor the legacies of respected physicians and researchers, as well as beloved family members. Many of these endowments are long-established; the Murray endowment is marking 35 years! They cover a wide array of research areas, from vision to pathology and radiology. I'm especially thrilled that this report includes two newer endowed professorships, one for urology and one for pediatric cancer. There are many ways to establish and build an endowment. To learn more, visit our website or contact us directly. Please read on for updates on the exciting research funded through these endowments!

– Eileen Pezzi, MPA, vice president for development, Upstate Medical University



NEWLY NAMED

Phillip Capozzi, MD, Endowed Professorship in Urology

Local anesthesiologist Phillip Capozzi, MD, right, expressed appreciation for the care and support he received during his prostate cancer diagnosis and treatment at Upstate University Hospital by creating an endowed professorship in the Department of Urology. An endowed professorship is traditionally one of the highest academic honors a university can bestow on a faculty member.

The **Phillip Capozzi, MD, Endowed Professorship in Urology** is held by Gennady Bratslavsky, MD, professor and chair of the Department of Urology. Bratslavsky was also Capozzi's surgeon, performing a radical prostatectomy and extended lymph node dissection a few years ago.

As an undergraduate, Capozzi was pre-med, but did not get accepted to medical school until seventeen years later, at the age of 39. He left a successful real estate career for medicine and was accepted at New York Medical College in Valhalla, NY. He has been an anesthesiologist in Syracuse for 20 years.

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NEWLY NAMED

Paige Yeomans Arnold Endowed Professorship in Pediatric Oncology



Marking the 25th anniversary of the first Paige's Butterfly Run, a \$1.5 million endowed professorship was established in 2021 at the Upstate Foundation, primarily with event proceeds. Melanie Comito, MD, was appointed the **Paige Yeomans Arnold Endowed Professor in Pediatric Oncology**.

Paige's Butterfly Run has raised \$3.7 million since its inception in 1997 to support cancer research and patient care at Upstate Golisano Children's Hospital. The event is an enduring tribute to Paige Yeomans Arnold, who succumbed to leukemia at the age of 7. It is planned and implemented by her parents, Chris Arnold and Ellen Yeomans, with the assistance of the Upstate Foundation.



Melanie Comito, MD

The endowed professorship was a long-term goal for the event, while over the years funds have assisted with many short-term priorities including unmet patient and family needs, nursing

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Dr. Michael & Rissa Ratner Endowed Professorship in Pediatric Surgery



The **Dr. Michael & Rissa Ratner Endowed Professorship in Pediatric Surgery** honors the Ratners for their outstanding service to Upstate Medical University and the Central New York community. Both devoted their careers to children, Michael as a distinguished Upstate pediatric surgeon, and Rissa as a teacher in the Fayetteville-Manlius

School District. Dr. Ratner practiced in Syracuse for more than 40 years and served as chief of the Division of Pediatric Surgery at Upstate.

Dr. Andreas Meier, the first Ratner endowed professor, has been chief of the Pediatric Surgery division and the surgeon-in-chief of Upstate Golisano Children's Hospital since 2012. In addition, he serves as medical director of the Olivia Louise Pietrafesa Center for Children's Surgery, program director for the General Surgery residency program and as vice chair for education in the Department of Surgery. His academic interest focuses on surgical education and he is involved in a variety of multi-institutional educational research projects. He is co-principal investigator of a national study to establish learning curves for surgical residents, a project that received a \$150,000 grant from the National Board of Medical Examiners Stemmler fund. He is a member of the Academy of Upstate Educators and participates in the "Build Excellent Skills for Teaching" program, a campus-wide faculty development curriculum that is now mandatory for all incoming faculty members.



Andreas H. Meier, MD, MEd

The Division of Pediatric Surgery provides tertiary care for children with surgical problems in the Upstate region. Within

the division, the American College of Surgery accredited pediatric Level 1 trauma center is currently the largest pediatric trauma center in the state of New York.

Pediatric surgeon Dr. Kim Wallenstein is the medical director for the Pediatric Trauma program. Under her leadership the trauma program was recertified in July 2021. She is also engaged in the curriculum and admission committees of the College of Medicine. She represents the program at the regional and the state level, and nationally she is involved in committees for the American Pediatric Surgical Association (APSA).

Dr. Tamer Ahmed, also a member of the division since 2010, serves as the Upstate liaison surgeon for the Children's Oncology Group, the national organization overseeing cancer care for children. He is involved in the care of all children that require surgical care for cancer at Upstate. In addition, he is engaged with committee work at APSA.

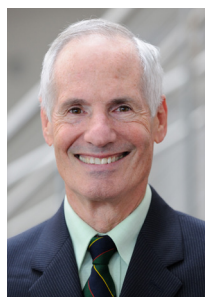
As director of pediatric surgical quality for the Children's Hospital, Dr. Jennifer Stanger oversees the Pediatric National Surgical Quality Improvement Program and leads the performance improvement and patient safety committee. She plays a major role in the hospital's efforts to become an accredited Level I Center of Pediatric Surgery Excellence, a program recently developed by APSA and the American College of Surgeons. The program focuses on optimizing the quality of care and safety for children requiring surgical interventions. New program manager Kristen Conolly is working in collaboration with Dr. Stanger on this accreditation.

Dr. Michaela Kollisch-Singule joined the department in 2020 as the fifth pediatric surgeon. She has already established herself as an excellent clinician and has brought new surgical techniques to Upstate. She also spends a significant amount of time on basic science research. Her projects involve the study of sepsis and neonatal diseases resulting in sepsis, as well as treatment strategies. Her specific interest lies in exploring the role of the microbiome and exosomal miRNA signaling in disease propagation. During her fairly brief time with Upstate, she has already published and submitted multiple manuscripts and is actively pursuing external grant funding.

David B. Jones / Robert F. Rohner Endowed Professorship in Pathology

Dr. David B. Jones was a pioneer in electron microscopy, an international expert in kidney pathology and author of over 90 articles for professional journals. He founded the cytotechnology program in the College of Health Related Professions. In 1988 he was named New York State Distinguished Pathologist of the Year. **Dr. Robert F. Rohner** taught human pathology at Upstate Medical University for more than 40 years, and always did it with panache. He is remembered for his passion for the medical profession, and his energetic and humorous teaching style.

As the first Jones-Rohner endowed professor, Dr. Jeffrey Ross has continued his work in pathology education, the molecular tumor board, occasional patient consultations and clinical



Jeffery S. Ross, MD

cancer research. He recently gave the first "live" lectures for the Upstate Medical University medical student Class of 2025 on basic pathology and introduction to disease. Dr. Ross' research focuses on matching the genomic alterations in the malignant tumors of cancer patients to the latest approved targeted therapies and immunotherapies, as well as guiding them to potential mechanism-based clinical trials that have potential to improve their survival and overall clinical outcome. The recent development of new anti-cancer drugs has fueled this type of approach for cancer patients, especially for those with clinically advanced disease. A major advance in the genomic sequencing for cancer patients has been the growth and development of "liquid biopsies" enabling the testing to be done on a blood sample rather than an actual portion of the patient's tumor obtained by biopsy or surgical resection.

Robert B. and Molly G. King Endowed Professorship in Neurosurgery



Dr. Robert B. King was an internationally recognized leader in American neurosurgery and neurosurgical graduate education. He imbued his students with a dedication to patient care and commitment to research. He served as chair of the Neurosurgery department from 1966 to 1988. He was also the first medical

director of Upstate University Hospital. He was president of several national medical associations. Dr. King died in 2008 with his wife of 57 years, Molly, by his side. Mrs. King continues to support the work of the Upstate Foundation.

The **Robert B. and Molly G. King Endowed Professorship** supports the work of Dr. Lawrence Chin in the Norton College of Medicine's Dean's Office, and the Department of Neurosurgery. Dr. Chin continues to serve as dean and work closely with the CEO of Upstate University Hospital, Dr. Robert Corona, in recruiting clinical faculty and managing service lines such as the Cancer Center, Neuroscience, and Upstate Golisano Children's Hospital. Another key area of collaboration is in the proposed acquisition of Crouse Hospital. On the education side, an ambitious new curriculum is being designed for implementation in fall 2023. A three-year medical school option will be available to students who commit to an Upstate residency before or during the first year of medical school. Other features will be a longitudinal clinical experience that begins with the first day of school, and increased opportunities for dual degrees such as an MBA in conjunction with Syracuse University.

In collaboration with Dr. Li-Ru Zhao in the Department of Neurosurgery, Dr. Chin is a co-investigator on an NIH grant that explores the mechanism underlying SCF and G-CSF enhanced recovery after chronic traumatic brain injury (TBI). Using a mouse model, the grant explores the role of cells such as microglia in regulating the positive effects. Work from the Zhao lab has resulted in a recent paper entitled "SCF + G-CSF treatment in the chronic phase of severe TBI enhances axonal sprouting in the spinal cord and synaptic pruning in the hippocampus," which was published in *Acta Neuropathologica Communications* in 2021. Dr. Chin remains clinically active and teaches residents in the Upstate neurosurgery residency training program.



Lawrence S. Chin, MD,
FACS

David G. Murray, MD, Endowed Professorship in Orthopedic Surgery



Dr. David G. Murray pioneered the development of total knee replacement, the technique that revolutionized the course of treatment for arthritis victims.

Now retired, Dr. Murray was named

the first chairman of Orthopedic Surgery at Upstate Medical University in 1966. A gifted clinician, teacher and physician-scientist, Dr. Murray's accomplishments included research on knee joints, prostheses and arthroplasty which attracted significant grant support. He earned the Distinguished Service Award from the Association for Academic Surgery, among numerous national honors.

The David G. Murray, MD, Endowed Professorship in Orthopedic Surgery

supports research related to musculoskeletal cancer in the Musculoskeletal Science Research Center at the Institute for Human Performance, as well as intra-institutional and multi-institutional collaboration. Research is focused on three primary areas:

- (1) effects of radiotherapy on bone fragility in adult and pediatric patients with cancer;
- (2) fracture risk prediction and surgical treatment in cancer patients with spread to bone; and (3) treatment of pediatric bone sarcomas, including osteosarcoma and Ewing sarcoma.

Currently, four faculty members collaborate on active NIH grants from the National Cancer Institute or the National Institutes of Arthritis and Musculoskeletal and Skin Diseases (NIAMS). These include Timothy A. Damron, MD; Jason A. Horton, PhD; Kenneth A. Mann, PhD; and Megan E. Oest, PhD. In related work, grants obtained in part due to support from the Murray Endowment include those from the Carol Baldwin Breast Cancer Research Foundation, Jim and Juli Boeheim Foundation, Orthopaedic Research and Education Foundation, Page Foundation, and Musculoskeletal Tumor Society.

Also, through the endowment and related research, three research fellows have completed post-doctoral study, and one master's and five doctoral candidates have successfully defended their theses. Since the establishment of the Murray Endowment, laboratory members have produced 90 peer-reviewed publications and participated in approximately 125 presentations at national and international meetings.



Timothy A. Damron, MD

Vision 2000 Endowment

Despite the lingering effects of the Covid pandemic, research at the Center for Vision Research (CVR) and in the Department of Ophthalmology & Visual Sciences (OVS) continues to move forward at a great pace. In the last year, research and clinical faculty published 28 papers ranging from tissue engineering of ocular tissues to epidemiology of shaken baby syndrome. The research portfolio of federal, state and philanthropic grants is over \$3 million annually and growing. Some particularly noteworthy funding successes have been the successful renewal of NIH grants by Drs. Solessio and Bernstein; the award of a collaborative grant with Columbia University to Professor William Brunken, director of the CVR; and Dr. Audrey Bernstein's receipt of the first VA Merit grant to an ophthalmology faculty member. Funds from the Vision 2000 Endowment seeded these projects by supporting, in part, the gathering of preliminary data for the grant applications.

Dr. Brunken wrote: "We are excited to announce that with the help of our Foundation partners, we have successfully recruited Dr. William Spencer as the first of two Empire Innovation Program faculty members. Dr. Spencer joined OVS and the CVR on September 1, 2022. Dr. Spencer comes to us from the research staff of Duke University where he completed his doctoral and post-doctoral studies in the laboratory of Dr. Vadim Arshavsky. Dr. Spencer's seminal studies included the identification of a key gene that causes the vast majority of blinding diseases in dogs (PRCD); the same gene defect causes blindness in humans. In addition, another project, with Dr. Arshavsky, solved a long-standing question in retinal cell biology. Vision is dependent on the capture of the energy in light by a specialized structure called the outer segment. Outer segments are made by photoreceptors and are large stacks of membranous disks, packed with light absorbing molecules. How the disks form and are precisely stacked remained a mystery until Dr. Spencer's state-of-the-art work showing the process with high resolution microscopy and creative use of genetic manipulation. The results

of his studies on these two topics were published in the Proceedings of the National Academy of Sciences USA, a leading scientific journal. In addition, he published 10 papers in similarly prestigious journals including Journal of Cell Biology, Nature Communications and eLife. His work at Upstate Medical University will be focused on the process of outer segment formation in several forms of retinal degeneration. He is particularly interested in how membrane malformation triggers autoimmune responses that lead to neural degeneration."



William Spencer, PhD

Clinical staff continues to expand. Professor Robert Fechtner, chair of OVS, recruited Dr. Edita Abazaga, an optometrist, to the department. She joins her sister, Dr. Mirjeta Abazaga who has worked in the department since 2018, also as an optometrist. Together they are forming the core of the optometry group and emerging low vision faculty. Also noteworthy, Upstate's residency program has moved into sixth place in New York state, making it the highest ranking Ophthalmology residency in the SUNY system.

The Center for Vision Research celebrated its 25th anniversary with a symposium on October 21, 2022. The symposium featured an all-star lineup of speakers, including David Paterson, former governor of New York, and Dr. Michael Chiang, director of the National Eye Institute, one of the 26 component institutions of the National Institutes of Health. More information about the event can be obtained on the CVR website (www.upstate.edu/cvr). The website is an expansive source of information and provides updates on progress including the center's most recent papers and results. In addition, to support engaging in groundbreaking biomedical research, the CVR and its portfolio of federal and philanthropic grants have a major economic impact in Central New York. The center and its staff, thanks in part to support from Upstate Foundation funds, remains Upstate Strong and contributes significantly to the health of the community.

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He is also serving as a consultant to the Gastroenterology and Urology Devices Panel of the Medical Devices Advisory Committee for the U.S. Food and Drug Administration, and as a Steering Committee member of the Genitourinary Oncology Center of Excellence for the Clinical Research Center of the National Institutes of Health. Since 2018, he has served as president of the Society of Urologic Oncology-Clinical Trial Consortium. Bratslavsky's career includes time at the NCI/NIH, where he served as a senior staff with the NCI's Urologic Oncology Branch since 2007. He also served as a clinical fellow in urologic oncology from 2005 to 2007.

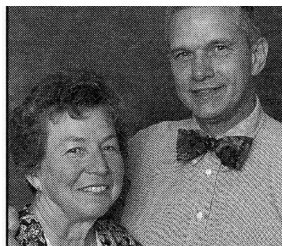
In making the gift, Dr. Capozzi noted that his physician had gone above and beyond, even making a house call the day after surgery. "If I had a son, I'd like him to be just like Dr. Bratslavsky," Capozzi said. "Not only is he an outstanding clinician, but he's one of the most compassionate physicians I know."

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education, and other pediatric cancer related programs and services. The Upstate Foundation offered matching gift money from time to time, and contributed more than \$200,000 toward establishment of the \$1.5 million endowment.

A professor of pediatrics, Comito is division chief of pediatric hematology and oncology at Upstate Golisano Children's Hospital, and director of the William J. Waters Center for Children's Cancer and Blood Disorders at Upstate Medical University. She received her medical degree from the University of Iowa College of Medicine, and completed her internship and residency at Virginia Commonwealth University Medical College of Virginia. Her fellowship in pediatric hematology oncology was conducted at the University of Iowa College of Medicine. Comito is a member of the American Society of Hematology, American Society of Pediatric Hematology/Oncology, and the Society for Neuro-Oncology.

John K., MD, and Mitzi Wolf Endowment for Neurological Education



"This fund can provide both science and humanity to a busy learning world," said Dr. John K. Wolf upon the creation of this endowment. The fund continues Dr. Wolf's legacy of more than 30 years at Upstate as an enthusiastic medical educator and compassionate physician. Dr. Wolf

was recognized for his high quality, innovative and effective patient care with a particular interest and expertise in multiple sclerosis diagnosis and treatment.

The **John K., MD, and Mitzi Wolf Endowment for Neurological Education** provides financial support for interdepartmental Neuroscience Grand Rounds at Upstate Medical University. Attending and resident physicians, advanced practice providers, medical students and staff in the departments of Neurology and Neurosurgery gather weekly from September through June to hear lectures on current topics affecting their practices.

The past year saw a continuation of the new normal of Zoom grand rounds. The virtual format allows Upstate to present experts from around the country and the world without the time and expense of in-person talks.

In 2021-22, several speakers addressed the important topic of health equity. Dr. Olajide Williams, MD, professor and chief of staff, Department of Neurology, Columbia University, gave an inspiring talk on stroke disparities. He took participants through the life of a fictional but highly representative African American man facing the barriers of structural racism and "allowed us to see with our own eyes and feel with our hearts" its impact on individuals, noted Deborah Young Bradshaw, MD, professor and associate chair for Education. In a related topic, Upstate Psychiatry's own Siphon Mbuque, PhD, introduced "Building Diversity, Inclusion and Belonging in a Department."

On the Neurosurgery side, Dr. Ron Rosenburger, director of the Spine Center at Tufts University, highlighted ways in which neurosurgeons and neurologists might encounter the rare, but now treatable, condition of Familial Amyloidotic Polyneuropathy and, by recognizing it, offer disease-modifying treatment. E. Antonio Chiocca, MD, PhD, chair, Department of Neurosurgery, Harvard Medical School, gave an update on promising immunotherapies for the devastating tumor, glioblastoma multiforme.

Neuroscience Grand Rounds offers Upstate residents and fellows the opportunity to hone presentation skills with a senior Grand Rounds. Examples this year included the problematic but fascinating "Functional Neurological Disorders," Mohammad Shahab, PGY4, and "Neuroprognostication after Cardiac Arrest," Lee Pfaff, PGY4.

"We are grateful for the support offered by the Wolf Endowment, a fitting tribute to one of the Department of Neurology's most beloved faculty members," Dr. Bradshaw said.

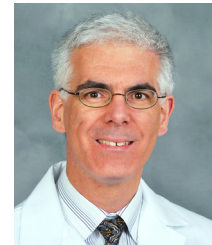
E. Robert Heitzman, MD, Endowed Professorship in Radiology Research



E. Robert Heitzman, Jr., MD, was a dedicated teacher and inspiring mentor to those who knew him and learned from him during his 40-plus years on Upstate's medical faculty. He impressed upon students a commitment to the art of careful study, analysis and inquiry, leading them to form opinions based purely on evidence. His

lifetime of significant accomplishments was honored with the establishment of this endowed professorship.

The Department of Radiology is home to advanced CT scanners that are dedicated to clinical service. Many of the scans, although acquired as part of routine clinical practice, include high-resolution images of the chest. Most of these are made during breath-holding, to eliminate motion due to respiration. Some are also obtained using cardiac gating, which eliminates lung motion caused by cardiac pulsation. All are acquired as a seamless volume of data. The data volumes have nearly isotropic volume elements (voxels). That is, the spatial resolution of images in the axial plane (in-plane resolution) is almost the same as the spatial resolution in the perpendicular direction (through-plane resolution), whereas formerly the through-plane resolution was much worse than the in-plane resolution. Having isotropic voxels makes it possible to examine the volume of CT data in any direction without significant loss of resolution.



Ernest Scalzetti, MD

These high-resolution, motion-free and isotropic volumes lend themselves to three-dimensional (3D) rendering. Radiologists typically interpret CT scans, including chest CT scans, in a two-dimensional format. 3D rendering has become a common method in radiologic practice for visualizing the anatomy and pathology of a variety of structures such as blood vessels. However, 3D rendering has not been exploited in a similar way for visualizing the anatomic structure of the lungs.

The top priority is to explore the educational applications of this technical advance. Dr. Scalzetti will be using 3D rendering of lung anatomy to teach radiology residents to understand the spatial organization of the lung in ways that previously were impossible. However, this technology certainly has research applications that could impact the clinical practice of radiology. The intention is to build on Dr. Heitzman's pioneering work in radiologic-pathologic correlation – defining the imaging appearance of normal lung anatomy and the alteration of that anatomy by disease.

John Bernard Henry, MD, Endowed Professorship in Experimental Pathology



John Bernard Henry, MD, is best known for editing seven editions of a textbook used by physicians and medical technologists worldwide. Dr. Henry served in many roles at Upstate Medical University. In 1971, he organized the College of Health Related Professions and became its first dean. His time as the institution's fourth

president from 1985 to 1992 was marked by significant growth in campus facilities and programs.

The **John Bernard Henry Endowed Professorship** was established in 1998 to enhance research in the Department of Pathology by faculty who are committed to investigative activities. Several research studies were approved for funding in 2022. Researchers provided the following updates.

Title: Improving patient tests quality

Principal Investigator:

Zhimin Tim Cao, MD, PhD

Co-Investigator:

Matthew Elkins, MD, PhD

The Henry endowment is highly appreciated in support of our research activities toward improvement of patient care quality that matters to Upstate Medical University, families and each patient. Our research seeks findings of the nature and sources of possible test-related errors. We will use such information to tackle existing problems and prevent them from reoccurrence.

Title: The potential role of creatinine in semen cryopreservation

Principal Investigator: Kazim Chohan, PhD

Title: Validate "new" antigen in membranous lupus nephritis and correlate with patient's clinical prognosis

Principal Investigator: Liye Suo, MD, PhD

Up to 60 percent of systemic lupus erythematosus patients develop lupus nephritis, and many eventually develop end-stage renal disease. In our database, we have identified 29 patients with membranous lupus nephritis (LMN) since 2017. Among



Dr. Robert Corona, CEO
Upstate University
Hospital
John Bernard Henry,
MD, Endowed Professor
of Pathology and
Laboratory Medicine

those patients, 18 have pure LMN, and 11 have LMN with active lupus nephritis. We will have new biomarkers: Exostosin-1 and -2 immunohistochemical stainings performed in the paraffin slides of those patients soon and validate the correlation between the scoring of new biomarkers and patients' clinical prognosis.

Title: Characterizing ethnicity differences in the prostate cancer methylome

Principal Investigator: Scott C. Smith, PhD, DABMGG

Prostate cancer risk can be delineated by ethnic descent; we will attempt to identify potentially protective genomic markers. Modifications to a next generation sequencing pipeline that will allow whole genome methylation data to be collected and analyzed have been completed. Additionally, we have begun ordering reagents for the enzymatic library preparation to detect methylation changes, and the flow cells required for sequencing. Further, several human tumor and control specimens have been identified at various tumor banks and will be ordered soon.

Title: Whole exome sequencing in high grade osteosarcoma

Principal Investigator: Dr. Daniel Zaccarini

Co-Investigators: Drs. Dana Hariri, Steven Sperber, Ratilal Akabari, and Michel Nasr

Osteosarcoma is the most common primary malignant bone tumor in children and adolescents, and can also occur secondary to radiation. Radiation-induced osteosarcoma is typically high grade and has a poor prognosis. With the availability of next generation sequencing, new studies have demonstrated osteosarcomas display high rates of genetic variations, most commonly in the TP53 and RB1 genes.

Osteosarcoma with rhabdomyosarcomatous features is a rare histologic variant, which has not been represented in the literature. Our goal is to perform whole exome sequencing on high grade osteosarcoma (including the aforementioned rare variant of osteosarcoma), and compare this to the current literature.

Title: Effects of inhalation of methyl methacrylate particulates – demonstration in lungs using Raman spectroscopy

Principal Investigator: Jerrold L. Abraham, MD

Co-Investigators: Matthew Lesko, BS (MS1) [MD/PhD program] and Professor Jay Thomas, PhD, Syracuse University Department of Earth & Environmental Sciences

In manufacturing Corian® countertops, dust containing particles of both aluminum trihydroxide and polymethyl methacrylate (PMMA, a widely used commercial polymer) is inhaled. How each component contributes to toxicity remains unknown. PMMA is lost in routine tissue preparation using solvents, and has never been identified in tissues. We will use Raman spectroscopy of frozen tissues to avoid loss of PMMA. This collaborative, state-of-the-art work will be novel and will lead to further investigations of the toxicology of inhaled PMMA particles.

Support the important work of these endowments!

To give online, visit **UpstateFoundation.org**. Thank you.

315-464-4416

750 East Adams Street

CAB 326

Syracuse, NY 13210



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