



Innovation



Community



COVID-19

COLLEGE OF MEDICINE  
2021 ANNUAL REPORT



UPSTATE  
MEDICAL UNIVERSITY

**Innovation**



**Community**



### **Welcome to Upstate**

The Upstate College of Medicine family has shown incredible resilience and resourcefulness now entering our second year battling the COVID-19 pandemic. I am incredibly proud of the work faculty and students have done, exceeding expectations in keeping our community safe and advancing medicine.

In this issue of our Annual Report, you will learn about the innovative spirit of Upstate and the people who provide the energy and spark that propels us forward. The common theme that ties much of this work together is Upstate's connection with our local community. From the best COVID test to vaccines that keep us healthy, to training the next generation of physicians who are focused on the needs of those most neglected, we are Upstate Strong!

This strength shows in perseverance against challenges, including the challenge of bringing about a more just health care system. Upstate faculty and students have driven innovation in care and research to provide effective, compassionate care for all people of all ages and backgrounds.

The physicians of the future are being created today. In the crucible of the pandemic, they are learning to be innovative, resilient and caring healers. I am proud of Upstate Medical University's role in helping them achieve this noble goal.

**Lawrence Chin, MD**

Dean, College of Medicine  
Robert B. and Molly G. King  
Endowed Professor of Neurosurgery  
Upstate Medical University

On the cover and at right:  
Upstate Medical University's  
Weiskotten Hall is home to a  
new Clinical Skills Center, updated  
laboratories, classrooms and  
administrative offices.



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Lawrence Chin, MD



Neurosurgeon and Dean Lawrence Chin, MD, talks with medical students in the courtyard of Weiskotten Hall.



One of 23 students in the new Pre-Medical Opportunity Program, held at Upstate Medical University during summer 2021. A program of the State University of New York, the Pre-Medical Opportunity program is designed to help underrepresented students get into SUNY's medical universities and to help break the trend of low student diversity amongst the nation's medical schools.



**52**

accredited residency programs



Increase in applicants  
2021 over 2020:

**32%**



**BY THE NUMBERS**  
**UPSTATE MEDICAL UNIVERSITY**



**43%**

of graduates entering  
a primary care specialty



Ranked

**39th**

most diverse medical school  
in America by U.S. News  
and World Report



A record number of applications:

**5,762**



Research funding up

**11%**

over last year,

**40%**

in past seven years



Women represent

**54%**

of the incoming class



Underrepresented in Medicine (URiM)  
students represent

**26%**

of the class



# Innovation AT UPSTATE



Upstate Medical University has seen a dramatic increase in research expenditures and the number of clinical trials.

“It’s not  
easy to be  
a pioneer —  
but oh, it is  
fascinating.”

—Elizabeth Blackwell, MD,  
class of 1849

Upstate Medical University College of Medicine’s philosophy concerning innovation might have been best summed up by one of its most accomplished alumni, Dr. Elizabeth Blackwell, “It’s not easy to be a pioneer — but oh, it is fascinating.”

With the resources of the State University of New York supporting it, the College of Medicine has been able to forge forward in aspects of medicine including therapies and vaccines, as well as in training physicians to listen to patients, all in pursuit of better outcomes.

### **Growth in research**

Research, largely led by College of Medicine faculty, continues to grow. Research expenditures are up 40 percent in the past seven years. There are currently more than 560 open clinical trials, an increase of 12 percent year to year. This year, 59 new clinical trials were opened.

Upstate was a leading institution in the struggle against COVID-19. Physicians and researchers helped develop vaccines and therapies (more on that in the next section). Even in the midst of the demands COVID placed on clinicians and researchers, other groundbreaking work continued at Upstate.



## SOMEONE TO KNOW

**ALAJI BAH, PhD**

Alaji Bah, PhD, assistant professor of Biochemistry and Molecular Biology, was named a 2021 Pew Scholar in the Biomedical Sciences by the Pew Charitable Trusts.

Bah was one of only 22 individuals out of 198 nominations submitted by leading U.S. academic and research institutions to receive four years of funding to invest in exploratory research.

Bah's research studies how proteins that lack a fixed structure form membraneless cellular subcompartments to support biological processes.

SOMEONE TO KNOW  
EAIN MURPHY, PhD



“In Dr. Murphy’s lab, we’re trying to figure out how Herpes viruses may influence the progression of Alzheimer’s disease,” explains Ava Jarvis, a CSTEP student and doctoral candidate in microbiology and immunology. “It’s potentially good news because there are drugs to treat herpes.”

Eain Murphy, PhD, associate professor of microbiology and immunology, is principal investigator on two studies that received \$5.1 million, 5-year grants from the National Institutes of Health. The NIH’s National Institute of Allergy and Infectious Disease awarded Murphy a grant to study antiviral responses to infection. The second award, from the NIH’s National Institute of Aging, is to study the relationship between the herpes virus and Alzheimer’s disease.

Murphy’s research builds on published international studies that identified a link between certain Herpes viruses and Alzheimer’s disease. His lab is studying the workings of that link, and its impact on disease progression.





The BSL-3 vector biocontainment lab at Upstate.

## Biocontainment

Upstate opened a vector biocontainment lab to conduct more extensive research on infectious diseases such as coronavirus, Lyme disease, West Nile encephalitis, Zika and more. This new lab is a BSL-3, indicating a Centers for Disease Control and Prevention's advanced biosafety level that has safety precautions for research on potentially dangerous diseases and their carriers.

Saravanan Thangamani, PhD, professor of Microbiology and Immunology and director of the Upstate Vector Biocontainment Lab, has been involved in designing the new facility since he arrived at Upstate in spring 2019. Thangamani, an internationally renowned expert on tick-borne disease research, is utilizing the new facility in collaboration with SUNY researchers to develop a universal anti-tick vaccine and novel countermeasures against arboviral infections.

"It is an integrated containment facility that gives us great versatility," Thangamani says.



An area of standing water in Machala, Ecuador, is sprayed by the Ministry of Health to eliminate the malaria mosquito in 2016. Photo by Dany Krom.



Anna Stewart-Ibarra, PhD, assistant professor in the Department of Medicine, is an internationally recognized expert in the ecology of infectious diseases.

### Global Health: Dengue, Lyme, HIV

Upstate’s Global Health and Translational Science continues its work on tropical diseases, including completing a dengue virus type 3 human challenge trial with the Department of Defense and a dengue virus type 1 human challenge trial with Johnson & Johnson’s Janssen Pharmaceuticals.

Upstate Initiated two Staph aureus bacteremia hospital-based studies testing new therapeutics for industry partners and initiated two Lyme disease diagnostic studies for industry partners as well as continuing enrollment in two HIV treatment trials with industry partners.

Recognizing the challenge and opportunity presented by a wider understanding of global health, Upstate has expanded its Masters of Public Health with a concentration in Global Health. The concentration is available to MPH students as well as MD/MPH students.

### Virtual engagement

Faculty development was forced to go virtual, like so much else. Thirty participants engaged in an annual leadership development course that spanned from October 2020 through June 2021. A total of 15 sessions took place, focused on project management, quality improvement, communication skills, chairing a meeting, financial literacy, understanding leadership styles, and receiving a DiSC assessment. Upstate continued to require all new faculty to undergo the BEST course, which introduces concepts in medical education and giving feedback to students.



## SOMEONE TO KNOW

### HOUSAM HEGAZY, MD, MBA

Upstate has the best hospitalist program in the state, asserts Housam Hegazy, MD, MBA, division chief of hospital medicine. The 60-plus doctors, nurse practitioners and physician assistants come from four continents, offering a diversity of backgrounds and experiences that generate ideas and innovation.

These ideas led Upstate to launch a hospital medicine fellowship program, one of few in the country.

The hospitalist team worked together to create programs that close the gap in care for patients: the Connect Care Clinic, a COVID-19 follow-up program, Point of Care Ultrasound/procedure team and Acute Hospital Care at Home.

The Connect Care Clinic serves as a bridge that safely transitions patients from the inpatient to the outpatient care settings. The clinic is run by a multidisciplinary team including a hospitalist, advanced practice practitioner, nurse, social worker and a case manager. The clinic sees patients who need close follow-up after discharge from the hospital and before they can establish/see their primary doctors. The team works closely with the patients to safely transition their care to their outpatient providers.

Patients who have been hospitalized with COVID-19 have follow-up appointments with hospitalists via telemedicine until they are able to return to their primary care doctors.

The Point of Care Ultrasound (POCUS)/Procedure team enables hospitalists to perform bedside diagnostic ultrasounds and bedside procedures, resulting in more efficient patient care. The handheld ultrasound devices transfer of images to patients' medical records, via a HIPPA-compliant cloud. The POCUS and procedure team serve both the clinical care needs and the educational mission of Upstate.

Acute Hospital Care at Home is soon-to-be-launched program in which hospitalists provide certain patients with acute hospital care in their homes via telemedicine and, when needed, during home visits. This program increases hospital capacity, maximizes resources and allows for certain health care services to be provided in patients' homes.





With FAA approval, Upstate Medical University is involved in integrating aerial drones into health care.

## Robots and drones

New technology is a constant in modern medicine and medical education. Upstate has been integrating some of the latest innovations, while helping to develop others.



The robotic surgical assistant (ROSA) is used for minimally invasive brain surgery.

Upstate has started using a new robot technology to perform minimally invasive brain surgery that offers a higher level of accuracy, and in many cases reduces procedure time by several hours. The ROSA Brain robot — ROSA stands for robotic surgical assistant — is a surgical navigation and positioning system that allows surgeons at Upstate to perform procedures more accurately, with fewer complications and sometimes in half the time as before. The ROSA Brain robot program so far has been used at Upstate for a pediatric laser ablation and for a procedure to treat epilepsy in an adult.

The Syracuse region is home to one of the first “drone corridors” approved by the FAA. Upstate has been involved in experiments making use of drones in health care. In a first, an aerial drone carrying a COVID-19 test kit made a successful test flight from Upstate’s helipad to the Central New York Biotech Accelerator four blocks away. The Upstate flight was carried out by the DroneUp team to operate with a Federal Aviation Administration (FAA) Section 107.39 Operation Over People Waiver, allowing flight over non-participating persons and moving vehicles. Upstate continues the work, helping to discover how drones can help deliver for health care.



## SOMEONE TO KNOW RUTH WEINSTOCK, MD, PhD

Ruth Weinstock, MD, PhD, considered one of the nation's leading physician-scientists in the area of diabetes, is president-elect of Medicine and Science for the American Diabetes Association (ADA). Weinstock also serves as medical director of the Clinical Research Unit focused on the study of new approaches for the prevention and management of diabetes mellitus and its complications, including efforts to expand access to diabetes care to underserved populations using telemedicine.

Weinstock has played essential roles in several national collaborative research projects, including Treatment Options for Type 2 Diabetes in Adolescents and Youth (TODAY) and the Informatics for Diabetes Education and Telemedicine (IDEA-Tel) Demonstration Project. With the Type 1 Diabetes (T1D) Exchange clinical network, she has conducted many projects including studies on the use of continuous glucose monitoring. Weinstock has trained and mentored hundreds of students, residents and fellows, and has published extensively.

SOMEONE TO KNOW  
SRUTI AKULA



Second-year medical student Sruti Akula has already made a mark at Upstate, organizing a daylong TEDx program. Due to the COVID-19 pandemic, the event involved speakers, including Upstate faculty and leaders, speaking without an audience.

Thousands of people viewed the presentations and continue to view them through TED's immense network of outlets.

Akula is pictured celebrating the 200th birthday of the college of medicine's most famous graduate, Elizabeth Blackwell, the first woman MD in the United States.

Happy 200th Birthday  
Dr. Elizabeth Blackwell





The new Throughput center enables Upstate to ensure efficient use of the 735 beds at its two-campus hospital.

Upstate is deploying an upgraded telehealth platform, helped by a \$2 million award from the Federal Communications Commission (FCC). The effort is focused on upgrading and supporting telehealth infrastructure for video consults and remote patient monitoring as part of the electronic medical record (EMR) system. The upgraded telehealth platform will connect dozens of Upstate clinics and physical sites.

Upstate’s use of technology has been noted by top experts. The College of Healthcare Information Management Executives (CHIME) honored Upstate with 2020 CHIME Digital Health Most Wired recognition as a certified level 8 Ambulatory. The CHIME Digital Health Most Wired program conducts an annual survey to assess how effectively healthcare organizations apply core and advanced technologies into their clinical and business programs to improve health and care in their communities.



## SOMEONE TO HONOR ALEX PALEY, MD '19



Alex Paley's medical school classmates created a "Team Paley" run to raise money to help during his treatment for brain cancer

As a student, Alex Paley, a lifelong runner and believer in healthy foods, was a regular volunteer at a food pantry made available to Upstate students. He was known for treating people kindly and helping remove the stigma sometimes attached to receiving help. "Alex made it feel normal," one person explained.

Tragically, Paley died of brain cancer little more than five months after graduating from Upstate with his degree in Medicine. In tribute to him, and to continue the service to which he was dedicated as a student, friends and family members dedicated the move of the food pantry to an on-campus location, naming it "Paley's Pantry," in his honor.

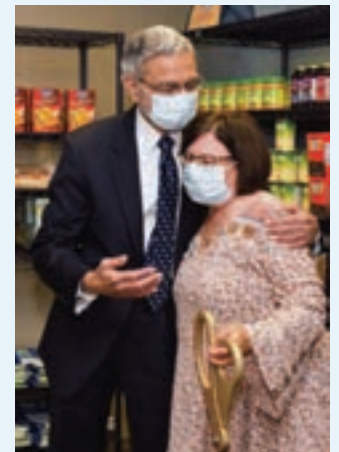
"I think he would be quietly pleased because it would be calling attention to healthy eating and helping others," his mother, Natalie Aiello, said. "He was not someone who would brag about what he was doing."



Alex Paley, MD '19



Upstate President Mantosh Dewan, MD, with Paley's parents at the opening of Paley's Pantry in 2021.



Third-year medical students wearing "I'm with Alex" t-shirts run in support of Alex Paley, 2017.



**SOMEONE TO KNOW**  
**DIMITRA BOURBOULIA, PhD**

Upstate's new Office of Research for Medical Students (ORMS) is a nexus where medical students and faculty researchers can collaborate on research projects. Directed by Dimitra Bourboulia, PhD, associate professor of Urology, ORMS shares research opportunities, helps students identify their research interests and fosters innovative and interdisciplinary research.

"The office makes it easy for medical students to get involved in research projects under the mentorship of our faculty professors. Through systematic research and discoveries, they advance the scientific and medical field," said Bourboulia. "Hundreds of our medical students engage in research activities each year. We feel very proud when we see their scholarly work published in peer-reviewed journals or presented in International or national scientific meetings."

Through ORMS, a growing number of students are investing their time and energy in lab-based, clinical or translational research projects. Upstate has seen research participation by medical students' participation climb by a third.

As one student noted, "Research provides students an opportunity to devote undivided attention to their pursuit of knowledge and dive deep into their niche interest. It doesn't get better than that."



# Community

## OUTREACH AT UPSTATE



Upstate University Hospital serves a vast region that includes rural, suburban and urban areas, resulting in opportunities for medical students to be exposed to unusually varied cases and patient needs.

### **Large and diverse**

Upstate Medical University's College of Medicine is at the core of the region's only academic medical center. The largest employer in the area, Upstate serves a vast region that reaches from Pennsylvania to Canada.

The area is diverse. There are rural areas with hundreds of farms. There are forests stretching for miles. There are lakes and rivers that attract recreational users. And there are urban and suburban areas, including the urban center of Syracuse where poverty runs at nearly triple the national average.

Upstate serves this diverse community through University Hospital, Community Hospital and the Golisano Children's Hospital. University Hospital includes the region's only level-one trauma center. The helicopter landing pad atop the hospital receives patients too injured or sick to be cared for by the smaller healthcare facilities throughout the region.

The College of Medicine has made strides to help prepare the next generation of physicians who will serve an increasingly diverse America. More than a quarter of this year's incoming class students are from racial and ethnic groups traditionally Underrepresented in Medicine (URiM). Rural students constitute 10 percent of the class.

**SOMEONE TO KNOW**  
**EUNICE CHOE**

Eunice Choe is a medical student delegate for the Medical Society of the State of New York.

“I hope to learn how organized medicine works at the state level,” says Choe. “It’s a privilege to learn how physician leaders and medical students work together to address the health concerns of our state.”

Serving as a student delegate is just one of Choe’s extracurricular activities. She was president of Upstate’s student chapter of the American Medical Association/ Medical Society of the State of New York. She works with Syracuse University law students and the Onondaga County Medical Society as an advocate. She is active in the Rural Medical Scholars Program and volunteers with the Upstate’s Center for Civic Engagement. Prior to medical school, Choe served with AmeriCorps VISTA and secured more than \$700,000 in grants to develop multiple rural behavioral health programs.

SOMEONE TO KNOW  
BARBARA FEUERSTEIN, MD



During clinical rotations, medical students see a common problem: Many patients suffer from chronic diseases that could be improved or reversed through lifestyle changes.

“We learn that diet modification is a first-line treatment for diabetes, obesity and hypertension,” explained Natalie Antosh, class of 2020. “How do we learn to talk with patients about changing their behavior?”

Barbara Feuerstein, MD, associate professor of medicine, had an answer. She developed the course, “Food as Medicine” and discovered that fewer than 20 percent of medical schools have a required nutrition course. “Food as Medicine” includes lectures on nutrition, cooking and motivational interviewing. There are hands-on activities such as shadowing dietitians, learning to cook low-cost, nutritious meals and volunteering at community gardens, food pantries or soup kitchens.

“Many people don’t know what healthy food looks like or how to prepare it,” explains Feuerstein. “This course helps our students develop the skills to talk effectively with patients about nutrition as a means to improved health.”





Sunny Aslam, MD, associate professor of psychiatry and behavioral sciences, volunteers to provide care for people living in the streets or in shelters in the urban area surrounding Upstate Medical University.

Top 40 medical school

Upstate was ranked among the America’s top 40 most diverse Colleges of Medicine by U.S. News and World Report. The ranking tied Upstate with eight other medical schools, including Cornell Weill, Mayo Clinic School of Medicine, NYU Grossman and the University of Virginia.

Associated Medical Schools of New York has a Diversity in Medicine Scholarship program. Of the 21 students awarded scholarship, nine are attending Upstate. That’s far more than any other medical school in the state. (See more on these students in the following section.)

Upstate students embrace the need for a fairer, more inclusive health-care future. Students have organized a Health Justice Conference each January to mark the birthday of Dr. Martin Luther King Jr. and to hear about efforts to bridge the gap between what the health care system is and what it can be. This year’s Health Justice Conference attracted more than 800 registrants from around the state, country and world.



## SOMEONE TO KNOW

NEVENA RADONJIC, MD



"Psychiatrists Nevena Radonjic, MD/PhD, and Seetha Ramanathan, MD, have established a women's mental health care service at Upstate. Both specialize in reproductive psychiatry and provide care that is tailored to women's needs at different points in their reproductive lives. Much of the psychiatrists' work focuses on pregnancy, postpartum and menopause.

"When a woman with mental health challenges is pregnant," explains Ramanathan, "we have to weigh her risk of untreated mental health against the risk of taking medication during pregnancy." Untreated mental illnesses among women, and mothers can have long-lasting effects on not just the mother, but her children and family as well. The program recently received funding to test a novel community-based intervention to prevent postpartum depression and is a site for a consultation program, Project TEACH.

Radonjic and Ramanathan recently organized the first Annual Women's Mental Health Psychopharmacology Update where over 80 participants learned about the latest developments in the field of reproductive psychiatry. Radonjic and Ramanathan explain that their program fills a crucial need because residency programs in psychiatry do not include training dedicated women's specific mental health issues.

In addition to their program for women, Radonjic and Ramanathan offer other services that help the mental health needs of the region. Twice a week, Radonjic provides mental health services at the Oneida Indian Nation Health Clinic. She also provides services at the Meadows Outpatient Center in Syracuse.

At Upstate, Ramanathan is also involved in suicide prevention efforts, including a novel brief intervention, Attempted Suicide Short-Intervention Program (ASSIP), that has been proved to reduce subsequent suicide attempts by 80 percent.





SOMEONE TO KNOW  
SEETHA RAMANATHAN, MD



## SOMEONE TO KNOW JENNIFER WELCH, PhD



Jennifer Welch, PhD, sees a lot of medical school applications and interviews many students as associate dean of Admissions and Financial Aid and chief enrollment officer, but never more than this year. This year, the College of Medicine had a record number of applicants.

Students applying to Upstate are a self-selecting group, she explains. These are students interested in building supportive relationships with fellow students, and with faculty. “It’s more about a partnership and support from peers along the way.”

That support starts even before students attend Upstate. “Student members of the Latino Medical Student Association and the Student National Medical Association get in contact with those students who have been accepted,” she says. Some of those calls gave birth to supportive friendships that continue. “That’s not necessarily something you find at other institutions.”

When interviewing students, Welch says she and the admissions committee look for students who have a commitment to make the community better. “We have to look at grades and MCATs, but beyond that, there is much more,” she says. “The holistic approach we utilize in admissions is intended to identify students already creating change in their communities,” she adds. “The goal is to find those students who will want to make a difference here, in our community as well.”



Daryll C. Dykes, PhD, MD, JD, '95, recorded his father, Rychard Dykes, describing growing up with a Black father, a white mother and a sister with blue eyes. Their videotaped interview was part of a series connected to “Belonging at Upstate,” an initiative led by Dykes with the goal of increasing diversity, equity and inclusion. Dykes is an orthopedic surgeon and the chief diversity officer at Upstate.

### Advocates

The College of Medicine has identified department diversity advocates for each of the 26 departments. The advocates are tasked with creating individualized reports and plans to increase diverse faculty and resident hiring and training. The college continues to support students through organizations and clubs such as the Student National Medical Association and Latino Student Medical Association.

As befits our student body and patients, diversity, equity and inclusion are important at Upstate. Collectively, Upstate refers to diversity, equity and inclusion as Belonging, and includes among its values not just that all are welcome here, but that all belong.



# BELONGING





Upstate physicians evaluate more than 6,000 trauma patients each year, many of whom arrive by helicopter from smaller hospitals. The helipad is on the roof of the Upstate Golisano Children's Hospital, which serves patients from Canada to northern Pennsylvania.

As an academic medical center, providing excellent health care is a vital part of how Upstate serves the community. The high level of care students observe and participate in providing puts them on the path to being better physicians at the same time that it elevates the lives of patients.

### Among recent accomplishments:

Upstate achieved **Magnet designation** from the American Nurses Credentialing Center, becoming among just 9 percent of hospitals nationally earning this honor. The designation was the culmination of years of work to ensure Upstate provides the highest level of care at all levels.

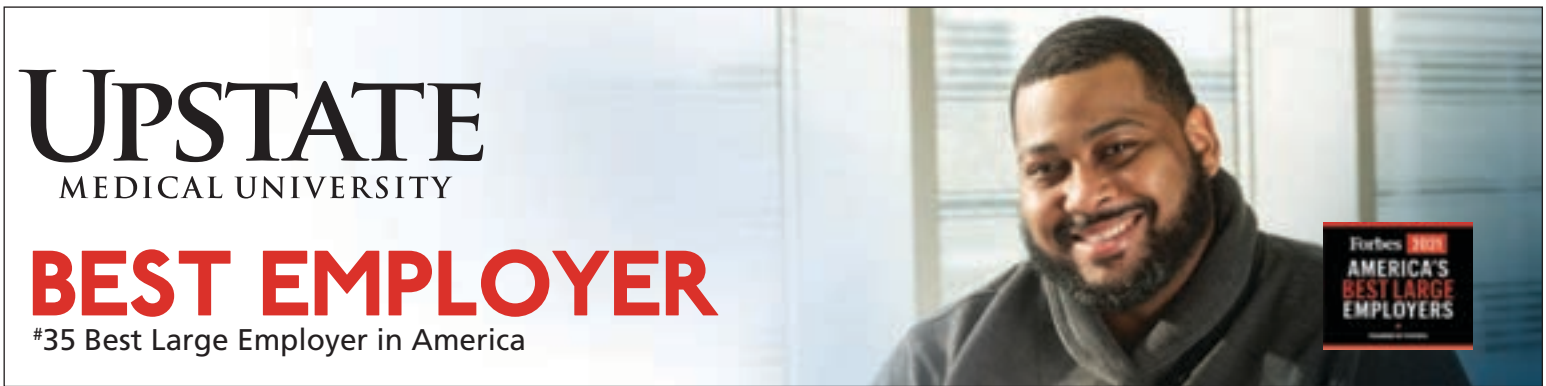


Upstate opened the new Upstate **Adolescent Intensive Outpatient Program**, designed to treat adolescents age 13 to 18 with psychiatric disorders and behavioral difficulties that interfere with their ability to function at home, school, or in their communities.

Upstate was invited to participate in the **Livable Communities Alliance**, Onondaga County's effort to promote population health and the livability of our community for people of all ages to "Make the County A Great Place to be Young and Grow Old." It is of special interest to have someone who is involved in Upstate's Age Friendly Health Systems participate as this complements Upstate's focus on community livability.



Architect's rendering of a room in the new adolescent inpatient psychiatry unit at Upstate Medical University.



A billboard campaign let the community know that Upstate Medical University ranks #35 nationally on Forbes' best large employer list — higher than Harvard or Johns Hopkins universities.

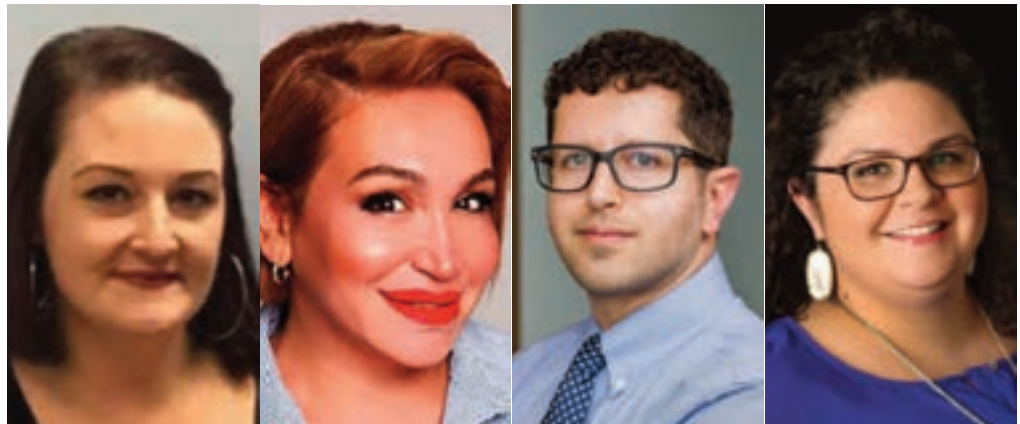
SOMEONE TO KNOW  
MARGARET MAIMONE



Margaret Maimone, PhD, Associate Professor of Cell and Developmental Biology, has been named a fellow of The Hedwig van Ameringen Executive Leadership in Academic Medicine (ELAM) Program for Women at Drexel University College of Medicine.

The ELAM program has been specially developed for senior women faculty at the associate or full professor level who demonstrate the greatest potential for assuming executive leadership positions at academic health centers within the next five years, according to Drexel.

A requirement of the program is for fellows to conduct an "Institutional Action Project," developed in collaboration with the fellows' dean or other senior official. These action projects are designed to address an institutional or departmental need or priority.



Mattie Cerio, LMSW (organizer)

Cecilia Gentili (speaker)

Alex Keuroghlian, MD, MPH (speaker)

Erin Ebert (speaker)

Virtual-format events resulted in large, national audiences for Upstate programs such as a training series on LGBTQ health. Topics included providing health services for sex workers, retaining and supporting LGBTQ staff and eating disorders in the LGBTQ community. Upstate's Inclusive Health Services hosted the series during Pride Month (June).

The Human Rights Campaign Foundation named Upstate Medical University an **LGBTQ Health Care Equality Top Performer**. The designation was awarded in the 12th edition of HRC's Healthcare Equality Index (HEI). A record 765 health care facilities participated in the HEI 2020 survey. Upstate received a rating of 95 out of 100. "We are hopeful that this designation will further show our LGBTQ patients and employees that they belong here at Upstate," said Mattie Cerio, LMSW, of Upstate's Inclusive Health Services.

As the largest employer in the region, with an economic impact of more than \$2 billion a year, Upstate recognizes a particular responsibility to set a standard for employee-employer relations. For that reason, Upstate was particularly proud to be ranked among **top large employers** by Forbes.

The ranking, 35th overall nationally, is a testament to Upstate's employees and managers who recognize the value they bring to work each and every day. That Upstate achieved this during the COVID-19 pandemic, underlines how dedicated employees are to the Upstate mission.



## SOMEONE TO KNOW

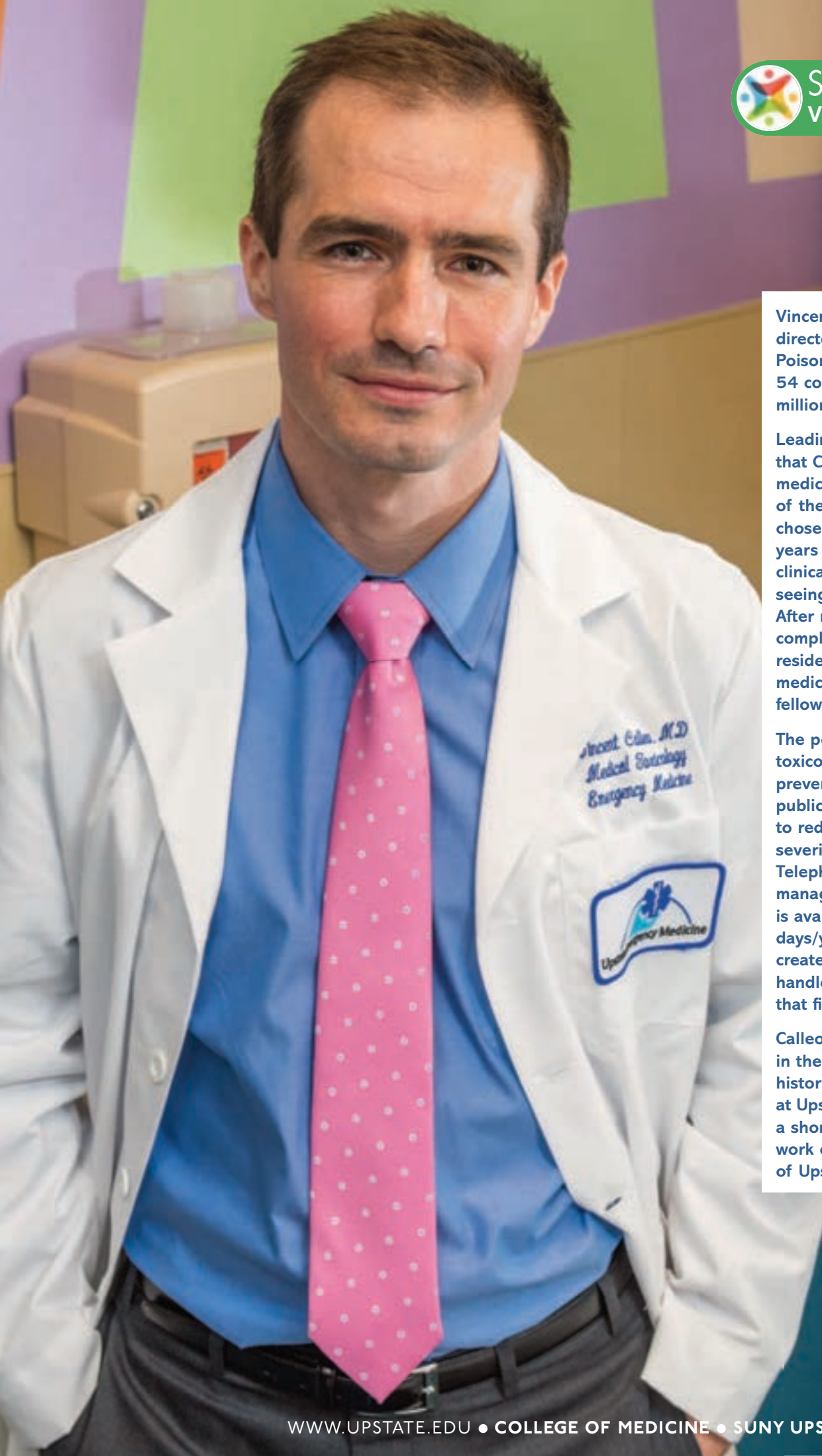
### VINCENT CALLEO, MD

Vincent Calleo, MD, is medical director of the Upstate New York Poison Center. The center serves 54 counties, 125 hospitals and 7.4 million people in New York state.

Leading the poison center is a job that Calleo has prepared for since medical school. A 2014 graduate of the College of Medicine, Calleo chose to do his third and fourth years at Upstate's Binghamton clinical campus, and appreciated seeing patients from his hometown. After medical school, Calleo completed an emergency medicine residency, pediatric emergency medicine fellowship and toxicology fellowship — all at Upstate.

The poison center provides toxicology management and prevention information to the public and health care community to reduce the number, cost and severity of poison exposures. Telephone triage and case management for poison exposure is available 24 hours/day, 365 days/year. In 2020, the center created a COVID-19 hotline, which handled more than 33,000 calls that first year.

Calleo is the fourth medical director in the poison center's 64-year history. "I feel very fortunate to be at Upstate," Calleo reports. "I live a short drive from my family and work every day with my 'family' of Upstate colleagues."



PEOPLE TO KNOW  
DIVERSITY SCHOLARS



The Associated Medical Schools of New York awarded 21 Diversity in Medicine Scholarships for the '21-'22 school year. These are scholarships that cover 96 percent of the tuition cost of attending Upstate Medical University College of Medicine.



**Dominique Alexis**

**Undergraduate:** Howard University, BS (Psychology, Allied Sciences), '14.  
**AMSNY Post-Bac:** SUNY Upstate Medical University, MS (Medical Technology), '21



**Vanessa Chicas**

**Undergraduate:** Cornell University, BS (Major: Human Development, Minor: Latina/o Studies), '18  
**AMSNY Post-Bac:** SUNY Upstate Medical University, MS (Medical Technology), '21



**Danya Contreras**

**Undergraduate:** Cornell University, BS (Biological Engineering), '13. **Graduate:** CUNY City College of New York, MS (Biology), '18. **AMSNY Post-Bac:** University at Buffalo, Jacobs School of Medicine and Biological Sciences, '21



**Romario Gibson**

**Undergraduate:** SUNY Buffalo State College, BA (Major: Biology, Minor: Chemistry), '15. **Graduate:** SUNY at Buffalo University, MA (Biological Sciences), '16. **AMSNY Post-Bac:** SUNY Upstate Medical University, MS (Medical Technology), '20



**Katherine Guzman**

**Undergraduate:** SUNY Old Westbury, BS (Biochemistry), '19. **AMSNY Post-Bac:** SUNY Upstate Medical University, MS (Medical Technology), '21



**Deashia McAlpine**

**Undergraduate:** Russell Sage College, BA (Psychology), '15. **AMSNY Post-Bac:** SUNY Upstate Medical University, MS (Medical Technology), '19



**Michael Oluwafemi Olu-Talabi**

**Undergraduate:** SUNY University at Buffalo, BS (Biological Sciences), '16. **AMSNY Post-Bac:** University at Buffalo, Jacobs School of Medicine and Biological Sciences, '18



**Nneka Onwumere**

**Undergraduate:** Manhattanville College, BA (Chemistry), '11. **Graduate:** CUNY City College of New York, MS (Chemistry), '18. **AMSNY Post-Bac:** SUNY Upstate Medical University, MS (Medical Technology), '20



**Samantha Williams**

**Undergraduate:** Union College, BS (Biological Sciences), '18. **AMSNY Post-Bac:** University at Buffalo, Jacobs School of Medicine and Biological Sciences, '19



**SOMEONE TO KNOW**  
**DAVID LEHMANN, MD, PharmD**



David Lehmann, MD, PharmD, Distinguished Service Professor of Medicine, pioneered Housecalls for the Homeless in 2018, with the assistance of Mia Ruiz-Salvador. The street medicine program provides medical, psychiatric and addiction care services for men and women experiencing homelessness in Syracuse and Onondaga County.

Street medicine aims to create relationships with individuals on the streets and sleeping at shelters to help them live healthier lives. The ability for vulnerable populations to access medical care through street medicine promotes a healthier lifestyle for homeless individuals by diagnosing and treating acute and chronic diseases, women's health, mental health and disease prevention.

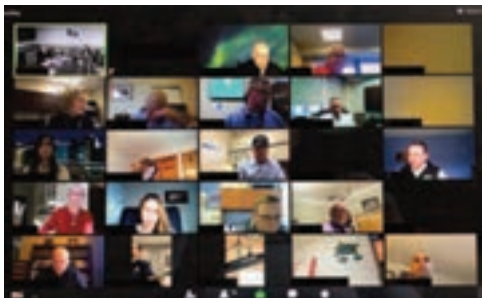




# COVID-19 RESPONSE AT UPSTATE



Upstate Medical University faculty and students stepped up to the challenge of COVID-19.



Incident command

The nearly two years since the first case of COVID-19 was discovered in Wuhan, China have brought unprecedented challenges. Millions of lives have been lost and healthcare systems have been strained beyond capacity. Amid this tragedy, Upstate Medical University and the College of Medicine have been an integral part of responding to, and overcoming, the challenges of this pandemic.

## Incident Command

Upstate had begun preparations to deal with the threat even before COVID arrived in the United States. An Incident Command was in place and ready to deploy Upstate's resources to save lives, here and around the world.

To protect students and patients, Upstate halted contact between the two. Some students bristled at being sidelined by the pandemic, but quickly found ways to help.



## SOMEONE TO KNOW

### STEPHEN THOMAS, MD



Dec. 11, 2020 was a big day in the struggle against COVID-19. That was the day the U.S. Food and Drug Administration authorized emergency use of the Pfizer-BioNTech COVID-19 vaccine, the first COVID-19 vaccine available in the United States. For Stephen Thomas, MD, director of Upstate's Institute for Global Health and Translational Science and coordinating principal investigator for the Pfizer/BioNTech global phase 2/3 COVID-19 vaccine trial, it marked a milestone after months of intense work by his Global Health team as they enrolled hundreds of volunteers.

The day before the vaccine was authorized for use, Thomas represented the investigators' perspective before the FDA's Vaccines and Related Biological Products Advisory Committee, as they debated whether the vaccine should be authorized.

"Clinical trial operations are incredibly, incredibly complex," Thomas said. "Enrolling and following 44,000 people across more than 150 different sites in multiple countries requires numerous, highly coordinated teams. At Upstate alone we have dozens of people supporting our study from research coordinators to lab personnel,

vaccine administrators, recruiters, quality control, administrative support, and all of the people who make the business work and ensure that we are complying with regulations."

Thomas has co-authored three manuscripts for the *New England Journal of Medicine* describing the vaccine's development. The papers report the specifics of the vaccine's safety and efficacy. The vaccine, known as BNT162b2, reduces the risk of getting significantly ill from COVID by more than 90% and is now available for everyone over the age of 5.

In addition to their COVID-19 vaccine work, Thomas's Global Health team was also heavily involved in a number of other trials exploring different treatment options for people already suffering from COVID-19.

Thomas was recently named the interim Chair of Microbiology and Immunology and he looks forward to synergizing the basic science expertise of Microbiology and Immunology with Global Health's prolific clinical research portfolio.



Frank Middleton, PhD, developed a pooled-saliva test for COVID that allowed the entire State University of New York system to effectively and efficient monitor campuses, stopping outbreaks before they could spread.



### **Triage, disseminate, communicate, dive in**

Upstate set up telephone triage lines to answer questions from the public. Students took up the task of responding to worried parents, concerned seniors and those simply looking for a credible source of clear information. A chatbot was added to handle the most common questions, with a feature that allowed those with symptoms or more specific questions to connect to a live member of the triage team.

Other students found ways to pitch in, scouring the internet for factual information on COVID treatments and research, joining together to condense findings for distribution to Upstate clinicians. Still others got hands-on, taking over the organizing of Upstate's regular Red Cross blood donor drives. It was an unprecedented opportunity for students to gain real-life experience and better understand some of the challenges they might face as clinicians. They rose to the challenge.

Students who had completed their necessary studies went a step further, graduating early so they could, as one student put it, "plunge right in" to help on the front lines. After a virtual graduation ceremony, complete with physician's oath, they were working doctors.





## SOMEONE TO KNOW

### JOSEPH DOMACHOWSKE, MD



“Battling COVID-19 is a public health effort of a magnitude I’ve never experienced,” says pediatric infectious disease specialist Joseph Domachowski, MD.

When Domachowski joined Upstate 30 years ago, he helped with a drug trial for HIV-infected pregnant women. The medication was so successful in preventing HIV transmission to newborns that the trial was cut short and the medication immediately offered to all those eligible.

Since that time, Domachowski’s primary research has centered on RSV, a respiratory viral infection that remains the most common reason for hospitalization among children during their first year of life. Young children are 17 times more likely to be hospitalized with RSV than for influenza illness. “Every other common infection of childhood has been reduced or eliminated by a vaccine,” reports Domachowski, “but infant RSV immunization strategies remained elusive until recently, as major breakthroughs repeatedly show high success rates.”

Today, Domachowski is focused on COVID-19 and children. He is a principal investigator for the pediatric COVID-19 Pfizer vaccine trial, one of 60 sites in the U.S. Because of his work, Upstate was one of only six COVID-19 vaccine trial sites in the world selected very early on to first determine the optimal vaccine dosing for different aged children who would later enroll in the large efficacy study. In October, a lower dose formulation of Pfizer’s COVID-19 vaccine received emergency use authorization for children ages 5 to 11. Domachowski anticipates extension of that authorization to children as young as 6 months old, using an even lower dose, to occur sometime in early 2022.

Internationally, Domachowski directs a satellite clinical research program in coastal Ecuador focusing on human trials for the treatment and prevention of tropical, mosquito-borne diseases including Zika, chikungunya and dengue.

At Upstate, Domachowski consults on children referred for severe or unusual infections. In 2018, he worked successfully with the NYS Legislature to limit vaccine exemptions to medical need for school attendance.

### **Informing the public, developing test and vaccine**

Upstate developed into a source of information on COVID-19 for local media and officials. Medical school faculty regularly appeared on television and were heard on radio offering reassurance and advice. Social distancing, wearing a mask and washing or sanitizing hands were stressed time and again.



As testing became available, Upstate quickly ramped up, turning an outpatient facility into a site where the concerned could be tested for COVID-19. At first, samples were rushed to Albany, but soon Upstate had its own equipment and the testing effort expanded. A new site was created specifically for the purpose of hosting drive-through testing.



The arrival of equipment on campus helped cut the wait for test results from a week to just days — less than a day for certain patients.

### **Supporting New York and Long Island**

As parts of New York were racked by COVID-19, Upstate dug deep and shared resources. Upstate faculty took leadership roles at the infirmary set up at the Jacob K. Javits Convention Center in New York City. Teams of nurses, respiratory therapists, physicians, pharmacists and pharmacy technicians traveled from Syracuse to Stony Brook to relieve providers there who had been stretched to the limit by demands on their facility and staff.



The experience helped when COVID-19 surged in Central New York during the fall and winter. Recognizing the strain, leadership called upon staff from other parts of Upstate's many departments to volunteer to assist. Volunteers stepped forward to serve as "runners," carrying items to nurses, delivering samples to the pathology lab, helping out however they could.

While much of Upstate was focused on treating patients and sharing useful knowledge with the public, elsewhere Upstate faculty were deeply involved in coming up with a vaccine that could end, or at least blunt, the pandemic.

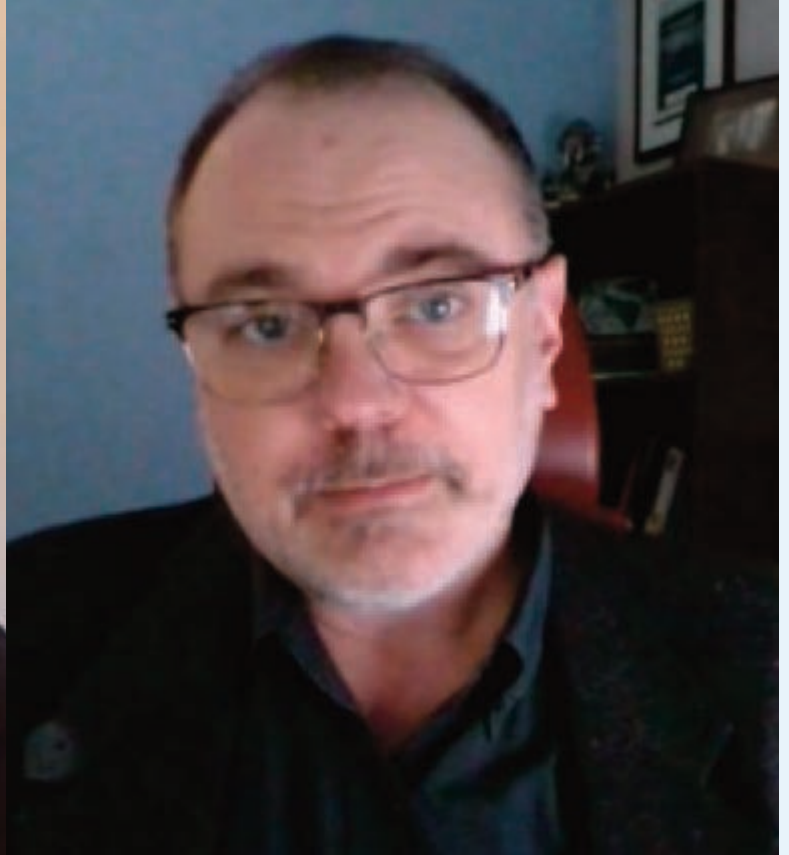
### **Leading Pfizer/BioNTech vaccine trials**

Dr. Stephen Thomas, director of Upstate's Institute for Global Health and Translational Science, served as lead principal investigator for the world-wide Pfizer/BioNTech vaccine trial, the first vaccine approved by the FDA. Upstate served as one of the global phase three vaccine trial locations, enrolling more than 300 participants.

SOMEONE TO KNOW  
TELISA STEWART, DrPH



SOMEONE TO KNOW  
CHRISTOPHER MORLEY, PhD



How many COVID-19 patients can we anticipate? Does social distancing work? Can we reopen our SUNY campuses safely? Who in the population is most impacted?

Those are some of the crucial questions that Telisa Stewart, DrPH, and Christopher Morley, PhD, have been answering since the start of the pandemic. Since January 2020, they have been analyzing the data and distilling the information — daily — into reports that health care staff and administrators can rely on to make sound decisions in real time.

Morley, chair of the Department of Public Health and Preventive Medicine, explains: “We’re providing Upstate University Hospital, health departments, rural hospitals and the 64-SUNY campuses with evidence-based information to make the best possible decisions related to public health and COVID-19.”

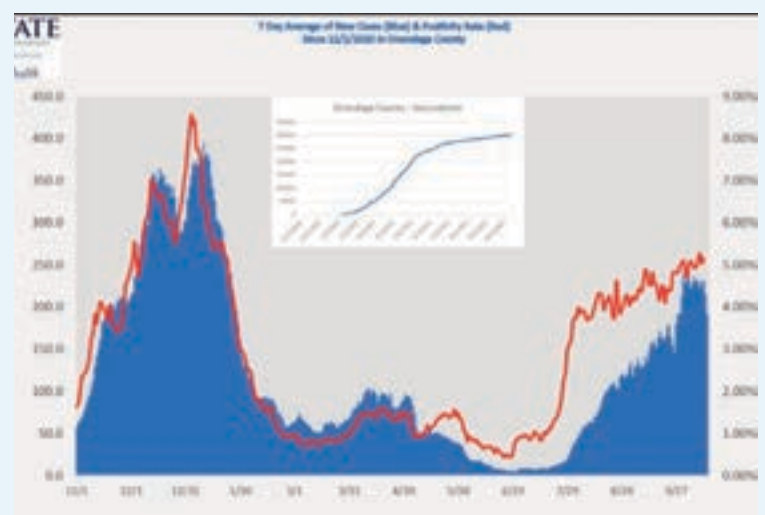
Stewart is a member of the regional health equity task force, which serves five counties in upstate New York. She is part of a team that is using evidence-based medicine to tailor COVID-safety and vaccination messages to various demographics. She also provides regular consultations to fire departments, municipalities and rural hospitals around the region.

Morley is part of a SUNY advisory group comprised of public health experts from the university centers at Upstate, Stony Brook, Downstate, Albany and Buffalo. The group provides guidance on social distancing, masking, testing

and vaccination policies on all 64 SUNY campuses, as well as other users of Upstate’s COVID-19 testing protocols.

Throughout the pandemic, Stewart and Morley have also been teaching the next generation of public health professionals. “We strive to involve our students in all aspects of our work, explains Stewart. “They’re doing research and community outreach.”

This fall, they welcomed the largest class into the Upstate’s Masters of Public Health program (31 students). One-third of their incoming class are public health scholars, admitted to Upstate as part of a “pathway program” designed to develop a more diverse generation of health care professionals.



### Leading testing vaccines for children

Joseph Domachowski, MD, professor of Pediatrics and of Microbiology and Immunology at Upstate, served as the principal investigator for testing the Pfizer COVID-19 vaccine in children under the age of 5. Upstate served as one of four sites worldwide enrolling young children in the clinical trial. Upstate has the distinction of having among clinical trial participants an eight-month-old boy, the youngest person in the world to participate.



### Developing mouth swab, ‘pool’ and waste water testing for COVID-19

Recognizing that testing would be crucial to containing the pandemic, Upstate’s Frank Middleton, PhD, developed a pooled-saliva test with Quadrant Biosciences. This cost-effective and rapid screening was able to analyze more than 15,000 samples per day at Upstate’s Neuroscience Research Building, in collaboration with Quadrant Biosciences.



The development simplified testing and greatly reduced the cost of monitoring entire populations. Granted emergency use by the U.S. Food and Drug Administration, the test quickly found acceptance around the world. The test’s practicality allowed the State University of New York to spot outbreaks before they had a chance to spread throughout a campus.

### Tracking disease spread

A team from Upstate’s Department of Public Health and Preventive Medicine published a paper about a study showing how local social distancing slowed the spread of COVID-19 early in the pandemic. The study used mobile phone tracking data to assess the relationship between people’s movements and the spread of the disease across eight Central New York counties. This evidence became part of the information Upstate shared with officials and the broader public. It was also published in the Journal of Public Health Management & Practice.

### Distilling and disseminating the news

Upstate developed daily COVID-19 reports and dashboards to inform internal and external leaders of COVID-19 infections and exposures, including those within Upstate. The transparency helped policy makers understand the true nature of the pandemic’s impact on the region.



## SOMEONE TO KNOW MARGARET A. TURK, MD

“People with disabilities are a poorly understood, marginalized community,” asserts Margaret A. Turk, MD.

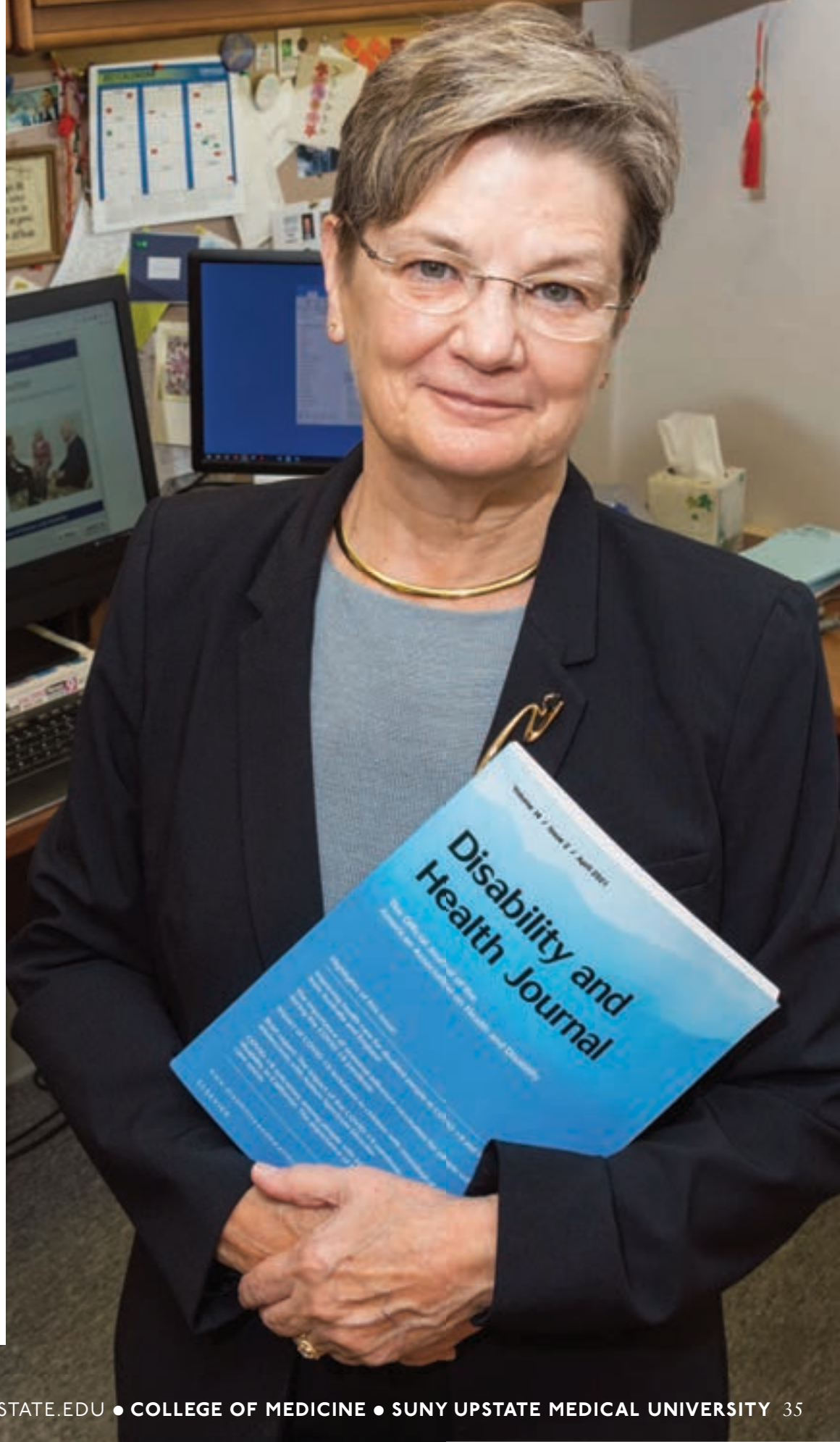
Turk’s mission for over 30 years has been to better integrate disability studies into medical school curriculum and to raise awareness among practitioners.

“The medical community has much to learn,” Turk observes. “Many clinicians have limited experience with people with intellectual and developmental disabilities or other disabilities, and a tendency to attribute disability as the cause of any health condition a patient may have.”

At the beginning of the pandemic, Turk was among the first to document that people with intellectual and developmental disabilities (IDD) were at higher risk for severe or fatal COVID-19 outcomes. Her findings, based on an analysis using a large global network database of people with a diagnosis of IDD compared to those without that diagnosis, resulted in the first article published on the subject in the United States.

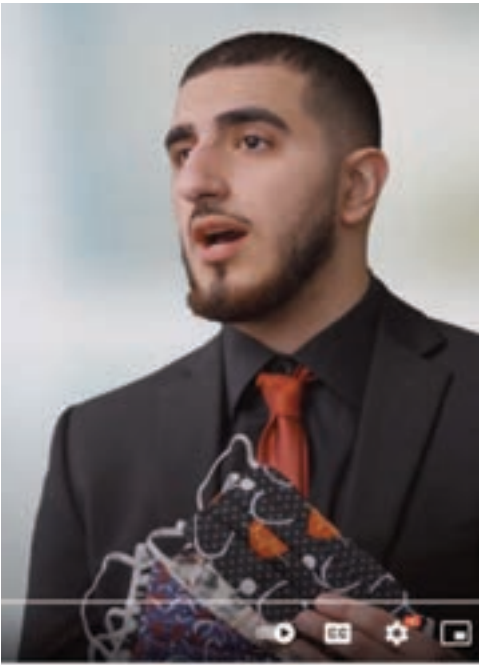
Turk is a creator of the disability integration toolkit, an online resource that helps medical educators incorporate disability education into their curriculum. The toolkit, used nationally at both the pre-clinical and clinical stages, emphasizes the skills and knowledge needed to care for patients with disabilities.

Turk serves on the Advisory Group of the New York State Department of Health Disability and Health Program and on the Medical Advisory Task Force of the New York State Office for People With Developmental Disabilities (OPWDD). The program and task force are identifying ways to support people with intellectual and developmental disabilities and other disabilities. She sees helping clinicians examine their preconceived notions of this patient population as one solution. “We need to listen to people with disabilities who are willing to share their experiences,” says Turk.





"Protect yourself. Protect your loved ones. Get the vaccine." was the message of a series of Spanish, Arabic, Nepali, Vietnamese and English language videos produced by Upstate with the Central New York Regional Health Equity Taskforce.



### Creating trusted messages

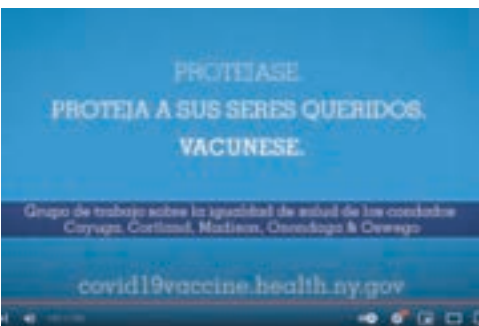
As vaccines became available, Upstate pursued an aggressive public information strategy, with particular emphasis on underserved populations. Upstate created a series of videos, in Spanish, Arabic, Nepali, Vietnamese and English, featuring members of the community discussing the effectiveness and importance of vaccination.

### Recognition

Upstate's efforts were recognized by the The Arnold P. Gold Foundation. The foundation honored three Upstate employees as Champions of Humanistic Care for their compassion and courage during the COVID-19 pandemic.

Upstate's efforts were recognized in other ways, including visits from the chancellor of the State University of New York, the governor and other public officials who sought to express their gratitude for Upstate's work in the face of the pandemic.

Upstate faculty, staff and students have been integral in helping the local community, the nation and the world respond to the greatest health crisis in a century. Work continues in patient rooms, in clinics, in laboratories and classrooms — and will continue until COVID-19 is a thing of the past.





# Facilities AT UPSTATE



Architect's rendering of Upstate's Nappi Wellness Institute

At the center of city that is at the center of New York State, Upstate continues to expand and update its physical presence to meet the growing needs of a service area that includes 17 counties stretching from the Canadian border to Pennsylvania.

The largest ongoing project at Upstate right now is the 209,000 square-foot Nappi Wellness Institute (pictured). Construction on the five-story building is expected to finish in early 2023. It will house an array of services, practices and programs, including primary care, geriatrics, radiology, laboratory services, behavioral health, family medicine, pediatrics and the Joslin Center for Diabetes. It will also be an important site for Alzheimer's disease research and care.

## UPSTATE MEDICAL UNIVERSITY: FACILITIES



The Binghamton campus is an option for third and fourth year medical students pursuing primary care specialties



Neuroscience Research building



Weiskotten Hall, home to classrooms, labs and administrative offices



Upstate Community Hospital, a part of Upstate since 2011, is a suburban hospital four miles from the downtown campus.



Cord Blood Center, the only facility of its type active in New York state



Upstate Health Care Center, one of numerous outpatient sites



View of Upstate's downtown campus. The Cancer Center, the five-story building in the right of the photo, opened in 2014.





Upstate Golisano Children's Hospital



Campus Activities Building



CNY Biotech Accelerator



Geneva Towers, a residential facility

## Facilities for now, and the future

Recent work has updated laboratories in Weiskotten Hall, creating leading-edge space in a building that's cornerstone was laid by President Franklin Roosevelt. Other work includes renovation of Silverman Hall, the former City Hospital.

Other projects include the conversion of a downtown high-rise to Geneva Tower, student housing a short walk from everything, and the construction of the Central New York Biotechnology Accelerator, speeding up the movement of promising ideas from the lab to the market.

In 2020 the Upstate Golisano Children's Hospital marked its 10th anniversary of bringing hope and healing to the smallest patients – and their families.



# Departments

## BASIC SCIENCE



### Biochemistry and Molecular Biology



**CHAIR: Patricia Kane, PhD**

Postdoctoral Fellow,  
Institute of Molecular Biology,  
University of Oregon  
PhD: Cornell University, 1987

The Biochemistry and Molecular Biology Department's faculty research covers a wide range of topics including structural biology, bioenergetics, biophysics, cell signaling and cell biology. We have a particular interest in membrane proteins and transport, nucleic acid binding proteins, and oxidative stress, often using model systems in investigations. These studies impact a number of human diseases, ranging from cancer to neurodegenerative disorders. The department continues to have a strong record of extramural research funding, primarily from NIH. The department is home to core facilities including the cryo-electron microscopy and mass spectrometry cores.

This year, Dr. Alaji Bah was selected as SUNY Upstate's first Pew Scholar; his research on "intrinsically disordered proteins" has important implications for cancer and neurodegenerative diseases. Dr. Xin Jie Chen received the SUNY Chancellor's Award for Excellence in Scholarship and Creative Activities for his research on how problems importing proteins into mitochondria, the "powerhouses" of the cell, can lead to aging and neurodegeneration. Dr. Bruce Knutson was selected for the President's Award for Excellence in Basic Research by a Young Investigator for his work on the enzyme RNA polymerase III which could help explain why certain mutations in this enzyme cause developmental defects.

The Biochemistry and Molecular Biology Department hosts a vibrant graduate program. The program currently has 41 graduate students who are working toward their Ph.D. degrees in labs from multiple departments, including Urology, Medicine, Ophthalmology and Visual Science, and Biochemistry.

### Cell and Developmental Biology



**INTERIM CHAIR: Margaret Maimone PhD**

PhD: Washington University, 1990

Our department has two core missions: research and education.

Our research advances the understanding of fundamental molecular and biochemical mechanisms of cellular function and development, while our teaching is focused on the anatomical sciences as well as cell and developmental biology. The aim of our training and educational programs is to apply biological knowledge to critical medical problems and empower the next generation of scientists, clinicians, and educators.

Research in the Department of Cell and Developmental Biology explores the molecular and biochemical mechanisms of cellular function and development in several exciting areas including cancer biology, cardiovascular development and disease, skeletal muscle development, kidney disease, immune response, and leukocyte

inflammatory phenotype. Other areas include understanding the mechanisms regulating actin cytoskeletal dynamics during endocytosis and cell migration, studying cell adhesion regulation, and analyzing the biology of oligodendroglia and myelin formation during development, remyelination and repair in spinal cord injury and multiple sclerosis.

One of the core areas of our education mission is to provide cadaver-based gross anatomy education to medical students (years 1, 3 and 4), residents and fellows in the College of Medicine, as well as to students in the colleges of Health Professions and Graduate Studies. Gross Anatomy is taught in small groups allowing for active learning strategies and more personalized education. During the pandemic, laboratory-based gross anatomy was taught safely by reducing the number of students in the lab and delivering instruction multiple times, ensuring that our learners received a high-quality anatomy education.

## Microbiology and Immunology



**INTERIM CHAIR: Stephen Thomas, MD**

MD: Albany Medical College, 1996

Research in the Department of Microbiology and Immunology focuses on exploring the etiologies and mechanisms of high impact human diseases and infections. The Microbiology and Virology group works on a broad range of viruses and microorganisms including: HSV, EBV, CMV, VZV, HIV, KSHV, and HTLV. Interests include infectivity, gene regulation, DNA replication, pathogenesis of human viruses, sexually transmitted diseases, virus/host interactions, and animal and human models of disease. Our Immunology group explores a broad range of topics and includes work on diseases such as Lupus, multiple sclerosis, immune mediated hyper-

sensitivity reactions, cancers and malignancies, and dementia. A central theme is understanding how the immune system prevents or causes disease pathogenesis. Studies include how cells of the immune system fight viruses, bacteria and tumors, how microbes evade immunity, how the immune system becomes activated and turns against itself. Research is conducted at the molecular, biochemical and genetic levels, with goals of developing gene therapies, vaccines and better treatment of disease. Research methods include cell culture, animal models, molecular genetics and gene therapy, microarray analysis of gene expression, and a full complement of traditional humoral and cellular immunologic assays.

## Neuroscience and Physiology



**CHAIR:  
Francesca Pignoni, PhD**

PhD: University of California at Los Angeles  
Postdoctoral fellow: University of California at Los Angeles

The Department of Neuroscience and Physiology includes 12 faculty who serve the institutional missions of biomedical research (10) and medical education (2 full-time educators). In the area of Cell and Molecular Neuroscience, several laboratories investigate a wide range of fundamental processes that underlie neuronal function. Topics of interest include the regulation of gene expression in the nervous system, the physical basis of neuronal excitability, mechanisms of signal transduction, and the molecular foundations of neurological disease and disorders. In the area of Development and Regeneration, the research focus is on mechanisms that control nervous system assembly and repair. These laboratories investigate the regulation of

gene expression during nervous system development and regeneration, the cellular and molecular mechanisms that drive development of the cerebral cortex, and the mechanisms that underline cellular regeneration in the central nervous system. In the area of Systems and Cognitive Neuroscience, multiple laboratories study the mechanisms and outcomes of neuronal function and dysfunction. Topics of interest include: fetal and adolescent neuronal plasticity and its role in drug addiction; neurodevelopment in individuals with neurological or psychiatric disorders; developmental models of autism; the control of behavior by specific aspects of neuronal activity; and, how disease manifests alterations in neuronal function. Diseases that receive particular attention include retinitis pigmentosa and Usher syndrome, Alzheimer's disease, amyotrophic lateral sclerosis, schizophrenia, autism, fetal alcohol syndrome, glioblastoma, and neuromuscular dystrophies.

## Pharmacology



**CHAIR: Richard JH Wojcikiewicz, PhD**

PhD: University of Sheffield, UK, 1985

The Pharmacology Department faculty and staff serve the dual Institutional missions of research and education.

Our research programs emphasize mammalian systems and translation to the clinic. Specific focus areas are molecular pharmacology, drug development and delivery, nanomedicine, cancer biology and therapeutics, cardiovascular science, epilepsy, metabolic disease, wound healing, sepsis, immunotherapy and cell signaling. These programs are strongly supported by extramural funding, primarily from NIH. Collaborations with other Departments are encouraged and promoted. Notably, Dr. Juntao Luo has recently helped establish SIRC — the Sepsis Interdisciplinary Research Center — with a group of researchers, particularly from

the Department of Surgery. In recent years, a priority has been the recruitment of talented assistant professors conducting high-quality research to advance and perpetuate the Department's legacy of excellence: in 2019 Dr. David Auerbach (cardiovascular, epilepsy) and Dr. Nori Urao (wound healing, metabolic diseases) were recruited, and Dr. Yamin Li (lipid nanoparticles, drug delivery) will be joining the Department in early 2022.

The delivery of high-quality education in Pharmacology to both Medical and Graduate students is also a priority. A thread leader manages the teaching of Pharmacology to medical students, including the recruitment of teaching faculty from the Pharmacology Department as well as Clinical Departments. Graduate students receive high-quality classroom and laboratory instruction in preparation for successful careers in academic research and/or industry.

# Departments CLINICAL



## Anesthesiology



**CHAIR: Xiuli Zhang, MD**

MD: Qingdao Medical College

Our mission is to deliver high quality care and uncompromising safety to all perioperative patients requiring anesthesia services. Our faculty includes 30 physicians representing every subspecialty area in anesthesiology—cardiac, thoracic, pediatric, critical care, neuro-anesthesia, regional anesthesia, trauma and pain medicine.

Together with our residents and CRNAs, these teams handle the most complex cases in the region. We have acute and chronic pain management services, including six fellows, so that we can provide a continuous spectrum of care. There is a diverse educational experience for our residents and fellows in the Department. As a level I trauma center, residents see a broad-based patient population as they learn the practice of anesthesiology and its subspecialties. Pain fellows encounter an equally diverse patient population as they build a knowledge base in both acute and chronic pain.

Hands-on patient care combined with traditional didactic education forms the basis of our trainees' educational experiences.

This year, we established a regional pediatric anesthesia service which has shown significant improvements in patient safety and outcomes as well as enhancing educational experience for our trainees. The department also made significant effort in developing Anesthesia Simulation. Our residents have already begun to learn with the simulation experience. Our goal is to bring this effort to an anesthesia simulation center which will provide continued education for anesthesiologists.

We continue research efforts in the areas of neuro-anesthesia, neuro-monitoring, subarachnoid hemorrhage, intraoperative neuro-monitoring, neuroprotection, brain ischemic injury, intraoperative fluid management, pediatric anesthesia, protective role of hyperbaric oxygenation in ischemic and traumatic brain injury and the effect of hyperbaric oxygenation on chronic constriction induced sciatic neuropathic pain.

## Emergency Medicine



**CHAIR: William Paolo, MD**

MD: Albert Einstein College of Medicine, 2005

The Department of Emergency Medicine at SUNY Upstate Medical University exists to promote the specialty of Emergency Medicine and related specialties through excellence in patient care, education and research. Our Department continues to serve the community through primary and tertiary emergency care, medical education at many levels, and robust academic work. We strongly support all four years of the medical school as well as EM residency training, prehospital provider programs and eight different fellowship training programs. The emergency departments we staff serve over

110,000 patient visits per year and function as the gateway for inpatient care at University Hospital and specialty care for our region. This year, our Pediatric ER received Upstate's Patient Experience Award. In August 2020, Upstate Women in Emergency Medicine committee was founded to provide a network of professional and personal support, mentorship, education and information for women in the department. We continue our academic work and have, this past year, contributed more than 30 publications and presentations to the peer reviewed science. Our ED staff has persevered throughout the COVID pandemic with grace, resolve and served the Central New York region with caring and compassion.

## Family Medicine



**INTERIM CHAIR: Clyde Satterly, MD**

MD: Medical College of Pennsylvania, 1994

Upstate's Department of Family Medicine is a group of professionals committed to the principles of family medicine and primary care. The principles are honored in diverse, patient-centered clinical practices, teaching a wide-range of learners and through answering the important questions in the discipline through structured inquiry and strong research. The mission of the Family Medicine Residency is to prepare exceptional Family Medicine trained physicians to provide exemplary care to the patients and foster a culture of academic inquiry, research and scholarship. Residents become advocates for policies that support community health, holistic approaches to health care and prevention. They train to become excellent physicians in urban, suburban and rural practice, and prepare them for leadership and faculty positions in family medicine. Additionally, they are committed to meeting the physical, mental,

social and spiritual needs of their patients. They model the highest standards of patient care, teaching and research.

The Rural Medical Scholars Program provides medical students with the opportunity to spend their third year immersed in a rural, underserved community. The program exposes students to the challenges and rewards of being a physician in a rural environment. In the summer of 2021, we launched our Micro-Credential in Rural Medicine opportunity for those students who participate in core rural health electives and submit a capstone project in senior year.

We operate a regional quality improvement project targeting breast, cervical and colorectal cancer screening. We are also involved with a regional research organization, the Studying-Acting-Learning & Teaching Network (SALT-Net) which looks at opinions around a number of issues including: obesity, ADHD, and public health influenza surveillance.

## Geriatrics



**CHAIR: Sharon Brangman, MD**

MD: Upstate Medical University, 1981

SUNY Upstate Medical University's Geriatrics Department is the clinical site of the Center of Excellence for Alzheimer's Disease (CEAD). It has established itself as an innovative leader in the management of Alzheimer's disease serving 15 counties. The Center is supported in part by a grant from the NYS Department of Health. CEAD staff includes geriatricians, geriatric nurse practitioners, social workers and nurses with expertise in geriatrics. CEAD works with Onondaga County Adult Protective Services, which identifies and refers elders, especially those with dementia, who are at risk because of the inability of the patient, family or other caregivers, to seek and comply with medical management. An individualized care and management plan is developed for each patient, and depends on the disease stage, patient's level of function, and amount of support

that is available. Referrals are made to appropriate community resources and the social worker follows each care plan so that it can be adjusted or revised, as needed. The goal of all treatments and care plans is to reduce the stress and burden Alzheimer's disease has on the patient and family. CEAD is also an educational site for all learners at Upstate. The Department of Geriatrics offers several clinical trials for Alzheimer's patients.

LinkAges is an educational program for medical students intended to increase their skills and knowledge in geriatrics. LinkAges brings together older adults and medical students, giving them hands on, person-to-person experience in geriatric care early in their medical education.

This year, we expanded the Acute Care of the Elderly (ACE) Team to include both the Downtown and Community Campuses, and will begin the OrthoCo Care Program.

## Medicine



**CHAIR: Sriram Narsipur, MD, FASN, FACP, MRCP**

MD: University of Michigan Medical School, 1988

The Department of Medicine is the pivot point for roughly a third of all clinical, educational, and research activity that occurs on the Upstate campus. Our faculty has grown by 36 in the last calendar year. Our 131 house staff, 7 Chiefs, and 65 fellows are fully engaged despite the pandemic. The Department of Medicine is organized into twelve divisions and can treat patients for something as routine as the flu, or provide comprehensive care for disease such as diabetes, cancer, heart or kidney disease. The divisions are general internal medicine, cardiology, dermatology, endocrinology, diabetes and metabolism; gastroenterology; hematology/oncology; hospital medicine; infectious disease; nephrology; clinical pharmacology; pulmonary/critical care and rheumatology.

This year, the Department of Medicine underwent several areas of expansion. We expanded our cardiovascular services to become the largest practice in the region supporting inpatient and outpatient sites. Additionally, we are now providing care in partnership with Auburn Memorial Hospital where we are developing a cancer care program, treating patients in a satellite dialysis clinic, providing care in the ICUs and overseeing antibiotic management and consultation services. Development of the new Verona Cancer Center is underway in the Mohawk Valley. Finally, our Division of Hospitalist Medicine, now totaling over 40 faculty and staff, has cared for more COVID patients than any hospital or provider in the region and provided cutting edge care for these complex patients while also supporting education of providers in outlying hospitals.

## Neurology



### CHAIR: Luis Mejico, MD

MD: Catholic University de Cordoba, Argentina, 1993

The Neurology team at SUNY Upstate Medical University is dedicated to providing state of the art neurological care to the community and region. The Neurology Department faculty serve the educational needs of graduate students, medical students, residents in neurology and other fields plus fellows in various aspects of basic and clinical neuroscience. Physicians and staff routinely work with patients to educate and inform them about treatment options and matters related to their health and well-being. In addition, the Department is engaged in basic, clinical, and translational research in Neuroscience with the goals of furthering understanding of neurological diseases, and developing new treatments that will improve the lives of patients.

This year, along with the Department of Neurosurgery, we launched the Upstate

Neurological Institute, which is uniquely positioned to provide comprehensive neurological patient care for adults and children, with the only neurosurgery and complex spine surgery service in Central New York, level 4 Epilepsy Center, neurooncological multidisciplinary program, neurocritical care service and comprehensive Stroke Center. The Institute houses the most advanced care for Alzheimer's, Parkinson's, Multiple Sclerosis, headache, neuro-muscular diseases among others.

Construction is under way for The Upstate Headache Center and Neurology Infusion Center at Upstate Campus East. This state-of-the-art facility, with a beautiful modern environment, will offer unique services and be the only Center of its kind in Central New York. We are anticipated to open in the Winter of 2021. Within our Neurology Clinic at UHCC, we are opening a brand new telehub suite for our telehealth services. This will be fully operational in early 2022.

## Neurosurgery



### INTERIM CHAIR:

### Satish Krishnamurthy, MD, MCh, FAANS

MD: Mysore Medical College, India, 1984

As part of SUNY Upstate Medical University, the department's mission of education for students and residents goes back to 1958 when the department was started by Dr. Robert King. The Department's clinical practice — the Upstate Brain & Spine Center — offers the largest neurosurgical team in Central New York. Faculty and residents provide services to patients at Upstate University Hospital, which has an entire hospital floor dedicated to patients with neurological disorders. We have a multispecialty group of physicians that provide and coordinate care of patients at these Upstate facilities. Upstate facilities are equipped with state-of-the-art technologies including intraoperative MRI suite and ROSA robot. Upstate is the region's only adult and pediatric Level-1 trauma center, a dedicated Cancer Center, the Upstate Golisano Children's Hospital, neonatal care units, and the region's first Comprehensive

Stroke Center. Department faculty members have trained more than one hundred neurosurgeons through the residency program as well as influenced many medical students pursuing neurosurgery. Residents are educated in clinical decision making, technical aspects of neurosurgery, safety, quality, interpersonal and communication skills. Residents initiate and participate in both clinical and laboratory research.

To seek novel solutions through research has always been a focus of the Department with the majority of faculty participating in research activities. In addition to providing excellent patient care, the Department of Neurosurgery engages in basic, translational and clinical research aimed at finding new treatments and improved strategies for disorders of the brain and spine. The department researchers received numerous grants including: Dr. Li-Ru Zhao was awarded a \$2 million RO1 grant, Dr. Satish Krishnamurthy received a DOD grant and Dr. Dan Tso was co-investigator on two R21 grants.

## Obstetrics and Gynecology



**INTERIM CHAIR:  
JOHN NOSOVITCH, MD**

MD: University of Texas Medical Branch at Galveston, Texas, 1986

Clinical research is actively pursued both in the department and with the collaboration of other departments within the medical university. Each resident is expected to become involved with one of the ongoing projects or initiate a new line of investigation with a faculty advisor.

Third- and fourth-year residents present papers on their case studies and research investigations at the annual Senior and Chief Residents' Departmental Scientific Forum, now in its eleventh year. The

research rotation with academic, faculty and fellowship tracks, prepare our residents for these pursuits and a career of lifelong learning.

Clinical research trials are available to our patients through our participation in the National Cancer Institutes' cooperative group, Gynecologic Oncology Group (GOG), or through a pharmaceutical-sponsored study. The research trials are currently open for ovarian cancer, uterine cancer and endometrial cancer.

The research team is composed of Mary Cunningham, MD, as principle investigator; W. Douglas Bunn, MD; Margaret Mahan, RN NP, and Elizabeth Anderson, clinical research associate.

## Ophthalmology and Vision Sciences



**CHAIR: Robert D. Fechtner, MD**

MD: University of Michigan Medical School

The Upstate Center for Vision Care is the hub of clinical enterprise with seven core faculty and 40+ community faculty covering all ophthalmology subspecialties. Residents work with faculty learning clinical, diagnostic, and surgical skills. Residents have broad exposure to the academic medical center and private practices. Additionally, our relationship with community subspecialists expands our reach to the entire region. We are affiliated with the VA where residents obtain much of their surgical experience.

The Department values community involvement. We are the eye care resource for a diverse immigrant community and for our financially disadvantaged community members. Faculty and students see an extraordinary variety of interesting, unusual, and challenging ophthalmologic problems.

The Upstate Center for Vision Research seeks fundamental understanding of vision, from molecules to cells, from tissues to visual perception. We seek to apply this knowledge to finding cures for blindness. CVR support has increased in recent years to over \$3.5 million in active yearly awards, including the NIH, a VA Merit award, the first mentored clinician-scientist award (K08) to an UMU clinician this century and the first Jules and Doris Stein Innovator in Ophthalmology award. Our CRV faculty bring cutting edge work on the molecular mechanisms of glaucoma; corneal wound healing; and exciting work in the area of ocular tissue engineering. The CVR has been awarded two Empire Innovator Program awards to expand into work with artificial intelligence and live ocular imaging.

The outstanding work in vision research has placed the Department in the top 40 National Eye Institute funded research centers in the nation and has earned us the recognition of being one of 37 nationwide Unrestricted Grants from Research to Prevent Blindness.



## Orthopedic Surgery



### **CHAIR: Stephen Albanese, MD**

MD: SUNY at Buffalo, 1980

The Department of Orthopedic Surgery offers easy access to multiple clinical programs that provide the latest in basic and advanced musculoskeletal care. Recent additions to the program include hip arthroscopy, innovative spine deformity treatment techniques including vertebral tethering, robotic surgery for total joint replacement and the expansion of the pediatric orthopedic division. Upstate orthopedic surgeons continue to provide level 1 trauma care for children and adults from throughout the region. The Department is a community resource for the management of complex musculoskeletal issues in hand, foot and ankle, pediatrics, oncology, spine and sports medicine.

The Department provides well balanced clinical and research experiences for medical students and residents. Medical students rotate on several of the clinical services and frequently participate in research projects under the guidance of orthopedic surgery faculty members. The five-year residency program has expanded to a total of 25 residents with 5 graduates per year. Residents rotate through a variety of clinical settings that provide experience in all the major subspecialties of orthopedic surgery. Many of the program graduates currently practice in the Upstate New York region.

There is strong collaboration between research scientists and clinicians, leading to many research projects that result directly from the practice of orthopedic surgery at Upstate. Research is currently focused in the areas of orthopedic oncology, joint replacement, spine surgery, sports medicine, osteoporosis and bone biology, upper and lower extremity biomechanics and fracture fixation.

## Otolaryngology



### **INTERIM CHAIR: Amar Suryadevara, MD**

MD: SUNY Upstate Medical, 2003

The physicians and staff of the Department of Otolaryngology are committed to excellence in patient care, teaching, and research. The department has dedicated specialists in each area of Otolaryngology who provide expert care for patients. The Department's academic program has a rich history, with the first Professorship of Otolaryngology dating back to 1872. The first full-time chair, Dr. George Reed, took his position in 1964. Since then, many faculty and residents have come through the program.

The residency program provides strong clinical training in all subspecialties of otolaryngology. The Department takes three residents a year. Approximately half of our residents go on to fellowship training and usually match in their top choices. There is also a one-year fellowship in craniomaxillofacial surgery.

The clinical and surgical experience is enhanced through weekly basic science and subspecialty lectures, Grand Rounds Lectures, Multi-Specialty conferences, Morbidity and Mortality Conference, and Journal Club. Throughout the year, a series of surgical anatomy laboratories are held in the College of Medicine gross anatomy lab and a temporal bone dissection course is performed within the department's temporal bone laboratory. PGY-5 residents also partake in a microvascular anastomosis laboratory. Residents also have a total of four months dedicated to research during the PGY-3 year.

Research by faculty covers an array of interests, including intracranial hypertension, Menieres disease, outcomes in cleft and craniofacial surgery, cosmetic and reconstructive facial surgery, head and neck oncologic surgery, health disparities in cochlear implantation, voice disorders, head and neck and sinonasal/skull base malignancies.

## Pathology



**INTERIM CHAIR:**  
Michel R. Nasr, MD, FRCPC

The Pathology Department has a long history of scholarship, discovery, education and innovation. A fully integrated academic department with Divisions that cover most pathology specialty areas, Pathology is innovating in digital imaging, telepathology, bio-informatics and molecular diagnostics. In response to the COVID-19 pandemic, we established an efficient collaboration between Microbiology and Molecular labs to support the increased demand for COVID-19 testing providing over 200,000 diagnostic tests in the community. This year, we established a new Pathology Core Research lab and Digital Pathology with the goal to coordinate activities of clinical and research components in the department, ensuring fully integrated services. The Pathology Department is a key component of the Upstate Cancer Center. This is a program focused on preparing pathology residents and fellows to be

partners in delivering care that is predictive, preventative, personalized and participatory.

The Department has a faculty of 36 physicians and laboratory scientists representing the most comprehensive roster of specialty pathologists in the region. The depth of expertise is offered as a resource to other laboratories and physicians in the region. As the science progresses in identifying specific disease targets making personalized medicine a reality, the Pathology Department is prepared to be a resource in providing guidance to clinicians and patients to make informed treatment decisions based on evidence.

Research in the Department is focused on mammalian cells systems and translation to clinical issues. Specific areas of research include cancer biology, cardiovascular abnormalities, epilepsy, ion channels, nanomedicine, cell signaling, stem cells, wound healing, sepsis and the treatment of liver diseases.

## Pediatrics



**CHAIR:** Gregory Connors, MD, MPH, MBA

MBA: University of Rochester, 2003

MPH: University of Rochester School of Medicine and Dentistry, 1998

MD: SUNY Stony Brook, 1989

Committed to serving children and families across the region, the Pediatric Department's mission includes delivery of the highest quality pediatric care, provision of excellent teaching and development of life-long learning skills for all levels of learners, discovery through important research, and support of our community through outreach and advocacy.

With the only children's hospital in the region, our expert staff is equipped to provide great care in great spaces. Young patients can play video games, enjoy their favorite cartoons, stay in sync with friends and classmates, and act like the kids and adolescents they are. They can reach out and touch their families, day or night. Facilities include pediatric intensive care rooms, pediatric surgery rooms, 12 single-patient rooms customized for

patients with cancer and blood disorders, epilepsy rooms with seizure monitoring capability, school and playrooms, and specialized procedure rooms and equipment, all for children. This year, the Golisano Center for Special Needs opened in its new space, greatly improving our ability to care for children with developmental disorders. The Upstate Golisano Children's Hospital is integral to health care for children across an 18-county region, with faculty and staff who build a better community by providing comprehensive primary care and specialty pediatric services and educating the next generation of pediatricians.

In response to the COVID-19 pandemic, we have supported children's health through widespread viral testing, development of virtual clinic visits, safe hospital visitation practices, COVID-19 vaccination, and education of area medical and nursing professionals and of school leaders through numerous Project ECHO sessions. Our faculty have been important investigators in studying the COVID-19 vaccine in children. Their work helped make COVID-19 vaccinations available to older children.

## Physical Medicine and Rehabilitation



**CHAIR: Robert Weber, MD**

MD: Ohio State University, 1971

The Department of Physical Medicine and Rehabilitation supports clinically and educationally based scholarship. Faculty and residents focus on function, disability, neuro-physiology, technology, quality, and health and wellness. Resident physicians complete at least one project during their 3-year training program that results in an accepted scholarly submission with a PM&R national professional society, publication, educational module, or quality improvement activity.

This year, we partnered with the VA to sponsor a one-year joint Spinal Cord Injury Medicine (SCIM) fellowship. Upstate's Level I Trauma Center designation for adults and children brings the vast majority of patients with spinal cord injuries to University Hospital, and the VA Medical Center's state-of-the-

art Spinal Cord Injury and Disorders (SCI/D) Center is among the largest facilities of its kind in the nation.

Recently, the focus of PMR's clinical research turned to the concern for health and well-being of people with disability. Initially using the TriNetX Research Network, a global federated network of electronic medical record (EMR) data, Department researchers were among the first to recognize the high risks for people with intellectual and developmental disabilities (IDD) and disparities in outcomes related to the pandemic. Collaborations with Syracuse University Aging Studies Institute researchers resulted in publications further defining the risk for mortality among adults with IDD, and influencing equitable vaccination policy at a national level. Additionally, the Department remained active with research and publications in the areas of neuro-physiology, neuro-robotics in spinal cord injury, and health care disparities and differences for people with a variety of disability conditions.

## Psychiatry and Behavioral Sciences



**CHAIR: Thomas Schwartz, MD**

MD: Upstate Medical University, 1995

The Psychiatry and Behavioral Sciences Department is a multidisciplinary department where psychiatrists, psychologists, social workers, nurse practitioners and others work together to provide care to our patients, train students, interns and residents, and conduct research. Faculty train interns and residents to provide several forms of psychotherapy, pharmacotherapy and neuromodulation. In response to the COVID-19 pandemic, our clinicians were able to adapt by offering televideo care resulting in our ability to treat more patients and decrease our no-show rates significantly. We have successfully expanded our Child Psychiatry Consultation Team, Child Psychiatry Division, Addiction Program, High Risk Program, Zero Suicide and other suicide prevention programs, and our Psychiatric Nurse Practitioner Fellowship. We saw the successful launch of our Maternal Mental Health Program. Regarding interventional psychiatry, we launched

both a Transcranial Magnetic Stimulation (TMS) and Nasal Esketamine service. After a hiatus, we participated in another Vagus Nerve Stimulation (VNS) trial in hope of CMS allowing more device implants to help our patients, which reinvigorated our VNS program.

The Department has a strong and parallel set of training curricula for psychotherapy and pharmacotherapy. There is ongoing and increasing support for both clinical and basic science researchers in the areas of functional neuroanatomy and psychiatric genetics. The Department prides itself on protecting its academic nature and continuing to provide high-quality teaching. Psychiatry research also had to manage with some difficulty during COVID-19, but our faculty continued to be productive with several key publications and grant approvals. Our Research Division was awarded 10 grants totaling \$3,000,000 and published several key papers in high end journals. Through research, the Department creates new knowledge, develops more-targeted, more-efficient, more-effective treatment.

## Radiation Oncology



**CHAIR: Jeffrey Bogart, MD**

MD: Upstate Medical University, 1989

The Department of Radiation Oncology at SUNY Upstate Medical University continues to be at the forefront of the latest treatment technology and clinical research, providing residents with a rich and comprehensive training environment. In the 2021-22 academic year, departmental faculty had major presentations at national meetings presenting results of national clinical trials in both pediatric and adult malignancies. We also oversee the radiation oncology section of that annual RSNA meeting, one of the largest

meetings in the world. Our continued focus on quality and implementation of advanced technology throughout our system to further reduce the risk of treatment related side effects. Our basic science initiatives with Dr. Pawar and Dr. Simone continue to advance with the goal of improving the therapeutic ratio for patients undergoing radiotherapy for cancer treatment. In order to expand our geographical reach and provide quality care to surrounding areas, we have developed a strong partnership in both Cortland to the south and Auburn to the west to provide radiation oncology services, and we will be a core part of the planned cancer center in Verona.

## Radiology



**INTERIM CHAIR: Michele Lisi, MD**

MD: Upstate Medical University, 1997

The Department of Radiology provides imaging and interpretation services to all clinical and research departments at University Hospital, as well as to three outpatient facilities. The department provides a full complement of tertiary care radiologic services, including Neuroradiology and Interventional-Neuroradiology, Interventional Radiology, specialized Musculoskeletal, Thoracic and Abdominal Radiology, Women's Imaging, and Molecular Imaging.

resident education possible. For the Department, these goals are not only compatible, but complementary. The success of the program is manifested by residents' performance on the Core and Certifying Board Examinations and by the ease with which they are able to obtain desirable fellowships, academic or private practice positions.

This year, the department is involved in several studies. For example, a post-radioiodine treatment dosimetry and staging by I-131 SPECT/CT and the ARROW study, which is looking at using the PSMA targeting small molecule 1095 with I-131 as a targeting radioligand therapy (RLT) to treat metastatic prostate cancer. Additionally, we have partnered with the Urology Department on a new molecular diagnostic imaging protocol using Tc99m sestamibi to differentiate Oncocytoma from Renal Cell Carcinoma. There is also a collaborative study with MD Anderson and Northwestern called DoorwaY-90. This is a liver-directed therapy trial for individualized dosimetry for treatment of liver tumors.

The Department includes our Diagnostic Radiology Residency program. Within the program, we offer Early Specialization in Interventional Radiology and a 16-month pathway for specialization in Molecular Imaging. We also have post-graduate fellowship programs in Neuroradiology and Interventional Radiology. Faculty and staff are deeply committed to providing the highest quality patient care and

## Surgery



### CHAIR: Robert Cooney, MD

MD: University of Vermont College of Medicine, 1985

The surgical faculty at Upstate is a diverse group of general surgeons, subspecialists, and researchers. With over 40 surgeons, University Surgical Associates is the largest surgical practice in CNY. The Department specializes in treating complicated illnesses and conditions serving as a regional referral center for the area's population of over two million. This year, we introduced several innovative programs including: Intraoperative radiotherapy for early stage breast cancer; Cooling Caps to minimize hair loss with chemotherapy and the use of Savi Scout technology to eliminate the need for wire localization in patients with early breast cancer. Additionally, our Burn Center received ABA verification in 2020.

The general surgery residency training program attracts outstanding students from medical schools

around the country and graduates six chief residents per year. The operative experience for trainees is extensive and diverse including rotations at Upstate University and Community Hospital, Crouse Hospital and the VA Medical Center. Many residents pursue research opportunities as part of their surgical training at Upstate and are recognized nationally for their research.

The Department of Surgery has extensive research facilities that house both surgical and basic research scientists who are full-time members of the Department. Representative areas of investigation in the Surgical Research Laboratories are: gastrointestinal, cardiovascular, pulmonary, platelet and burn physiology, immunology, metabolism and cancer. Elective opportunities for basic and clinical research are available as part of the residency program. In addition to the five clinical years, selected residents are encouraged to spend one or two years in laboratory research. This is usually after the second year of clinical training.

## Urology



### CHAIR: Gennady Bratslavsky, MD

Albany Medical College, 2000

The Department of Urology at Upstate Medical University is a diverse academic group representing numerous urologic subspecialties across various backgrounds and subspecialized trainings. Our mission focuses on education, research, health care, and improving the lives of our community.

Over the past 10 years, the Department of Urology has increased nearly ten-fold in faculty and is now the home of nearly 30 outstanding clinicians and translational scientists covering nearly 20,000 square miles of Central NY. We provide support and outstanding care to every county in CNY and we staff numerous nearby collaborating hospitals and healthcare systems. The clinical expertise is unparalleled with every urologic subspecialty covered by its fellowship trained faculty including urologic oncology, female & pelvic floor medicine, endourology, reconstructive and transgender

medicine, pediatric urology, all aspects of men's and women's health, robotic and minimally invasive surgery, as well as general urologic health.

We remain committed to research with several active wet and dry labs headed by world class scientists in biochemistry and molecular biology, genetics, bioinformatics and artificial intelligence. They are a source of numerous PhD graduates trained internally. Currently, the translational scientists are supported by numerous extramural grants, including R01, R21, DOD, NIH MIRA grant, NY Empire scholarship as well as several intramural and foundation awards. The Department of Urology is home to numerous educational projects for local high school students, medical students as well as resident physicians in training, and is a continuous source of high impact, high quality publication in the field of biomedical research.

Our faculty are committed educators with many serving on committees or participating in projects aimed at improving the quality of education within the College of Medicine.

# Departments OTHER ACADEMIC



## Bioethics and Humanities



**INTERIM CHAIR:**

**Amy Caruso Brown, MD, MS**

MD: Emory University, 2008

The Center for Bioethics and Humanities, a department of the College of Medicine, advances the scholarly and professional understanding of bioethics, law and health humanities. Our goal is to promote health care and health policy that is patient- and family-centered, compassionate, and just. The Department provides education to learners in all of Upstate's colleges and affiliated hospitals, conducts a wide range of empirical and theoretical scholarship, publishes a literary journal, *The Healing Muse*, and provides clinical ethics consultations at both the Downtown and Community Campus and at Crouse Hospital.

Our faculty's specific research interests include the ethics and law of pediatric treatment disagreements, the impact of social media on trust in medicine, ethical issues related to brain injuries and disorders, particularly disorders of consciousness and brain death, and ethical issues related to policies that affect immigrant health and immigrant access to health care in the United States. In addition, Bioethics and Humanities faculty also chair Upstate's Hospital Ethics Committee, lead the Upstate Bias Checklist Collaborative, and direct courses such as Patients to Populations, the Clinical Bioethics Clerkship and the Physicians and Social Responsibility sequence for medical students. Throughout the COVID19 pandemic, our faculty have continued to advise on ethical aspects of hospital policies and operations and to educate faculty, staff and students regarding ethics in the context of the pandemic, including at community and rural hospitals in our referral region.

## Public Health and Preventive Medicine



**CHAIR: Christopher Morley, PhD**

PhD: Syracuse University, Social Science, 2009

The Department of Public Health and Preventive Medicine (PHPM) is committed to educating students and conducting research in public health, preventive medicine, health promotion, and health services. PHPM members recognize the social determinants of health, and the pursuit of health equity, at the core of their training and departmental mission. All PHPM faculty and staff contribute to the intellectual life of the department. The Department of Public Health and Preventive Medicine operates through four divisions. The Division of Education encompasses our Master of Public Health Program (MPH, CAS, MD/MPH, and Public Health Scholars), Preventive Medicine instruction in the MD program, and statistical instruction for biomedical graduate students. PHPM is also an active participant in special pathways to medicine, pre-health workshops for Native American students, and other

efforts to support diversity, equity, and inclusion. The Research Division is centered on the Center for Research & Evaluation (CRE), a core facility offering consultation on research design and analysis. Additionally, faculty research includes studies on community violence, healthy aging and dementia, health workforce and primary care development, maternal/child care, medical education, cancer screening and prevention, behavioral health, disabilities, and COVID-19 epidemiology, to name some examples. The Division of Practice and Outreach focuses upon engagement with external partners to improve use of public health sciences in real-world settings, and is an outgrowth of departmental efforts to support community partners to navigate the realities of the COVID-19 pandemic. Activities include the development of surveillance systems and reports, the design of behavioral messaging campaigns, and program planning and evaluation. The Division of Administration provides coordination and support across divisions, including basic logistics, data management, analysis, writing, and human resource management.

**Back cover: A student in the new  
Pre-Medical Opportunity Program,  
held at SUNY Upstate Medical University  
during summer 2021.**

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