

MEDICINE

NEWS FROM THE DEPARTMENT OF MEDICINE

MATTERS

DECEMBER 2020

 **UVA Health** | DEPARTMENT OF MEDICINE

MISSION

We are dedicated to preventing disease and treating illness, educating and inspiring future leaders in the field of internal medicine, and supporting innovative biomedical research.

VALUES

We strive for a sense of community, connection, and synergy among all faculty, staff, and trainees.

PLEDGE

We will conform to the highest ethical standards, uphold the values of our partner organizations, and give back to our community through public service.

TOGETHER

UNIVERSITY OF VIRGINIA

DEPARTMENT OF MEDICINE

MESSAGE FROM THE CHAIR



There is no doubt that 2020 was a year to remember or perhaps, a year to forget. We have experienced a pandemic, a contentious election, a politically-divided nation, and severe stress and anxiety. Our work has been challenging and anxiety-provoking as we navigate our personal safety while caring for critically ill patients. It has been a hard year. I do hope that all of you are doing well and that you are holding up as we finish the year. We do end the year with the promise of a vaccine and we are actively planning on this administration - certainly, something that we have all been waiting for.

This past year was also a time that tested our resiliency. I am proud of our response and our focus on each other, our community, and our missions. When the pandemic started in March, we mobilized as a team and achieved remarkable accomplishments. Our education team, led by Drs. Brian Uthlaut, Molly Hughes, and Alex Millard along with their colleagues, pivoted a huge amount of educational content to virtual platforms as well as adjusting schedules and supporting our residents and students. Our researchers have slowly returned to their labs after an initial shutdown and many have come together to develop a world-class clinical and basic science program to study COVID-19 (many thanks to Drs. Bill Petri, Jeff Sturek, Coleen McNamara, Patrick Jackson, Alex Kadl, and others). Our clinical teams have worked tirelessly to develop care protocols and staffing plans (many thanks to Drs. Paul Helgersen, Kyle Enfield, Taison Bell, and a host of others). At all points, our administrative staff has provided tremendous support to enable these activities. There are so many to thank and my apologies for not mentioning all of you...you are all so deserving of our gratitude.

So, while this has been a tough year with challenges beyond our control. It has also been a year of great accomplishments, great teamwork, and great dedication to what makes our Department so special. There is no doubt that challenges remain and no doubt that we will persevere and succeed. My sincere thanks for all of your efforts.

With best wishes,

Mitchell H. Rosner, MD, MACP
Henry B. Mulholland Professor of Medicine
Chair, Department of Medicine

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DOM FINANCIAL UPDATE

Department of Medicine Summary of Consolidated Financials FY21 as of October 31, 2020

	Budget YTD	Actual YTD	\$ Variance YTD
Work RVUs	294,282	301,483	7,201
Clinical Receipts (NPSR)	19,557,683	19,965,034	407,351
Total Revenues	64,802,108	61,524,677	(3,277,430)
Total Expenditures	62,744,174	59,960,270	2,783,904
Net Income	2,057,933	1,564,407	(493,527)

Summary Explanation of Variance:

For the fiscal year through October 31, 2020 DOM posted a consolidated net surplus of \$1.6M and an unfavorable variance to net budget surplus of \$494K. Clinical revenues underperformed budget by \$1.1M due to lower than anticipated Indigent Care revenue, delayed Medical Center support (MOU) and payments from Outreach Programs. Non-clinical revenues underperformed budget by \$2.1M driven by the impact of FY20 clinical deficit support and reduced Medical Center support (Funds Flow). Personnel and Non-personnel expenditures outperformed budget driven by the impact of financial mitigation efforts. Total revenues include \$2.9M Accrued Endowment revenue for November through June.



[This Daily Progress story](#) on COVID-19 community testing which has been led by Dr. Mo Nadkarni along with Drs. Amy Salerno and Max Luna, is a great example of the Department of Medicine working to ensure the health of our community and reaching beyond the Health System. Many thanks for their selfless efforts and serving as exemplary role models.
(Photo Sanjay Suchak, UVA Communications)

DOM UPDATES & NOTES



Mark E. Roeser, MD



David S. Wilkes, MD



Kenneth W. Norwood, Jr., MD



Taison D. Bell, MD



Ishan C. Williams, PhD, FGSA



Paul Marshall, PhD, MSN, ANP



Jitendra Gautam, PhD

Awards and Achievements

Congratulations to **Dr. Mark Roeser** who was the lead surgeon and was supported by the many nurses, physicians, therapists, and support staff on the Lung Transplant Team while performing one of the first successful lung transplants in the nation for COVID-19 at UVA Health.

Congratulations to **Dr. David Wilkes**, dean of the School of Medicine, on being elected as a member of the *National Academy of Medicine*. This is considered one of the highest honors in our field.

Congratulations to **Dr. Kenneth Norwood**, who received the *Arnold J. Capute Lifetime Achievement Award by the Council on Children with Disabilities*.

Congratulations to **Dr. Taison Bell** being named one of the “30 Leaders Under 40 Changing Healthcare” for his work in COVID-19 treatment and prevention as well as his efforts to address racial health disparities by *Business Insider*.

Congratulations to **Dr. Ishan Williams**, who was the recipient of *Gordon Streib Distinguished Academic Gerontologist Award by The Southern Gerontological Society*.

Congratulations to **Dr. Paul Marshall** on his five years of service with Hematology/Oncology.

Congratulations to **Dr. Jitendra Gautam** in the Division of Nephrology & Center for Immunity, Inflammation & Regenerative Medicine for his work developing the testing & organizing the test facility for the saliva-based PCR test for Sars CoV-2.

Recent Publications

Veronica Mariotti 1 , Hyo Han 1 , Roohi Ismail-Khan 1 , Shou Jiang Tang 2 **Patrick Dillon** 3 , Alberto J Montero 4 , Andrew Poklepovic 5 , Susan Melin 6 , Nuhad K Ibrahim 7 , Eugene Kennedy 8 , Nicholas Vahanian 8 , Charles Link 8 , Lucy Tennant 8 , Shelly Schuster 8 , Chris Smith 8 , Oana Danciu 9 , Paul Gilman 10 , Hatem Soliman. Effect of Taxane Chemotherapy With or Without Indoximod in Metastatic Breast Cancer: A Randomized Clinical Trial. JAMA Oncol. 2020 Nov 5.
doi: 10.1001/jamaoncol.2020.5572. Online ahead of print.
PMID: 33151286, DOI: 10.1001/jamaoncol.2020.557

Studies Opened Since October 1, 2020

Dr. Varinder Kaur opened a new Melanoma trial in October, “A Phase II, Open-Label, Multicenter r, randomized study of the efficacy and safety of R07198457 in combination with Pembrolizumab versus Pembrolizumab in patients with previously untreated advanced melanoma”. Stages: IV; III D; III C CT.GOV ID: NCT03815058

Primary Kaur, Varinder
CRC: Mahmutovic, Adela



Check Out Mindfulness Matters
A Newsletter from the UVA Mindfulness Center

Welcome To The World



Congratulations to Reed and Abby Davis who welcomed daughter Norah Ruth on November 10, 2020.

Parents, guardians, and caregivers: We've got resources to support you!



Attention parents, guardians, and caregivers: We've got resources to support you! UVA HR and the Provost's Office have created [Parent & Guardian Connections](#), a newsletter for UVA faculty, staff, and team members with school-aged children. The newsletter includes resources featuring education (school news, at-home learning tools, and childcare options), enrichment (extracurricular activities, programming, and creative projects), and engagement (community news, volunteer opportunities, and emotional support). Please share the newsletter broadly with your UVA colleagues.



12 Mental Health and Wellness Resources For You To Know About

FRIDAYS AT NOON
Social distancing in the ERC or via Zoom

[Click for details and schedule.](#)

UNIVERSITY OF VIRGINIA

**MEDICINE
GRAND
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DIVISION OF CARDIOVASCULAR MEDICINE

Message from Dr Christopher Kramer - Division Chief, Cardiovascular Medicine



Christopher Kramer, MD

University of Virginia's Division of Cardiovascular Medicine, led by Christopher M. Kramer, MD, is nationally recognized for excellence in clinical care, research, and teaching. Faculty members provide expert, comprehensive care for all forms of cardiovascular disease through UVA Heart and Vascular Center, which serves more than 4,000 patients at University Hospital and an additional 50,000 in outpatient clinics each year. The division's clinical practice covers a wide range of disciplines, including general cardiovascular disease and prevention, cardiac imaging, diagnostic, and interventional electrophysiology, and cardiac catheterization, valvular heart disease, peripheral vascular disease, basic and advanced heart failure, mechanical support, congenital heart disease, sports cardiology, and vascular diseases.

The collaborative approach the division takes to patient care brings together specialists from cardiovascular medicine, pediatric cardiology, and cardiac surgery, adult cardiac and vascular surgery, and interventional radiology to optimize treatment for each individual patient.

Its faculty and professional research staff excel in the research arena, with over 100 grants and total annual grant funding of approximately \$8 million (directs). The division's research activities range from basic biomedical research to physiologic and device-related clinical studies to large international clinical registries.

Christopher Kramer, MD



James D Bergin, MD



Coleen McNamara, MD



Pamela K Mason, MD



Max Luna, MD



Michael Salerno, MD, PhD



Mohamed Morsy, MD



Anne Shipe



Amanda Scott

Cardiovascular Medicine Awards 2020

Deans Awards

Clinical Excellence – Jim Bergin MD
Research Excellence – Coleen McNamara MD

Department of Medicine Awards

Clinical Excellence – Pam Mason MD and Max Luna MD
Mentoring – Michael Salerno MD, PhD
Teaching – Mohamed Morsy MD
Staff – Anne Shipe, Amanda Scott

DIVISION OF CARDIOVASCULAR MEDICINE

Cardiovascular Medicine Achievements in 2020

New NIH R01's to **Ken Walsh, PhD**, **Coleen McNamara MD**, **Zhen Yan PhD**, **Soichi Sano MD, PhD**

Coleen McNamara MD – named Director of the Bierne C. Carter Center of Immunology (CIC)
Also, received a *LeDucq Foundation Translational Network of Excellence Award* on “B Cells in CV Disease”

Max Luna MD – named Vice Chair of the Dept. of Medicine for Diversity and Inclusion

Michael Salerno MD, PhD was named a UVA Vivien Pinn Scholar with 3 years of project support

Matt Wolf MD, PhD – named the *Paul Dudley White International Scholar* for the highest-rated U.S. abstract at the 2020 AHA BCS Annual Scientific Session

Ken Walsh PhD – garnered a NASA grant on (\$1.8 million) on “*Space radiation exposure and risk mediated by clonal hematopoiesis*”

Todd Villines MD was named to the *Julian Beckwith Chair* and was named Editor-in-Chief of the *Journal of Cardiovascular Computed Tomography*

The Division won 2 National awards for Quality Heart Attack Care

Heart Failure team – named *Gold Plus by AHA Get With the Guidelines*

The **Cardiac Catheterization laboratory** won the highest rating on the ACC Cardiosmart rating scale

The **Structural Team** performed the 1st Transcatheter Tricuspid Valve Replacement at UVA in July, which was the 25th in the U.S. and 52nd in the world

The **Structural Team** performed 2 Live Cases for the TCT meeting in October

Welcome New Faculty

Michael Ayers MD – Residency and CV Fellowship at the University of Pennsylvania

Steven Philips MD – Residency, Chief Residency, CV and Heart Failure/Transplant Fellowships at University of Texas, Southwestern

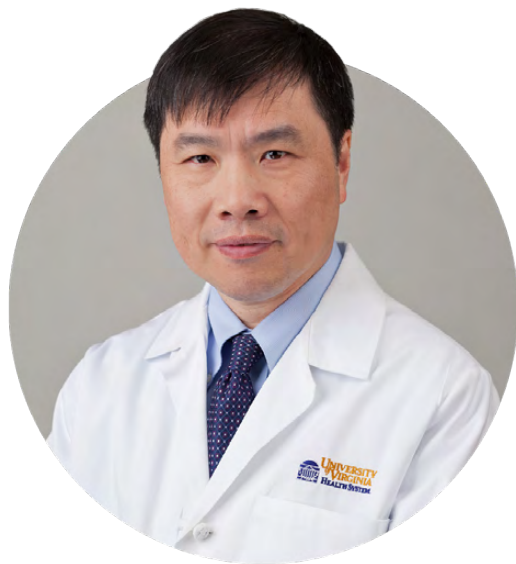
Michael Valentine MD – in practice at Centra Health in Lynchburg for 30 years, Past-President of the American College of Cardiology



**Did you know that UVA
Cardiovascular Medicine
has a Twitter account?
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DIVISION OF ENDOCRINOLOGY

Message from Dr. Zhenqi Liu - Division Chief, Endocrinology & Metabolism



Zhenqi Liu, MD

As one of the finest endocrinology divisions in the country, the Division of Endocrinology and Metabolism boasts many outstanding academic and clinical leaders in endocrinology and metabolism, and its faculty members strive to provide exceptional patient care and training to the next generation of physicians and scientists in addition to making cutting-edge scientific discoveries in basic, translational and clinical endocrine research. The year 2020 has proved to be one of the most difficult and unsettling years but our faculty and staff continue to excel in our tripartite missions. The Division currently has thirty-six faculty members (twelve full professors, nine associate professors, eleven assistant professors, and four NPs), and welcomed in 2020 one new member to its faculty: Kaitlin M. Love, MD. As Division Chief, I feel privileged and honored to work with so many talented, kind, and generous people.

Zhenqi Liu, MD

Awards, Achievements, Recognitions, and Promotions

AWARDS

Robert M. Carey, MD

- Distinguished Scientist of the American Heart Association – 2020
- NIH R01 grant application received a 2nd percentile score and will be funded

FACULTY PROMOTIONS

Greg Hong, MD - Promoted from Assistant Professor of Medicine to Associate Professor of Medicine

Chris McCartney, MD - Promoted from Associate Professor of Medicine to Professor of Medicine

NOTABLE ACHIEVEMENTS

Sue Brown, MD - FDA authorizes the first interoperable, automated insulin dosing controller designed to allow more choices for patients looking to customize their individual diabetes management device system that Sue Brown et al reported in the recent [NEJM paper](#).

Leon Farhi, PhD - Dr. Leon Farhi's project "Machine Learning Technology for Prediction of Future Glucose Fluctuations to Enable a New Generation of Adaptive Glucose Control in Diabetes" was selected for funding by Virginia Commonwealth to support new research commercialization in emerging technology sectors.

Heather Ferris, MD, PhD - Washington Post: [Five Myths About Diabetes: No you can't get it from eating too many sweets](#)

Gregory Hong, MD - Appointed as the new Endocrine Division Fellowship Program Director

Kaitlin M. Love, MD - 2020 iTHRIV (integrated Translational Health Research Institute of Virginia) scholar. This is a pan-University mentored career development award with the major goal of training small groups of junior faculty seeking a clinical and translational research career. The award begins on July 1, 2020.

Chris McCartney, MD - Appointed DOM Vice Chair for Faculty Affairs - The Vice Chair for Faculty Affairs is a senior-level administrative position that leads Departmental efforts to support faculty members in all of their academic activities and to promote health, wellness, diversity, and inclusion in our community.

DIVISION OF ENDOCRINOLOGY

FACULTY RECOGNITION AND ACHIEVEMENTS

Multiple faculty members were recognized at the national and departmental levels for their career achievements in 2020: **Richard J. Santen, MD** received the *2020 Fred Conrad Koch Lifetime Achievement Award* from the *Endocrine Society*. This award is the highest honor bestowed by the *Endocrine Society* in recognition of lifetime achievements and exceptional contributions to the field of endocrinology. **John C. Marshall, MD, PhD** received the *2020 Outstanding Leadership in Endocrinology Award* from the *Endocrine Society*. This award recognizes outstanding leadership and innovative research in the field of endocrinology and dedication to the *Endocrine Society*. **Robert M. Carey, MD** received the *2020 American Heart Association Distinguished Scientist Award*. The award is the highest award of the AHA in science and the *Distinguished Scientist* designation honors AHA professional members who have made extraordinary contributions to cardiovascular and stroke research. Four faculty and staff members were recognized for their excellence in clinical care (**Christine Eagleson, MD**), mentorship (**Jennifer Kirby, MD, PhD**), research (**Rita Basu, MD**), and Education (**Anne Wolf, MS, RD**). **Christopher McCartney, MD** was promoted to *Professor of Medicine* and **Gregory Hong, MD, PhD** to *Associate Professor of Medicine*.

Virginia Center for Diabetes Prevention & Education (VCDPE) VCDPE has had an exceptional year carrying out their mission to provide high quality, evidence-based training, and increase access to diabetes and diabetes prevention programs using innovative methods. With the pandemic and shifting demand towards telehealth, VCDPE has been on the forefront of training, educating, and providing technical assistance around telehealth to diabetes and diabetes prevention programs in Virginia and across the Nation. We have adapted our *Diabetes Tele-education* and *Diabetes Prevention Program (DPP)* to support people who live in rural Virginia to attend the programs from home. We have released three new trainings to support professional's delivery of DSMES and National DPP using telehealth - a live, synchronous [*Advanced Training in Distance Learning for National DPP*](#) through our Center, and two online accredited courses on delivering [*DSMES and National DPP using telehealth through UVA's Telehealth Village*](#).

CLINICAL CARE

Division faculty members carry out the clinical mission in both outpatient and inpatient settings to care for patients with a broad spectrum of endocrine disorders. The Division houses an internationally renowned pituitary/neuroendocrinology program (**Mary Lee Vance, MD, John C. Marshall, MD, PhD, and Gregory Hong, MD, PhD**), a highly respected endocrine hypertension program (**Robert M. Carey, MD, Helmy Siragy, MD, and Shetal Padia, MD**), and a robust clinical diabetes care program that provides outstanding care to patients with diabetes both in our outpatient clinics and inside the hospital (led by **Jennifer Kirby, MD, PhD**). We launched a highly successful *Advanced Diabetes Management* clinic (directed by **Andy Basu, MD**) with a focus on diabetes technology (mainly continuous glucose monitoring and insulin pumps). In addition, our transgender care program is experiencing rapid growth and expansion.

RESEARCH

The Division has a rich portfolio of research programs that focus on diabetes (pathophysiology, complications, artificial pancreas, and exercise physiology), endocrine hypertension, and neuroendocrinology/polycystic ovary syndrome. Our faculty members have made major advances in artificial pancreas/automatic insulin delivery research. In conjunction with the *Center of Diabetes Technology*, our faculty developed the first FDA-approved, interoperable, automated insulin dosing controller designed to allow more choices for patients looking to customize their individual diabetes management device system. This system has been in widespread clinical use now and is making a real impact on diabetes management. We received two new R01 grants this year (Brown: Biobehavioral human-machine co-adaptation of the artificial pancreas; Liu: Effects of exercise and GLP-1 agonism on muscle microvascular perfusion and insulin action) in addition to Virginia state grants and multiple industrial grants. Following last year's stellar record of three faculty members receiving career development awards, **Kaitlin M. Love, MD** was selected by the *integrated Translational Health Research Institute of Virginia (iTHRIV)* as 2020 iTHRIV scholars, a pan-University mentored career development award. The major goal of the program is to train small groups of junior faculty seeking a clinical and translational research career within the University. In the past 12 months, Division faculty had a total of 82 publications.

EDUCATION

We have a nationally respected fellowship training program with seven clinical fellows. The program is led by program director **Gregory Hong, MD, PhD**. Faculty members are fully committed to fellows' education as well as training of medical students, medical residents, and postdoctoral research fellows. The Division has one neuroendocrine training grant, directed by **Eugene J. Barrett, MD, PhD, and Andy Basu, MD**. We aim to prepare trainees for an independent career in clinical care, academic research, and medical education and we have multiple faculty members who are educational leaders at national GME levels.

Recent Publications or Presentations

Robert M. Carey, MD

Kemp BA, Howell NL, Gildea JJ, Keller SR, **Carey RM**. Identification of a primary renal AT₂ receptor defect in spontaneously hypertensive rats. *Circulation Research*. 2020; 126:644-659. doi: 10.1161/CIRCRESAHA.119.316193

Hilliard-Krause LM, Jui ATS, Jones ES, Del Borgo MP, Aguilar MI, Kemp BA, Denton KM, **Carey RM**, Widdop RE. Renal functional effects of the highly selective AT₂R agonist, β -Pro-Ang III, in normotensive rats. *Clinical Science (London)*. 2020; doi:10.1042/CS20200153.

Li J, Minczuk K, Massey JC, Roy RJ, Paul S, Patrie JT, Kramer CM, Epstein FH, **Carey RM**, Taegtmeyer H, Keller SR, Kundu BK. Metformin improves metabolic, functional and structural abnormalities in spontaneously hypertensive rat hearts. *Journal of the American Heart Association*. 2020;9:e015154. doi: 10.1161/JAHA.119.015154.

Brown JM, Siddiqui M, Calhoun DA, **Carey RM**, Hopkins PN, Williams GH, Vaidya A. The unrecognized prevalence of primary aldosteronism. *Annals of Internal Medicine*. 2020; doi: 10.7326/M20-0065. (article highlighted by editorial).

Sigmund CD, Appel L, Arnett D, Bosworth H, Cushman W, Dennison-Himmelfarb C, Hall J, Harrison D, McDonough A, Oparil S, Osborn J, Raizada M, **Carey RM**. Report of the NHLBI Working Group on Hypertension: Barriers to translation. *Hypertension*. 2020; doi: 10.1161/HYPERTENSIONAHA.119.13887

Carey RM. Treatment of resistant hypertension: a 2020 update. *Progress in Cardiovascular Disease*. 2020; doi: 10.1016/j.pcad.2020.08.001.

Carey RM, Whelton PK. The evidence for the universal BP goal of < 130/80 mm Hg Is strong: Controversies in Hypertension – Pro. *Hypertension*. 2020; doi:1161/HYPERTENSIONAHA.12014647.

Gorelick P, Whelton PK, Sorond F, **Carey RM**. Blood pressure management in stroke. *Hypertension*. 2020; doi:10.1161/hypertensionaha.120.14653

Carey RM, Wang J-G . Evidence that renin-angiotensin system inhibitors should not be discontinued due to the COVID-19 pandemic. *Hypertension*. 2020; doi: 10.1161/HYPERTENSIONAHA.120.15263.

Carey RM. [Endocrine Causes of Secondary Hypertension. American Heart Association Comprehensive Guide on Hypertension.](#)

Siddiqui M, Domiczak AF, Touyz RM, **Carey RM**, Basile J, Heslin MJ, Winoker T, Calhoun DA, Oparil S, Dudenbostel T. Case of episodic and positional hypertension: diagnosis and treatment. *Hypertension*. 2020; HYPERTENSIONAHA12015243. doi: 10.1161/HYPERTENSIONAHA.120.15243.

Vaidya, A, **Carey RM**. The evolution of primary aldosteronism: simplifying the clinical approach. *Journal of Clinical Endocrinology and Metabolism*. 2020; doi:10.1210/clinem/dgaa606.

Carey RM. 2018 redefinition of resistant hypertension: prediction of major adverse outcomes. *Journal of Clinical Hypertension*. 2020; doi: 10.1111/jch.14042

D'Costa MR, Taler SJ, **Carey RM**, Basile JN, Burszty M, Bhalia V, Schwartz GL. A case of uncontrolled hypertension in an elderly man on multiple antihypertensive drugs. *Hypertension*. 2020; doi: 10.1161/HYPERTENSIONAHA.120.15310.

DIVISION OF ENDOCRINOLOGY

Recent Publications or Presentations (continued)

William B Horton, MD

Horton WB, Barrett EJ. Microvascular dysfunction in diabetes mellitus and cardiometabolic disease. *Endocr Rev* 2020 Oct 30; bnaa025. doi: 10.1210/endrev/bnaa025. PMID: 33125468

Horton WB, Jahn LA, Hartline LM, Aylor KW, Patrie JT, Barrett EJ. Hyperglycemia does not inhibit insulin's effects on microvascular perfusion in healthy humans: a randomized crossover study. *Am J Physiol Endocrinol Metab* 2020; 319(4): E753-762. PMID: 32830553

Kaitlin M. Love, MD

Love KM, Liu J, Regensteiner JG, Reusch JEB, Liu Z. GLP-1 and insulin regulation of skeletal and cardiac muscle microvascular perfusion in type 2 diabetes. *Journal of Diabetes*. 2020 Apr 9. doi: 10.1111/1753-0407.13045. [Epub ahead of print] Review

Welcome New Faculty

Kaitlin M. Love, MD

Please welcome **Kaitlin M. Love, MD** to the faculty of the Division of Endocrinology and Metabolism as an Assistant Professor of Medicine, effective September 1, 2020. Dr. Love will focus her effort on developing an independent clinical research program on insulin action and diabetes complications. I look forward to working with Katie closely and witnessing her academic stride.



Endocrine Fellows 2020-2021

Janice Lee, MD, Izzah Vasim, MBBS, Jeremy Steinman, MD, Jeanette Owusu, MD, Peggy Amoakohene, MD, Ronak M Patel, MD, Janice McMillan, MD



Virginia Center for Diabetes Prevention & Education group [VCDPE]
Top Left : Viola F. Holmes, MS, RD, CDE - Education and Outreach Manager
Top Right: Anne M. Wolf, MS, RDN - Director of the VCDPE
Bottom Center: Rebecca T. Jolin, MS - Health Education Coordinator



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DIVISION OF HEMATOLOGY AND ONCOLOGY

Message from Dr. Karen K. Ballen - Division Chief, Hematology and Oncology



Karen K. Ballen, MD

Outcomes for patients with solid tumors, malignant and non-malignant hematologic disorders, and for recipients of cellular therapy/stem cell transplant continue to improve, through compassionate, multidisciplinary care, and scientific advances. Using molecular diagnostics, we are able to offer targeted treatment for many cancers, and immunotherapy has replaced traditional chemotherapy in many cases. It is the mission of our Division to bring these cutting-edge therapeutics to the clinic, to advance the field via our translational and clinical research programs, and to provide the highest-quality training to the next generation of clinicians and academicians. Most importantly, we seek to serve our community, through education, cancer prevention, and improved access to high-quality care.

The Division of Hematology/Oncology has continued to grow in inpatient numbers, clinical trials, and publications. The Division plays an important role as the UVA Cancer Center progresses towards achieving NCI Comprehensive status designation. Our NCI Cancer Center Grant will be submitted in 2021.

COVID has of course affected all of us. Our inpatient and outpatient programs are back to full operation, with appropriate social distancing. Our nurses have innovated ways to increase electronic communication with families and to provide support for our patients during long hospitalizations.

A highlight of the year was our Division Retreat at beautiful Morven Farms. This was a special time to interact with colleagues and address important issues facing our division, including mentorship, wellness, and strategic planning. It has been a privilege to assume the role of Division Chief for Hematology/Oncology. I want to personally thank Mike Williams for his many years of outstanding service, for recruiting many members of our team (including me) to UVA, and for being such an outstanding role model and mentor.

Karen K. Ballen, MD

New Division Highlights, Programs, and Achievements

- A new multidisciplinary Breast Care Center in our Pantops location
- Expansion of CAR-T cells and cellular therapy– generated in the new Center for Human Therapeutics in Pinn Hall under the leadership of **Drs. Larry Lum, John Luckey, Tammy Kindwall-Keller, and Indu Varadarajan**
- Growth of a partially State-supported Adult Sickle Cell Disease program – **Dr. Kelly Davidson**
- **Dr. Pranav Patel** is currently serving as Chief, Department of Medicine NHUVA Culpeper Hospital
- **Dr. Pranav Patel** has been elected to the NHUVA Culpeper Hospital Medical Executive Committee (term to begin Jan 1, 2021) for an at-large position
- **Drs. Kelly Davidson, Ryan Gentzler, Richard Hall, and Michael Keng** were promoted to Associate Professor
- **Dr. Archana Thakur** was promoted to Associate Professor of Research
- **Dr. Patrick Dillon** was promoted to Associate Professor with Tenure
- **Drs. Thomas Loughran, Su-Fern Tan, Fran Garrett-Bakelman, David Feith, and Mike Keng** were among those awarded the UVA School of Medicine Team Science Award

Welcome New Faculty and APPs!

Owen O'Connor, MD, PhD - American Cancer Society Research Professor

Emily Ayers, MD, Heme Malignancy-Lymphoma

Enrica Marchi, MD, PhD, Heme Malignancy-T cell Lymphoma

Julie Armatas, ACNP-BC, RN, CCRN – Benign Hematology

Julia Gyampoh, RN, MSN, ACNP – Outpatient Infusion Center

Melody Noble, RN MSN, AG-ACNP – Outpatient Infusion Center

DIVISION OF HEMATOLOGY AND ONCOLOGY

Clinical trials and translational research programs have been highly productive this year. Several items of note.

- The opening of clinical trials at our Pantops Location-**Dr. Liz Gaughan**
- Incorporation of Early Palliative Care for patients with relapsed leukemia- **Drs. Karen Ballen** and **Leslie Blackhall**
- Numerous GI (**Drs. Kunk, Le, Reilley**), GU (**Drs. Devitt and Dreicer**) and Breast trials (**Drs. Brenin, Dillon, Millard**) including important investigator-initiated trials (IITs), **Dr. Kaur** (Head & Neck cancer), **Dr. Gaughan** (Melanoma), **Dr. Kindwall-Keller** (SCT) and **Dr. Michael Douvas** (ALL)
- **Drs. Patrick Dillon** and **Craig Portell** are sub-investigators for a new RO1 grant, “Dose finding designs for late-onset toxicities”.
- **Dr. Patrick Dillon** received a new Department of Defense grant “Investigation of the microbiome composition as a biomarker for evaluating impacts from COVID-19 and modulation of immunotherapy”.
- **Dr. Fran Garrett-Bakelman** received a prestigious 5 year NASA grant “Space radiation exposure and risk mediated by clonal hematopoiesis.”
- **Dr. Lawrence Lum** received a NIH grant for the Convalescent Immune Plasma for the Treatment of COVID-19: Mechanisms Underlying the Host Immunologic and Virologic Response.

Education

The Division has an outstanding and competitive fellowship program in a dynamic, rapidly changing field led by **Dr. Richard Hall**, Program Director and Associate Program Directors, **Drs. Laahn Foster** and **Trish Millard**. The fellowship program will be growing and will accept four new fellows in July 2021. This will increase our fellowship program from nine to twelve fellows by 2023. This year we have new curricula to teach resiliency skills, community oncology, and clinical trial development.

William W. Grosh, MD Retiring



William W. Grosh, MD

Dr. William Grosh will be retiring in December 2020. Dr. Grosh, “Grosh”, has been a valued member of the UVA Hematology/Oncology faculty since 1988. He is a national leader in medical oncology, particularly the complex disease of sarcoma, and he attracts patients from throughout the Commonwealth of Virginia, as well as other parts of the Southeast. He is beloved by his patients who frequently commend his thoughtful approach, his dedication, and his availability to his patients.

Dr. Grosh has trained countless students, residents, fellows, and junior faculty members. He is a patient and committed educator, and well respected by his trainees. He has led by example, with collegiality, insight, and tireless effort.

On a national level, he is recognized by Castle Connolly as one of America’s Top Doctors from 2001 to the present, a remarkable 20-year achievement. And he has started his own not-for-profit, Dream Makers, to serve terminally ill children.

In addition, Dr. Grosh is a person of the utmost integrity who is a wonderful role model for our division, and for the many Virginia oncologists that he has trained. He has had a deep and lasting impact, improving the care of patients in Virginia and beyond, and enhancing the education of residents, fellows, and faculty.

Bill, we will miss you and wish you well on the next stage in the journey.

DIVISION OF HEMATOLOGY AND ONCOLOGY



2020 Hematology/Oncology Faculty



2020 Hematology/Oncology Graduating Fellows
Victor Orellana-Noia, Erin McLoughlin, Daniel Reed

DIVISION OF HEMATOLOGY AND ONCOLOGY

2020 Division Retreat at Morven Farms



We have accomplished a lot with great teamwork in 2020, and look forward to our continued success in 2021. ~ Dr. Karen Ballen

DIVISION OF INFECTIOUS DISEASES

Message from Dr. Eric Houpt, MD - Division Chief, Infectious Diseases



Eric Houpt, MD

The year 2020 has been memorable for the Division of Infectious Diseases and International Health, having been marked by enormous COVID-19 efforts, nine new R01s to nine faculty, and an always busy clinical workload. Included in our overview are the details of the division's incredible accomplishments. The Infectious Diseases faculty, fellows, and staff are looking forward to 2021 with hopes of seeing some light at the end of the tunnel.

Eric Houpt, MD

Enormous COVID Efforts, Several Items of Note

- Drs. Sifri, Jackson, Bell, Mathers, Platts-Mills, Donowitz, Muto, McManus, Hogan, Enfield, and Madden have staffed the Hospital Epidemiologist/COVID pager 24/7 since March 11 2020

- Amy Mathers: COVID testing in Clinical Microbiology, wastewater testing at UVA, swab production for Virginia/VDH

- Josh Eby: Medical Director, Employee Health
- Patrick Jackson: Adaptive COVID-19 Treatment Trial, NIH ACTT COVID Clinical Trial Consortium
- Scott Heysell: COVID-19 convalescent plasma trial/ COVID-19 research prioritization committee/ COVID-19 phase 1 vaccine trial
- Barb Mann: BSL-3 COVID laboratory
- William Petri and Mayuresh Abhyankar: COVID immunotherapy and vaccine research using BSL3 mouse model
- Girija Ramakrishnan: COVID Research Ramp up
- Mami Taniuchi: COVID-19 surveillance in Bangladesh and Pakistan, more below
- Eric Houpt and Elizabeth McQuade: Virginia Coronavirus Serology Project, VDH

Exceptional NIH Year: 9 New R01s in the Division to 9 Faculty:

- Cirle Warren: Alanine-glutamine supplementation of standard treatment for C. difficile infection
- Stacey Burgess: Gut microbiome communication with the bone marrow regulates intestinal inflammation
- James Platts-Mills: Epidemiology and impact of diverse Campylobacter species in low-resource settings
- Chelsea Marie: the role of PKC in cryptosporidiosis
- Scott Heysell: Urine Colorimetry for Tuberculosis Pharmacokinetics Evaluation in Children and Adults
- William Petri, Jr: Role of Th17 in Severe and Recurrent C. difficile Infection
- Margaret Kosek: Genomic Epidemiology of Campylobacter to Improve Disease Control in Low and Middle-Income Countries
- Eric Houpt with Amy Mathers, Hardik Parikh, Scott Heysell, and Girija Ramakrishnan: Mycobacterium avium lung disease
- Molly Hughes: chemokines and antimicrobial resistance



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DIVISION OF INFECTIOUS DISEASES

Ivy Foundation Awards for COVID-19 Research

Bill Petri

- Mucosal Subunit Vaccine for SARS-CoV2
- AI-assisted SARS-CoV-2 Virus Detection based on Label-free Electrical Biosensor

Bill Petri, Barb Mann

- IL-13 as a Predictor and Contributor to Hypoxic Respiratory Failure in COVID-19
- Scott Heysell, Craig Slingsluff, and Brent French
- Clinical Trial of Multi-Peptide Vaccine for SARS-CoV-2 and Future SARS Variants
- Pre-Clinical Trials of Peptide/Gene Vaccine Combinations for SARS-CoV-2 and Future SARS Variants

Patrick Jackson

- A Killed Whole Cell Reduced Genome Bacterial SARS-CoV-2 Spike Protein Stalk Region Vaccine

Amy Mathers

- Elected to the Council-on-Microbial-Sciences (term 2020-23) for the American Society of Microbiology (there are only 10 members nationally).
- UVA School of Medicine Dean's Clinical Excellence Award

Becca Dillingham

- Received the 2020 Edlich-Henderson Innovators of the Year award for their work on improving Care Retention and Outcomes Among HIV patients with Innovative Mobile Health Technology. The award recognizes University faculty members or a team of faculty researchers whose work is making a major impact on society.
- Received a sub-award from the University of Colorado to adapt PositiveLinks for their Children's Hospital Colorado Immunodeficiency Program. The project involves Bree Campbell.
- Received a grant from the Virginia Department of Health to conduct an evaluation of the Comprehensive Harm Reduction program in Virginia. This program is a key strategy to reduce the spread of infectious diseases associated with injection drug use as well as promoting better health for people who inject drugs. This involves Chelsea Canan, Jackie Sherbuk, and Julie Schexnayder.
- Received NOA for an R34 sub-award with University of Texas-San Antonio, "PositiveLinks for Youth (PL4Y): Adapting a multimodal evidence-based mHealth intervention to increase engagement in HIV care."
- Received a renewal from VDH to continue Hepatitis C treatment and training program (\$316,000 for the upcoming year)

PositiveLinks Team was awarded the American Academy of HIV Medicine/Institute for Technology for Health Care in HIV Practice Award. This annual award administered by the American Academy of HIV Medicine is given to the most outstanding HIV care-related technology and includes a \$20,000 award. Congrats to the PL team!

Bill Petri

- Received the 2021 Maxwell Finland Award for Scientific Achievement, National Foundation for Infectious Diseases

Chris Arnold

- Received the 2020 Virginia American College of Physicians Inpatient Subspecialist Teaching Award

Chris Moore

- Received \$100K from GIDI for his Collaborative Seed Grant proposal, "Determining predictive models of bloodstream infection by using big data and deep learning".

Eric Houpt

- Elected a Fellow of the American Academy of Microbiology
- 2019 OurHealth Charlottesville/Shenandoah Valley Best Bedside Manner Award
- Appointed to Research Committee IDSA

James Platts-Mills

- Awarded a grant from BMGF "Global Pediatric Diarrhea Surveillance (GPDS) Analysis." \$857,136
- Awarded a grant from World Health Organization "Meta-analysis of input data of enteric diseases studies used by IHME and MCEE." \$19,563
- Received the Early Achievement Award from the UVA Medical Alumni Association

Jhansi Leslie

- Awarded an NIH F32 grant "The role of the 'Western' diet in increasing severity of Clostridium difficile infection"

DIVISION OF INFECTIOUS DISEASES

Continued ID Accomplishments and Achievements

Kate McManus

- Elected Co-chair of HIVMA's National Ryan White HIV Medical Providers Coalition Steering Committee
- Awarded the "Thomas P. McCormick Advocacy Scholarship" to the SYNC Conference by the Communit Access National Network, which is given annually to an advocate dedicated to improving access to HIV care and treatment under Medicaid.

Mami Taniuchi

- Awarded a grant from BMGF (OPP1193124 ES TAC grant's 3rd supplement) \$260,000. Supplement will support the continuation of the polio and AMR surveillance for 12 months in Bangladesh and to develop a NGS based direct detection assay for polio from sewage impacted water.
- Received a grant "COVID-19: Surveillance using environmental samples in Bangladesh" to do sewage surveillance for SARS-CoV-2 in Dhaka from Bill and Melinda Gates Foundation in the amount of \$864,995
- Sewage surveillance work was featured in [Washington Lee University's The Column](#)
- With Neng & Roshne – tested wastewater for SARS-CoV-2 to assist Amy Mathers with the UVA sewage study

Molly Hughes

- Elected to the Harrison Teaching Professorship

Margaret Kosek

- Received a grant from Bill and Belinda Gates Foundation "Vaccine trial site for Shigella vaccine" (5-6 yrs.)
- Received a CDC grant "Conducting Integrated Infectious Disease and Public Health Research in Peru" (5 yr.)
- Received a COVID supplement to NSF ROSES grant (Environmental Determinants of ID)- support for 4 UVA undergrad/grads who are working with JH COVID dashboard and high-level resolution data for Latin America
- Received a supplement from UN International Atomic Energy Agency contract for metabolomics assays of environmental enteropathy

Liz McQuade and James Platts-Mills (Co-I)

- Awarded a grant from Wellcome Trust "Impact of Shigella, rotavirus, and other enteric vaccines on aetiology-specific diarrhoea, antibiotic use, and exposure of subclinical infections to antibiotics among children in low-resource settings."

Taison Bell

- Awarded the Inpatient attending of the year award by the internal medicine residents
- Awarded the Darden Z Society's Edgar P. Shannon Award from Darden
- Awarded the C. Stewart Sheppard Distinguished Service Award from Darden
- Received the Business Insider Award for top 30 under 40 transforming the future of healthcare

Yusra Alkabab

- Received the Burroughs Wellcome Fund/ ASTMH postdoctoral fellowship in tropical infectious diseases "Glycemia dynamics and the impact on tuberculosis treatment in Bangladesh"

Chris Moore, Tania Thomas and Scott Heysell

- Received a U01 for an investigator-initiated clinical trial, "A randomized clinical trial of early empiric anti-Mycobacterium tuberculosis therapy for sepsis in sub-Saharan Africa."

Bill Petri, Becca Dillingham, Greg Townsend, and Eric Houpt

- Were presented the Research Achievement awards by President Ryan. 4/9 awards went to our Division (ID&IH)

Kate McManus and Liz R. McQuade

- Awarded a GIDI grant - "Inequity in Infectious Diseases" on the topic of "AIDS Drug Assistance Program Support for People Living with HIV with Low Incomes: Quantifying the Impact of Health Policy Changes, Structural Racism, and COVID-19."

Tania Thomas and Jie Liu

- Received an iTHRIVE supplement to investigate the temporal dynamics of SARS-CoV2 transmissibility by measuring subgenomic mRNA from nasopharyngeal swabs. Part of a multi-project supplement with Jeff Sturek (Pulm/Critical Care) and Larry Lum (Hematology/Oncology) "Convalescent Immune Plasma for the Treatment of COVID-19: Mechanisms Underlying the Host Immunologic and Virologic Response"

DIVISION OF NEPHROLOGY

Message from Dr. Mark D. Okusa - Division Chief, Nephrology



Mark D. Okusa, MD

After almost a year of grief, loss, fear, and uncertainty, we feel a new sense of hope and change, a time of “possibilities”. We look forward to the continued growth and success of our division, in spite of all the challenges we faced, we had an excellent year and continue to thrive. We know that we still have a way to go before we can claim COVID-19 victory but already the tireless, undaunted actions of this institution and all the individuals within have been instrumental in maintaining a heroic standstill. We are grateful to our nurses who cannot work remotely but are on the front lines, in harm’s way, working every day. While we grow closer to a vaccine, we will remain vigilant and committed to the safety and best interests of our patients and staff alike and continue to make decisions comprised of compassion, empathy, and concern.

With our research teams return to Pinn Hall, we look forward to furthering collaboration, not just within our division but across all the corridors of science, medicine, and beyond.

New faculty member Dr. Daphne Knicely will join us from Johns Hopkins in December. She completed her fellowship at UVA, and her return as Associate Professor is enthusiastically welcomed.

Mark D. Okusa, MD

UVA Kidney Food Pharmacy



Thanks to an innovative collaboration between the Blue Ridge Area Foodbank (BRAFB) and the UVA Dialysis Program, patients at the UVA Kidney Center Dialysis Unit have improved access to healthy food options, through the charitable food system. This initiative is part of a multi-year, statewide partnership with Sentara Healthcare, the pilot program was launched in March 2020. The majority of UVA's 900 plus dialysis patients spend about 12 hours/week in the dialysis unit allowing time for interaction and education with our registered dietitians. Many of our patients have food insecurity and lack access to nutritious options, in many cases, they must choose between eating healthy, buying medication, or paying the bills. After evaluating food preferences and allergies, patients receive a bag of wholesome, medically-tailored groceries as often as they need it.

With the onset of COVID-19, we saw an even greater need, and quickly expanded the program, currently, we are serving approximately 40 patients/month and have distributed over 500 bags. Our amazing dietitians, Elaine McCall, MS, RDN, CSR, and Thessa Churillo, RDN, CSR, are coordinating all aspects of the ordering, storing, and distribution for weekly food bags, largely shelf-stable food due to space limitations and lack of refrigeration. More expansion plans are in the works, and in other healthcare settings, Orange and Augusta will benefit from this outstanding initiative.

Lesley McPhatter, MS, RDN, CSR

DIVISION OF NEPHROLOGY

Division of Nephrology Faculty Spotlight



Angie Nishio-Lucar, MD

Let's shine a light on one of our faculty members, **Dr. Angie Nishio-Lucar**. Most days you will find her in the transplant clinic, her energy easily matches the fast-paced environment she works in. Her home life is equally busy, her ability to multi-task during zoom meetings is the stuff of legend. If that isn't enough, she still finds time to participate in the Latino Health Initiative, an organization of the University of Virginia and directed by Max Luna, MD, Associate Professor of Medicine, that aims to improve the health and wellbeing of the large Latino community in the Charlottesville area. The turnout at their mobile health clinics Pre COVID-19 was impressive, considering that these are people less likely to seek timely medical attention for a variety of reasons. During the pandemic, they have provided targeted COVID-19 testing in the Southwood Community in Charlottesville and the Thomas Jefferson Health District. Her work with this particularly vulnerable population goes beyond the norms of clinical expertise and compassionate care, it is an architectural endeavor that requires building bridges.

Division of Nephrology Subspecialties Spotlight



Corey Cavanaugh, DO

The UVA Glomerular Disease Clinic was founded by **Dr. Corey Cavanaugh** in the spring of 2020 with the focus of providing sub-specialized care to patients that carry a diagnosis of glomerular disease, such as membranous nephropathy, minimal change disease, FSGS, and vasculitis. With Sue Ellen Bailey RN as care coordinator, they deliver comprehensive care for these rare and complex diseases. Their ability to offer patients the most up-to-date and evidence-based care in a rapidly changing field, while also providing access to novel drug trials sets them apart. Importantly they also offer prolonged visit times, to allow for patient education. Currently, they see patients on Wednesday mornings once per month at the kidney center in the west complex building.



Amanda DeMauro Renaghan, MD

The UVA Onco-Nephrology Clinic at the Emily Couric Clinical Cancer Center was founded in December 2017 by **Dr. Amanda DeMauro Renaghan**. Together with her care coordinator Kelly Phillips, RN, Dr. Renaghan cares for patients living with cancer and kidney, electrolyte, and blood pressure disorders. This population includes patients with hematologic and solid malignancies, those who have undergone stem cell transplantation, and those with nonmalignant hematologic conditions like sickle cell anemia. Over the past year, the providers at the Onco-Nephrology Clinic completed nearly 80 initial visits and over 200 follow-up visits, working to deliver the best possible care in coordination with their Oncology colleagues in a familiar environment. Dr. Renaghan currently sees patients on Friday afternoons at the ECCC and throughout the week as needed to accommodate patient schedules and urgent referrals.



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DIVISION OF NEPHROLOGY

Awards and Achievements



Brendan Bowman, MD

Dr. Brendan Bowman represents a paragon of clinical excellence and most deserving of the Dean's Award for Clinical Excellence 2020. Dr. Bowman has been recognized frequently for the quality of his patient communication skills with OurHealth magazine Bedside Manner Awards in 2015, 2016, and 2018 as well as a Virginia "Top Doc" award in 2019. Brendan is the medical director of the UVA Orange Dialysis unit and since 2013 the dialysis unit has achieved the highest quality rankings in the UVA dialysis system, including a five-star ranking in 2016-2020, signifying a unit performing in the 90th percentile nationally. His most recent ICH-CAHPS scores placed him in the 99th percentile in physician ratings at his dialysis unit and he also won the UVA Patient Experience Award for a 99th percentile rating for care in his outpatient clinic. Dr. Bowman was appointed Medical Director of the UVA Outpatient Dialysis program, a program that consists of 11 satellite UVA Health System facilities that is among the largest academic hospital owned dialysis programs in the country caring for over 900 dialysis patients. Despite this significant administrative role, Dr. Bowman also has extensive inpatient responsibilities and is co-director of the ICU consultation service performing 12-20 weeks of inpatient consultation each year at UVA. Dr. Bowman has established innovative clinical and research programs at UVA. He was instrumental in establishing one of the earliest Transition Start Units. This dialysis programs traditionally refers to an area in an in-center hemodialysis unit that focuses on self-management, providing the necessary education and support that enables all patients to achieve their maximum level of independence. The ultimate goal is to transition all patients over time to a home modality, an effort that addresses the mandate from the White House Executive Order on Advancing American Kidney Health (July 10, 2019). Thus far his results have been outstanding you can read about it here. Brendan has emerged as a national leader in regulatory aspects in the care of kidney patients. He Chairs the RPA Government Affairs Committee and was recently named RPA representative to Kidney Care Partners and Vice-Chair of the RPA's Education and Annual Meeting Planning Committee.

Welcome!



New faculty member Dr. Daphne Knicely with husband, Kevin, and daughters Ava and Mila

DIVISION OF NEPHROLOGY

President Ryan and Provost Magill Tour COVID-19 Saliva Testing Lab



On November 2nd, President Ryan and Provost Magill had the opportunity to tour the Saliva testing lab. They were both very interested and impressed, and commended our efforts towards the university's mission. VPR Dr. Ramasubramanian introduced the team which included from left Rebecca Latimer PhD (VPR's Office), Hui Li, PhD (Dept. of Pathology), Jitendra Gautam, PhD (Dept. of Medicine/Nephrology), and Melissa Henriksen, PhD (Provost's Office)



Jitendra Gautam, PhD (Dept. of Medicine/Nephrology), Vice President for Research Melur Ramasubramanian, PhD, President James Ryan, Provost M. Elizabeth Magill

DIVISION OF ASTHMA, ALLERGY & IMMUNOLOGY

Message from Dr Thomas AE Platts-Mills - Division Chief, Allergy & Immunology



Thomas AE Platts-Mills, MD

2020 will be a year-long remembered by those in the Allergy, Asthma, and Immunology Division, and not just for a bloody pandemic. Speaking of pandemics, I have written a personal perspective on the history of pandemics.

Most notably, it will be remembered for the year we changed the Chief of our Division, for the first time since 1983. We are honored and excited to welcome Dr. Michael Nelson as our new Chief. Many of you saw the write up by Dr. Rosner in November's Medicine Matters, which offered an excellent introduction. I am grateful for the opportunities and experience these last 38 years, especially having had the opportunity to pursue research on allergic disease with only limited interference from six chairmen and five deans. More importantly, with continuous personal funding from the NIH, including two Merit awards: the first, for research on the relevance of dust mites and asthma, and the second for research on the Alpha gal syndrome.

This year also saw us win several new grants to support a wide variety of research on allergic disease, including two R21s, a DOD grant, iTHRIV and Manning Fund. Drs. Benham Keshavarz and Jeffrey Wilson have

initiated and are carrying out COVID related research with regard to the development of a novel, fully quantitative assays for the IgG to COVID spike and neuroprotien.

Peter Heymann, MD and Ronald Turner, MD have retired this year. While both were primarily in Pediatrics, they have played an important and central role in our Division. Peter has maintained the pediatric end of our training program for nearly 30 years and both were integral pieces to our research endeavors, especially in the role of rhinovirus in asthma. We are fortunate to have Peter continue his ongoing research, and his relationship, with our Division even after his retirement.

And I would be remiss if I were not to mention the outstanding Fellows of our Division. The fellowship program continues to thrive under the leadership of Dr. Monica Lawrence. This year included a record number of applicants and interviewees intending to rank our program first, publications by every fellow, and a very successful ACGME survey and site visit.

Thomas AE Platts-Mills, MD

Faculty Recognition

- The biggest news of course is the [addition of Mike Nelson, MD](#) who we welcomed in November.
- **Jeffrey Wilson, MD, PhD** received the American Academy of Allergy, Asthma, and Immunology 2020 Faculty Development Award.
- **Jeffrey Wilson, MD, PhD** was also awarded the UVA Manning COVID 19 Research Fung Grant for COVID-related antibody development
- In July 2020, **Judith Woodfolk, MB ChB, PhD** was appointed by the U. S. Food & Drug Administration to serve as a Member on the Allergenic Products Advisory Committee
- **Dr. Woodfolk** was also appointed Chair of the COVID-19 Biospecimen Subcommittee at UVA in August 2020. She assumed the position from **Dr. Coleen McNamara** who, along with other faculty in the Department (**Drs. William Petri, Catherine Bonham, Alex Kadl, Lindsay Somerville, and Jeffrey Sturek**), led efforts to implement a centralized biorepository that would serve the broad needs of UVA investigators interested in doing COVID research. This endeavor is integral to the COVID-19 Research Prioritization initiative to synergize and support the research efforts of our community in this area, and to ensure the appropriate allocation of limited resources.

DIVISION OF ASTHMA, ALLERGY & IMMUNOLOGY

Publications

Barone SM*, Paul AG*, Muehling LM*, Lannigan JA, Kwok WW, Turner RB, Woodfolk JA**, Irish JM**. Unsupervised machine learning reveals key immune cell subsets in COVID-19, rhinovirus infection, and cancer therapy. bioRxiv [Preprint]. 2020 Aug 1:2020.07.31.190454. *equal contributors and **corresponding authors.

Muehling LM, Heymann PW, Wright PW, Eccles JD, Agrawal R, Carper HT, Murphy DD, Workman LJ, Word CR, Ratcliffe SJ, Capaldo BJ, Platts-Mills TAE, Turner RB, Kwok WW, Woodfolk JA. Human Th1 and Th2 cells targeting rhinovirus and allergen coordinately promote allergic asthma. *J Allergy Clin Immunol*. 2020;146:555-570.

Heymann PW, Platts-Mills TAE, Woodfolk JA, Borish L, Murphy DD, Carper HT, Conaway MR, Steinke JW, Muehling L, Gerald Teague W, Kennedy JL, Irani AM, McGraw MD, Early SV, Wheatley LM, Adams AP, Turner RB. Understanding the asthmatic response to an experimental rhinovirus infection: Exploring the effects of blocking IgE. *J Allergy Clin Immunol*. 2020;146:545-554.

Eccles JD, Turner RB, Kirk NA, Muehling LM, Borish L, Steinke JW, Payne SC, Wright PW, Thacker D, Lahtinen SJ, Lehtinen MJ, Heymann PW, Woodfolk JA. T-bet+ Memory B Cells Link to Local Cross-Reactive IgG upon Human Rhinovirus Infection. *Cell Rep*. 2020 Jan 14;30(2):351-366.e7.

Bacon SL, Platts-Mills TAE. Is It Time for Aerobic Exercise to be Included in Asthma Treatment Guidelines?. *J Allergy Clin Immunol Pract*. 2020 Oct 8(9):2997-2998. doi: 10.1016/j.jaip.2020.08.03

Diagnosis and Management of Patients with the α -Gal Syndrome. Platts-Mills TAE, Li RC, Keshavarz B, Smith AR, Wilson JM. *J Allergy Clin Immunol Pract*. 2020 Jan;8(1):15-23.e1. doi: 10.1016/j.jaip.2019.09.017. Epub 2019 Sep 28

α -Gal and other recent findings that have informed our understanding of anaphylaxis. Wilson JM, Platts-Mills TAE. *Ann Allergy Asthma Immunol*. 2020 Feb;124(2):135-142. doi: 10.1016/j.anai.2019.11.024. Epub 2019 Nov 28

Allergenomics of the tick *Ixodes ricinus* reveals important α -Gal-carrying IgE-binding proteins in red meat allergy. Apostolovic D, Mihailovic J, Commins SP, Wijnveld M, Kazimirova M, Starkhammar M, Stockinger H, Platts-Mills TAE, Cirkovic Velickovic T, Hamsten C, van Hage M. *Allergy*. 2020 Jan;75(1):217-220. doi: 10.1111/all.13978. Epub 2019 Aug 5

Distinct clinical characteristics of boys and girls with eosinophilic esophagitis. Erwin EA, Navalpakam A, Singla R, Bolender J, Workman LJ, Platts-Mills TAE. *J Allergy Clin Immunol Pract*. 2020 Apr;8(4):1452-1455. doi: 10.1016/j.jaip.2019.10.037. Epub 2019 Nov 11

IgE to galactose- α -1,3-galactose wanes over time in patients who avoid tick bites. Kim MS, Straesser MD, Keshavarz B, Workman L, McGowan EC, Platts-Mills TAE, Wilson JM. *J Allergy Clin Immunol Pract*. 2020 Jan;8(1):364-367.e2. doi: 10.1016/j.jaip.2019.08.045. Epub 2019 Sep 11

On the cause and consequences of IgE to galactose- α -1,3-galactose: A report from the National Institute of Allergy and Infectious Diseases Workshop on Understanding IgE-Mediated Mammalian Meat Allergy. Platts-Mills TAE, Commins SP, Biedermann T, van Hage M, Levin M, Beck LA, Diuk-Wasser M, Jappe U, Apostolovic D, Minnicozzi M, Plaut M, Wilson JM. *J Allergy Clin Immunol*. 2020 Apr;145(4):1061-1071. doi: 10.1016/j.jaci.2020.01.047. Epub 2020 Feb 10

A dynamic relationship between two regional causes of IgE-mediated anaphylaxis: α -Gal syndrome and imported fire ant.

Wilson JM, Keshavarz B, Retterer M, Workman LJ, Schuyler AJ, McGowan EC, Lane C, Kandeel A, Purser J, Rönmark E, LaRussa J, Commins SP, Merritt T, Platts-Mills TAE. *J Allergy Clin Immunol*. 2020 Jun 6:S0091-6749(20)30800-9. doi: 10.1016/j.jaci.2020.05.034.

DIVISION OF ASTHMA, ALLERGY & IMMUNOLOGY

New Grants

1R21AI151496-01 (**Borish, Larry**) Lung rhinovirus (RV) infection identifies pre-school children with type 2 inflammation at risk for the development of asthma

CSL Behring L.L.C. (**Borish, Larry**) Undetectable IgE as a sentinel biomarker for humoral immunodeficiency

GlaxoSmithKline LLC (**Borish, Larry**) Interleukin-5 Receptor Expression in COPD

Regeneron Pharmaceuticals, Inc. (**Borish, Larry**) A randomized, placebo-controlled study to assess cellular and molecular markers related to experimental rhinovirus infection in mild asthmatics, and effect of dupilumab in this investigational model

1R21AI151497-01 (**McGowan, Emily**) IgE-Independent Mast Cell Activation by Food-Derived Peptides in Eosinophilic Esophagitis (EoE)

American Academy Of Allergy Asthma & Immunology (**Wilson, Jeffrey**) Investigations into the glycolipid form of the mammalian oligosaccharide galactose- α -1,3-galactose (α -Gal) as an agent of IgE-mediated delayed anaphylaxis and atherosclerosis

DoD Subaward: HU00011920113 (**Wilson, Jeffrey**) Prevalence and Seroconversion of IgE to the mammalian oligosaccharide galactose- α -1,3-galactose and relationship to comorbid disease in military personnel

Drs. Larry Borish (PI), Judith Woodfolk (PI), and Monica Lawrence (Co-PI) were awarded an investigator-initiated grant by Regeneron Pharmaceuticals and Sanofi (07/1/20-06/30/22) entitled “Viral infection in asthma (VIA) Study: A randomized, placebo-controlled study to assess cellular and molecular markers related to experimental rhinovirus infection in mild asthmatics, and the effect of dupilumab in this investigational model.” The objective is to assess the molecular and cellular basis by which blockade of type 2 responses by dupilumab prevents the development of a rhinovirus-induced asthma exacerbation.

UL1TR003015 (**McGowan, Emily**) The Integrated Translational Health Research Institute of Virginia (iTHRIV): Using Data to Improve Health

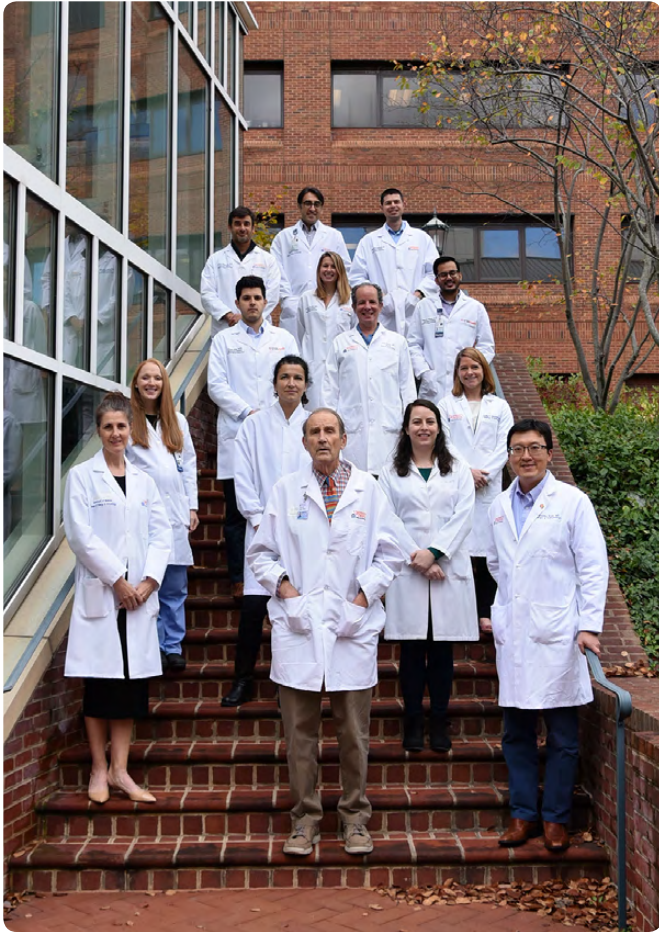
American College of Gastroenterology (**McGowan, Emily** and **Sauer, Bryan**) Identifying Food Triggers in Eosinophilic Esophagitis (EoE) through Serum and Tissue IgG4 Levels

UVA Manning Fund for COVID-19 Research (**Wilson, Jeffrey**) IgG to SARS-CoV-2 with ImmunoCAP

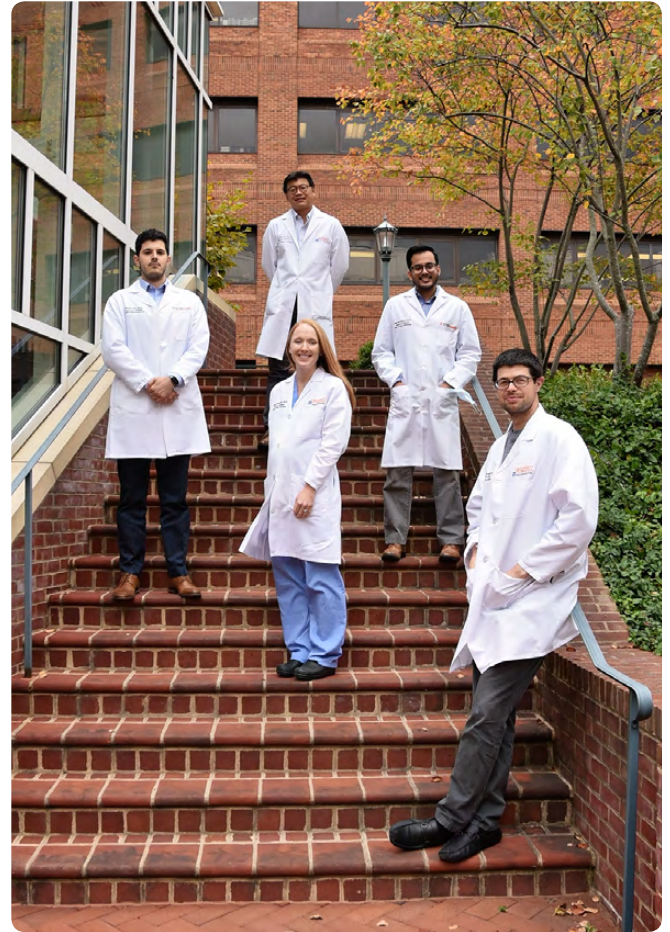
Other News

Naomi Bryant, MS, a graduate student in the Department of Microbiology, Immunology, and Cancer Biology (BIMS Program), joined the Woodfolk lab in February 2020. Naomi was awarded an Immunology Fellowship by the Carter Immunology Center in July. **Glenda Canderan PhD**, an expert in human immunology and complex datasets, joined the Woodfolk lab as a Research Scientist in April 2020.

DIVISION OF ASTHMA, ALLERGY & IMMUNOLOGY



Allergy Group from front to back: Thomas A.E. Platts-Mills, Timothy Kyin, Judith Woodfolk, Lyndsey Muehling, Alice Knoedler, Glenda Canderan, Emily McGowan, Ryan Eid, Larry Borish, Anna Smith, Jaimin Patel, Jeffrey Wilson, Will Eschenbacher, and Benham Keshavarz



Fellows, from left: Ryan Eid, Rung-chi Li, Alice Knoedler, Jaimin Patel, Will Eschenbacher



Allergy Group from front to back: Thomas A.E. Platts-Mills, Timothy Kyin, Judith Woodfolk, Lyndsey Muehling, Alice Knoedler, Glenda Canderan, Emily McGowan, Ryan Eid, Larry Borish, Anna Smith, Jaimin Patel, Jeffrey Wilson, Will Eschenbacher, and Benham Keshavarz

DIVISION OF ASTHMA, ALLERGY & IMMUNOLOGY

Personal Reflections on a Pandemic by Thomas AE Platts-Mills, MD



While starting to think about an annual report on the division, I realized that it was irrational not to think about the context. For the first time in 50 years as a doctor and 38 years as a division head, I have been holding clinics by telephone, avoiding going into town and certainly not going into the hospital. The arrival of a novel virus that is both highly contagious and carries the risk of major pulmonary morbidity eclipses almost all other aspects of medicine.

The ‘context’ for me inevitably includes history both personal and earlier. Infectious disease has had very little impact on my own life. Our family vacation in the summer of 1948 was disrupted by a move away from the sea-side on the Isle of Wight to a farm close to London. This occurred because there was a polio epidemic and many people thought polio was spread

through the water. Death was not unfamiliar to my parents as there had been a truly terrible loss of life in the 2nd war. Pearl Harbor occurred when I was two weeks old and the battle of Moscow was going on that winter during which a million Russians and 600,000 German soldiers died. Before I was two, Nimetz had won the Battle of Midway and the Russians had won both Stalingrad and the second battle of Kursk. Once I was conscious, we moved to London and in 1950, I met my 90-year-old great uncle Donald Cree. He had gone to sea at the age of fifteen after watching two older brothers die of pulmonary TB, a fate that he successfully avoided. In 1951 my father and I flew to New Zealand to visit his family and there I met the original... Dr. Daisy Elizabeth Platts-Mills. In 1918 she played a significant role in the management of the Spanish Flu in a hospital in Wellington. That influenza was an incredible killer. Outbreaks of the disease among soldiers in the Great War had a mortality rate as high as 20%. This occurred in the U.S. among troops in boot camp and in the UK among troops held in a camp in Eastbourne for several months after they returned from the trenches. Equally some ships loaded with NZ soldiers who had survived the 4th battle of Ypres at Passchendaele, had lost as many as 20% of their passengers to influenza before they reached Auckland. My mother’s father did not die of influenza, because he was hit by a random piece of shrapnel just before the 2nd battle of Ypres and he died on the 12th of May 1915.

After 1918, there was a progressive and ultimately dramatic decline in the mortality rate of infectious diseases, including an almost 90% decrease in TB mortality before the introduction of Streptomycin. Since the development of an effective polio vaccine and broad-spectrum antibiotics, there has been remarkably little public panic about infectious disease in the USA or the UK. Two episodes of flu that I can remember making an impact. One in 1957 (Asian Flu) which put my older brother in bed for a week and the other in January-February 1969 when I was already a third-year medical resident. In that year, despite having several previously healthy middle-aged men extremely sick in the hospital, I don’t remember much in the way of public concern or protective clothing. The contrast between COVID and HIV is astonishing. Attending in general medicine at UVA between 1984-1990, we regularly looked after AIDS patients who were dying. The contrast was that it had become clear that it required a real effort for doctors to get infected from a patient with AIDS, i.e. sharing needles which were not recommended.

There are important lessons to be learned from the great epidemics of the past and the Great Flu was certainly not “the deadliest” (see “The Great Influenza” by John Barry page 87). Black Death was the most dramatic. It hit Europe in the 1340s and killed at least one-quarter of the population. Yersinia pestis had probably been around for a thousand years, but the plague of the Black Death was the worst recorded episode. Equally important it reoccurred in the UK and other parts of Europe (including London) at varying intervals up to 1665, which was documented by Daniel Defoe in “A Journal of the Plague Year”. The outbreaks of plague stopped after the Great Fire of London in 1666. Primarily because the town was rebuilt after the fire, under the influence of Christopher Wren, which resulted in a dramatic improvement in public hygiene. In the mid-17th century, the population of England had not yet fully recovered from the original pandemic of plague, and it only recovered slowly over the hundred years after the plague was no longer a problem. The population was still controlled by several other killers including pertussis and smallpox.

DIVISION OF ASTHMA, ALLERGY & IMMUNOLOGY

(Personal Reflections on a Pandemic continued)

When Sally Hemmings arrived in Paris in 1787, Jefferson was concerned for her health because contrary to his recommendation, she had not had smallpox or been variolated. Because of this she was initially confined to the house, and in November 1787 she was sent to another house outside Paris to be variolated and subsequently “quarantined” for forty days, incidentally the true origin of that word (see chapter RE: Dr. Sutton in “The Hemmingses of Monticello” by Annette Gordon-Reed). At that time smallpox was very dangerous in Paris, and this was still ten years before the introduction of vaccination by Jenner in 1798. It is important to recognize that he used the same procedure on the skin that had been used for many years, he simply established that using pus from a dairymaid with cowpox, instead of using pus from a case of smallpox, was equally effective and much safer. This vaccine was so effective that it was still the primary therapeutic or preventative strategy when smallpox was eradicated nearly 200 years later. In the 19th century, Pasteur established a vaccine for rabies that was still in use 100 Years later. By contrast, Koch, who had identified the tuberculosis bacillus, failed to produce an effective vaccine. Indeed, the early failures with the TB vaccine cast a shadow over his reputation. It is important to remember, that there have been many failures in the history of vaccination. Malaria and HIV are obvious examples, but equally, attempts to produce a “universal” vaccine for influenza have failed which is why we still attempt to produce a new vaccine each year. Interestingly last year the CDC reported that the influenza vaccine was only 12% effective among subjects over 70 years old, i.e. exactly those individuals who have a maximum risk from SARS COVID 2 virus. By contrast, a previous member of the faculty of the Allergy Division, Dr. John Guerrant, had the Spanish flu in 1918 and maintained that he didn’t have any symptoms related to influenza in the following 80 years! For further insight into the problems with the influenza vaccine see the RFA issued by Dr. Fauci and his colleagues at NIAID in March 2020.

Arguably the most striking feature of COVID-19 is the speed with which it can spread through a community. This characteristic, if unchecked, allows severe cases to suddenly appear in large numbers even if they are only a small proportion of the infected cases. There is an interesting question about how many of the victims in 1918, who died about 2 weeks after the onset of symptoms, could have been saved with intense care and broad-spectrum antibiotics. The other striking feature of COVID-19 is that infected individuals can infect other individuals for several or even many days before or after they are symptomatic. Dealing with these problems is impossible without an effective method of testing for the virus. This was particularly true in the United States because the public health service including the CDC “chose” in Jan and Feb not to solicit help from the established laboratory testing companies with developing mass production of tests for this virus. The contrast with the experience in South Korea and Germany is particularly disturbing. As a result, for several weeks we were in a similar situation to that which my grandmother faced in 1918, because we did not have an available test to identify the virus, and we didn’t have a specific treatment for the disease. This situation may not last long because the virus appears to be more genetically stable than influenza. This means that the potential for a long term vaccine is much better than for HIV, TB, malaria, or influenza. In addition, despite several early failures, it looks increasingly likely that one or more of the vaccines for COVID and/or the monoclonal antibodies that “cured” our President, will prove to be effective.

Early this summer it seemed wise for the mature members of our community to self-isolate and attempt to work from home. However, it soon became clear that all the members of my group had chosen to continue working. In addition, they had fully adopted both masks and social distancing. In addition, they had identified a major gap in the COVID-19 testing which was the need for an assay for serum antibodies in units that can be compared with other labs i.e. $\mu\text{g/ml}$. Our lab has remained busy. The main disease we study is the alpha-gal syndrome which also has ramifications into CAD and IBS. The alpha-gal syndrome occurs because we don’t carry the oligosaccharide galactose-alpha-1, 3 galactose and have natural antibodies against it. It. When I say “we” I don’t mean most humans, I mean all (i.e.100.00%) cannot create the galactose-alpha-1, 3-galactose linkage. Recently a radical evolutionary explanation for the consistency of this difference between primates and other mammals has been published by Uri Galili. He proposes that at some time about 10 million years ago, an enveloped virus or another pathogen, appeared which carried alpha-gal and which was 100% lethal to those of our ancestors who also carried this oligosaccharide. By contrast, although only a minor proportion of the population of primate ancestors had pre-existing antibodies against alpha-gal, they were the only survivors. He has proposed the term “catastrophic evolution” for this event. I would suggest that this is a rather sobering thought in view of the current COVID-19 epidemic. However, the real lesson may be that the present population of the world, and the fantastic levels of overseas travel, guarantee disasters such as the Great Flu or COVID. Is the occurrence of two severe pandemics in a mere 100 years a warning to the human race?