



Department of Medicine

SCHOOL OF MEDICINE

UNIVERSITY OF COLORADO ANSCHUTZ MEDICAL CAMPUS

Department of Medicine Announces 2021 Outstanding Early Career Scholars

AURORA, CO (June 28, 2021) — The University of Colorado Department of Medicine is pleased to announce the 2021 recipients of the Outstanding Early Career Scholars Program (OECSP) awards: **William Cornwell, MD**; **Katharina Hopp, PhD**; and **Christine Swanson, MD**.



William (Bill) K. Cornwell MD, MSCS, is an assistant professor of medicine in the Division of Cardiology. His clinical interests include managing patients with advanced heart failure, as well as those who are supported by mechanical circulatory support devices and transplants. In addition, Dr. Cornwell has a strong interest in exercise science, sports cardiology and altitude medicine, and directs the Sports Cardiology Clinic at the University of Colorado Anschutz Medical Campus.

His primary research interest is understanding the limits of human performance across the spectrum of health and disease, ranging from professional/elite athletes, to recreational athletes and healthy sedentary individuals, patients with ambulatory cardiovascular and pulmonary disease, congenital heart disease, and heart failure patients supported by mechanical circulatory support devices. The OECSP award will be used to characterize cerebrovascular, cardiopulmonary and autonomic physiology at rest and during exercise in these populations, to ultimately develop innovative protocols focused on improving patient quality-of-life and outcomes.

“Bill is a truly deserving recipient who excels in all three foundational academic domains,” said Peter Buttrick, MD, head of the Division of Cardiology. “He is a gifted clinician and educator and his research program is remarkable. He is very interested in the physiology of exercise and how very distinct patient groups, ranging from elite athletes to LVAD recipients, are able to modulate cardiac output. The work is meticulous and highly impactful. Moreover, there are very few laboratories in the country that are equipped to ask and answer these questions. We are fortunate to have him as a member of our faculty.”

Dr. Cornwell conducts his research within the Clinical Translational Research Center at the CU Anschutz Medical Campus, where he developed and oversees an advanced integrative physiology laboratory. His research is supported by NIH/NHLBI and multiple partnerships with industry.



Katharina Hopp, PhD, is an assistant professor of medicine in the Division of Renal Diseases and Hypertension. Her laboratory studies mechanisms that modulate Autosomal Dominant Polycystic Kidney Disease (ADPKD) progression, the most prevalent inherited nephropathy worldwide. She uses orthologous murine models to study the disease and translate her findings into novel treatment approaches. In particular, her research interest lies in the role of immune cells in regulating kidney cysts growth. To that end, she found that the cystic immune microenvironment displays multiple features of immunosuppression and that CD8 T cells halt cysts growth.

“Dr. Hopp is an extraordinary young investigator with an outstanding track record in research and education,” said Michel Chonchol, MD, head of the Division of Renal Diseases and Hypertension. “Dr. Hopp is an integral part of the autosomal dominant polycystic kidney disease program and initiated a highly innovative research program focused on the role of the micro-environmental immune cells in PKD progression. Dr. Hopp has been recognized in the PKD community, nationally and internationally. Her accomplishments and commitment to academic science make her a well-deserving recipient of this prestigious DOM award.”

Dr. Hopp will use this award to investigate how dysregulated metabolism impacts immune cell function in the setting of PKD. Metabolic reprogramming is a well-established feature of ADPKD. In cancer, a disease with many parallels to PKD, the metabolic landscape created by tumors has been shown to critically impact immune cell function and subsequent tumor growth. This relationship has not been studied in PKD and holds promise for new treatment approaches. Dr. Hopp will utilize cell type specific profiling technologies, genetic mouse models, and preclinical studies to delineate how the metabolic demands of the cystic kidney epithelium impact the surrounding immune cells and their role in regulating cyst growth.



Christine Swanson, MD, MCR, is an assistant professor of medicine in the Division of Endocrinology, Metabolism and Diabetes. Her research focuses on the skeletal effects of insufficient sleep and night shift work. Her work was the first to demonstrate acute adverse bone turnover marker changes in humans in response to abnormal sleep schedules. Over time, these changes would be expected to cause bone loss, suggesting that disrupted sleep may be a novel, modifiable risk factor for osteoporosis and fracture.

She has a clinic focused on metabolic bone disease and disorders of calcium/vitamin D and is the clinical director for the High Resolution peripheral Quantitative Computed Tomography (HR-pQCT) instrument that will arrive at the CU Anschutz Medical Campus in fall 2021. This research device was obtained through a collaborative S10 application to NIGMS and provides non-invasive imaging of bone microarchitecture/quality in cortical and trabecular compartments in humans.

“Dr. Swanson has done an amazing job of combining sleep disturbances and adverse effects on bone health,” said Bryan Haugen, MD, head of the Division of Endocrinology, Metabolism and Diabetes. “She has quickly become a nationally recognized expert in this important field. Dr. Swanson has also been an invaluable leader in our clinical metabolic bone program. She is truly a rising star in academic medicine.”

Dr. Swanson will use this award to expand the scope of her R01 from NHLBI that will investigate the effects of night shift work on bone metabolism, density, and microarchitecture, and to investigate other novel risk factors for osteoporosis (e.g., recreational and medical marijuana use).

Since the program’s inception in 2012, the Department of Medicine has supported a total of 23 Outstanding Early Career Scholars:

2021: William Cornwell, MD; Katharina Hopp, PhD; Christine Swanson, MD

2020: Sridharan Raghavan, MD, PhD; Frank Scott, MD

2019: Kristen Demoruelle, MD, PhD; Eric Pietras, PhD

2018: Joseph Frank, MD; Kristine Kuhn, MD, PhD; Traci Lyons, PhD; Beth Tamburini, PhD

2017: Kristine Erlandson, MD; Kunhua Song, PhD

2016: Catherine Lozupone, PhD

2015: Steven Bradley, MD; Daniel Pollyea, MD

2014: Brian Graham, MD; Sachin Wani, MD

2013: Dan Matlock, MD; Eric Schmidt, MD; Rachel Zemans, MD

2012: Larry Allen, MD; Mario Santiago, PhD

Every year, the Department of Medicine accepts applications for the program in January. Applications are reviewed and ranked by an unbiased, NIH-style study section composed of senior faculty from outside the Department of Medicine.

We thank the review committee for the 2021 OECSP selection process:

Review Committee Chair: Linda van Dyk, PhD, Professor, Department of Immunology and Microbiology

Glenn Furuta, MD, Professor, Department of Pediatrics, Children’s Hospital Colorado

Peter Henson, MD, PhD, Professor, Department of Biomedical Research, National Jewish Health

Anne Libby, PhD, Professor, Department of Emergency Medicine

Martin McCarter, MD, Professor, Department of Surgery

Jill Slansky, PhD, Professor, Department of Immunology and Microbiology

Raul Torres, PhD, Professor, Department of Immunology and Microbiology

For more information about the Outstanding Early Career Scholars Program and past awardees, [visit our website](#).