

ROUNDING WITH THE DEANS SCHOOL OF MEDICINE

Rounding with Joseph E. Kerschner, MD

Provost and Executive Vice President, The Julia A. Uihlein, Dean of the School of Medicine

and

Deborah Costakos, MD, MS, Interim Dean Designate School of Medicine, Professor and Chair, R.D. and Linda Peters Professor in Ophthalmology

Knowledge changing life in the Department of Biophysics

On Tuesday, November 26, 2024, Deborah Costakos, MD, MS, Interim Dean Designate School of Medicine, Professor and Chair, R.D. and Linda Peters Professor in Ophthalmology, Department of Ophthalmology & Visual Sciences, and I rounded in the Department of Biophysics. Francesca M. Marassi, PhD, Eminent Scholar, Professor and Chair in the Department of Biophysics, and her team hosted a welcoming and engaging visit.

The team shared that research in the Department of Biophysics centers around three themes: imaging-guided therapeutic development, structural biology, and redox biology and drug development.

We first heard about using imagingguided therapeutic developments for treating glioblastoma. The team working on imaging-guided therapeutic development includes:

- Mona Al-Gizawiy, PhD, Assistant Professor
- Nikolai J. Mickevicius, PhD, Assistant Professor
- Kathleen M. Schmainda, PhD, Professor
- Jason W. Sidabras, PhD, Assistant Professor



Next, we visited with the structural biology team, which includes:

- Jimmy B. Feix, PhD, Professor
- Candice S. Klug, PhD, James S. Hyde Professor of Biophysics; Director, National Biomedical EPR Center; Program Director, Biophysics Graduate Program; Vice Chair for Research in the Department of Biophysics
- Vanessa A. Leone, PhD, Assistant Professor
- Michael T. Lerch, PhD, Associate Professor
- Francesca M. Marassi, PhD, Professor, Chair, and Eminent Scholar; Associate Director, MCW Cancer Center Shared Resources
- Fabrizio Marinelli, PhD, Assistant Professor
- Kyungsoo Shin, PhD, Assistant Professor
- Jason W. Sidabras, PhD, Assistant Professor
- Gopinath Tata, PhD, Assistant Professor

Dr. Lerch and colleagues have used EPR and other biophysical methods to develop a new biased agonist for the 2-adrenergic receptor, a G protein coupled receptor that is expressed in cardiac myocytes and plays essential roles in the regulation of cardiac function by the sympathetic nervous system. The study deepens our understanding of G protein specificity and bias, and it accelerates the design of therapeutic drug precursor ligands that select preferred signaling pathways.

I celebrated the hard work of Dr. Candice Klug who





