



PRESIDENT'S LECTURE SERIES



Steven Kliewer, Ph.D.

*Battle of the Bottle:
Discovery of a Hormone Ally*

Thursday, February 8, 2024

4 p.m. Lecture, Reception to Follow

Tom and Lula Gooch Auditorium

utsouthwestern.edu/pls

UTSouthwestern
Medical Center

ABOUT
THE
PRESIDENT'S
LECTURE
SERIES



The President's Lecture Series was established to recognize the importance of UT Southwestern staff in enabling the Medical Center to achieve its mission and goals. The faculty excels in education, research, and patient care only with the contributions of staff, whose work, directly and indirectly, supports faculty endeavors.

The lectures selected for this series provide an opportunity for the employees of UT Southwestern to learn more about the research discoveries, clinical advances, and other contributions of the Medical Center's most accomplished scientists, physicians, and senior leaders. Three times each academic year, leading experts present a President's Lecture, discussing in nontechnical terms the basics of their research and clinical programs and their implications for good health and medical care.

The President's Lecture Series is offered in appreciation and respect for the work and dedication of UT Southwestern staff.

Daniel K. Podolsky, M.D.

President

UT Southwestern Medical Center

ABOUT
THE
LECTURE



Efforts to protect the body from the ill effects of alcohol have been the stuff of legends, dating back to the ancient Greeks and their erroneous beliefs around the power of the gemstone amethyst.

The research of Steven Kliewer, Ph.D., produced with longtime collaborator David Mangelsdorf, Ph.D., explores the hormone FGF21 and its therapeutic potential to save thousands of lives lost each year to acute alcohol poisoning.

Dr. Kliewer first came across FGF21 based on his long-running interest in nuclear receptors, which are proteins activated by hormones, vitamins, and other molecules. These proteins bind to DNA and regulate the expression of adjacent genes. Early on, investigations in their combined lab at UTSW focused on the role of FGF21 in metabolism, but their work quickly shifted to FGF21's role in alcohol consumption when research in the field revealed that ethanol – the type of alcohol in beer, wine, and spirits – prompted production of the hormone to increase manifold.

Research from the Mangelsdorf/Kliewer Lab over the years has shown that FGF21 discouraged alcohol drinking in sober mice and encouraged water drinking to prevent dehydration in intoxicated mice. Other investigators have shown that the hormone appears to protect against alcohol-related liver injury.

In their most recent study, Dr. Kliewer, Dr. Mangelsdorf, and their colleagues revealed that FGF21 can also dramatically speed the sobering process.

Because FGF21 has already been explored in clinical trials involving diabetes, weight loss, and nonalcoholic fatty liver disease and has shown a good safety profile, it has potential to be developed into a drug that could be delivered to patients in hospital emergency rooms akin to the way Narcan is used to treat opioid overdoses.

Surprisingly little is known about how alcohol exerts its effects in the body. Dr. Kliewer said that is a gap that he, Dr. Mangelsdorf, and their colleagues hope to fill.

ABOUT
THE
SPEAKER



Steven Kliewer, Ph.D., is a Professor of Molecular Biology and Pharmacology recognized for his work on regulatory proteins called nuclear hormone receptors and their effects on metabolism. He runs a joint laboratory with David Mangelsdorf, Ph.D., Chair and Professor of Pharmacology and Professor of Biochemistry.

The team, along with Pharmacology Instructor Mihwa Choi, Ph.D., found a hormone produced in the liver that helps to reverse the effects of acute alcohol poisoning in mice and could lead to effective treatment in humans. Their study was published in early 2023 in *Cell Metabolism*.

In 2015, the same year Dr. Kliewer was elected to the National Academy of Sciences, he also was awarded the prestigious Adolf Windaus Prize for Bile Acid Research. He received the prize for the discovery of a hormone secreted by the gut – FGF19 – to regulate bile acid metabolism in the liver. Dr. Mangelsdorf called the finding “the missing link in the feedback loop by which bile acids regulate their own synthesis.”

Dr. Kliewer, who joined the UT Southwestern faculty in 2002, holds the Diana K. and Richard C. Strauss Distinguished Chair in Developmental Biology.

He majored in biochemistry at Brown University before earning his Ph.D. in molecular biology from the University of California, Los Angeles. He was a postdoctoral fellow in the laboratory of Ronald Evans, Ph.D., at the Salk Institute for Biological Studies in La Jolla, California, and in 1993 joined GlaxoSmithKline Inc. in Research Triangle Park, North Carolina, where he founded a scientific group devoted to targeting nuclear receptors for drug discovery.

ABOUT THE NEXT
SPEAKER

Thursday,
April 11, 2024



Jaclyn Albin, M.D., CCMS, DipABLM, Associate Professor of Pediatrics and Internal Medicine, is a pioneer in culinary medicine – an evidence-based field blending the art of food and cooking with the science of nutrition and medicine.

Dr. Albin's belief in food as medicine led her to found UT Southwestern's Culinary Medicine Program in 2015 to teach nutrition to health care professional learners and the community through hands-on cooking classes. Together with Milette Siler, M.B.A.-HC, RD, LD, CCMS, a registered dietitian at UTSW, Dr. Albin built a clinical program, launching electronic consultations, eConsults, in 2021. The eConsults service enables the Culinary Medicine team to deliver virtual consultations to clinicians, allowing them to offer evidence-based dietary guidance to patients electronically. Culinary Medicine eConsults improved access to nutrition care and saved time for clinicians, according to a study published in *Nutrients*, a peer-reviewed journal.

More recently, Dr. Albin has expanded Culinary Medicine consultations to include one-on-one interprofessional visits between patients and both a physician and a dietitian. She is currently launching insurance-covered group cooking classes with community partnerships near UT Southwestern Medical Center at RedBird. Dr. Albin's work has received national recognition and helped establish UT Southwestern as a leader in equipping physicians with the tools they need to address chronic lifestyle-related diseases.

At UT Southwestern, Dr. Albin also serves as the founding Associate Program Director for the combined Internal Medicine/Pediatrics Residency Program. She focuses her medical education mentorship and research on engaging learners in community programs and clinical innovation models, hoping to inspire their own creative contributions.

She earned her medical degree at George Washington University School of Medicine and Health Sciences and completed residency in internal medicine and pediatrics at Baylor College of Medicine, where she served as Pediatric Chief Resident. Dr. Albin is a certified culinary medicine specialist (CCMS) who serves on the national advisory board for the CCMS program.