Larkin University
4th ANNUAL LEONARD A. LEVY SYMPOSIUM 2026

Highlighting Research on Biomedical, Pharmaceutical and Health Sciences



LARKIN UNIVERSITY
Change Your Life

November 19, 2026
Lecture Hall 104, Larkin University
18301 N. Miami, 33169

Larkin University
4th ANNUAL LEONARD A. LEVY SYMPOSIUM 2026

Welcome to LU Symposium 2026



On behalf of Larkin University, it is my pleasure to welcome you to the Fourth Annual Leonard A. Levy Research Symposium, celebrating scientific discovery, scholarly excellence, and collaboration in biomedical, pharmaceutical, and health sciences.

This year's symposium comes at an exciting time in the continued development of Larkin University. Over the past year, we have further strengthened our academic and research enterprise, advanced our Physician Assistant program, and achieved important milestones in the establishment of our School of Dental Medicine in Orlando, which recently received initial accreditation and state authorization to welcome its inaugural class in Fall 2027. We are also moving forward with the development of our College of Osteopathic Medicine and a new campus in southern Miami-Dade County. These achievements reflect our commitment to expanding educational opportunities, advancing healthcare, and strengthening our contributions to the communities we serve.

As our University grows, research remains an essential part of our academic identity. It enriches our teaching, creates opportunities for students to participate in scientific discovery, fosters interdisciplinary collaboration, and ultimately contributes to better health outcomes. Our Office of Research and Research Advisory Committee continue to support the development of a vibrant research culture, bringing together faculty, students, and collaborators across institutions and disciplines.

We are particularly pleased to welcome distinguished colleagues from the University of Miami, Florida International University, Nova Southeastern University, and Miami Dade College. Their participation underscores the importance of collaboration across South Florida's academic and research community. I extend a special welcome to our keynote speaker, Dr. Stephan Christoph Schürer, Professor at the University of Miami, and thank all our invited speakers and Larkin University faculty for sharing their research and expertise.

This year's program highlights an impressive diversity of scientific inquiry, spanning medicinal chemistry and drug discovery, molecular and cardiovascular biology, biomedical engineering, and the social determinants of health. It is precisely this exchange of ideas across scientific disciplines that creates opportunities for innovation and meaningful scientific progress.

The symposium also provides an opportunity to recognize outstanding scholarly achievements through our Researcher of the Year Award, building on a tradition of celebrating research excellence within our University.

Above all, this annual gathering honors the memory of Dr. Leonard A. Levy, a distinguished educator, scholar, Fulbright alumnus, and former member of our Board of Trustees, whose vision and dedication helped shape the research mission of Larkin University. His belief in the transformative power of education, mentorship, and scientific inquiry continues to inspire us. We remain deeply grateful to Eleonore Levy, whose generous support makes this symposium possible.

I encourage everyone to take full advantage of today's presentations and discussions, exchange ideas, establish new connections, and explore opportunities for future collaboration. May this symposium inspire new discoveries and strengthen our shared commitment to advancing science and improving human health.

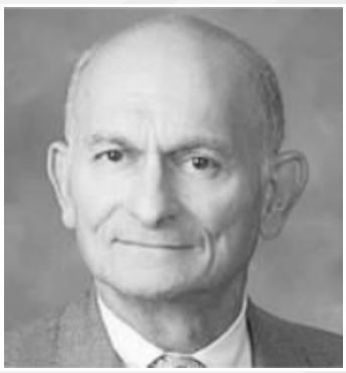
Welcome to the Fourth Annual Leonard A. Levy Research Symposium!

Sincerely,

Rudi H. Ettrich, RNDr., MSc., Ph.D.
President and Chief Executive Officer
Larkin University

Larkin University
4th ANNUAL LEONARD A. LEVY SYMPOSIUM 2026

About Dr. Leonard A. Levy



Dr. Leonard A. Levy, D.P.M., M.P.H. (1935-2023) was born in New York. graduated of Thomas Jefferson High School, New York University, NY College of Podiatric Medicine, and Columbia University, where he was the first podiatrist to receive an M.P.H. degree. A lifelong leader and tireless champion of innovation in medical education, beginning as dean and later president of the California College of Podiatric Medicine, he also held senior positions at SUNY Stony Brook, University of Texas-Houston, and was founding dean of the College of Podiatric Medicine and Surgery at the University of Osteopathic Medicine and Health Sciences in Des Moines, Iowa. A Fulbright Scholar at Comenius University in Bratislava, Slovakia, he maintained relationships there with faculty and exchange students. He retired in 2016 as professor emeritus from Nova Southeastern University College of Osteopathic Medicine. Even in retirement, he continued writing, lecturing and mentoring in the health professions and served on the Larkin University Board of Trustees where he led the research committee that developed research strategic planning. Over his long-lasting career he played an influential role in the lives of many of us and will forever be remembered as part of the legacy of Larkin University. As a recognition of his influence of the shape of our University, the LU Research Lab was named in his honor **Leonard A Levy Research Laboratory.**

Symposium Sponsor

The Annual Leonard A. Levy Research Symposium is made possible by a generous donation by Eleonore Levy



Larkin University
4th ANNUAL LEONARD A. LEVY SYMPOSIUM 2026

November 19, 2026 | 9:00 AM – 2:30 PM | Lecture Hall 105

SCHEDULE

Time	Activity
9:00 AM–9:15 AM	Coffee and light breakfast
9:15 AM–9:25 AM	Welcome Remarks **Rudi H. Ettrich, Ph.D.,** President/CEO, Larkin University
9:25 AM–10:05 AM	Keynote Session **Stephan C. Schürer, Ph.D.**, Professor, University of Miami *Title: Targeting the Dark Cancer Kinome: AI-Enabled Translational Drug Discovery*
10:05 AM–11:45 AM	**Morning Session**
10:05 AM–10:25 AM	**Narasimman Gurusamy, Ph.D.,** Associate Professor, Nova Southeastern University *Title: Ketone Bodies and Long Non-Coding RNAs in Cardiac Mitochondrial Adaptation*
10:25 AM–10:45 AM	**Taraman Kadayat, Ph.D.,** Assistant Professor, Larkin University *Title: Medicinal Chemistry: A Game of Whack-a-Mole— From Structure-Based Design to Small-Molecule Inhibitor Discovery*
10:45 AM–10:55 AM	**Coffee Break**
10:55 AM–11:15 AM	**Fenfei Leng, Ph.D.,** Professor, Florida International University *Title: Synthesizing supercoiled synthetic DNA circles in vitro for biomedical applications*
11:15 AM–11:35 AM	**Settimio Pacelli, Ph.D.,** Associate Professor, Larkin University *Title: Hydrogel-Based Biomimetic Platforms for Characterizing Vascular Deficits in Diabetic Musculoskeletal Tissues*
11:35 AM–11:45 AM	**LU Researcher of the Year Award**
11:45 AM–1:00 PM	**Networking Lunch**
1:00 PM–2:40 PM	**Afternoon Session**
1:00 PM–1:20 PM	**Joshua Hutcheson, Ph.D.,** Associate Professor, Florida International University *Title: From the Clinic to the Bench and Back: Uncovering the Origins of Asymmetric Aortic Valve Calcification and Developing Noninvasive Detection Strategies*
1:20 PM–1:40 PM	**Heqin Yang, Ph.D.,** Assistant Professor, Larkin University *Title: Association Between Social Drivers of Health and Engagement in Self-Care and Professional Care Among Adults with Diabetes in the US*
1:40 PM–2:00 PM	**Tammy Laberge, Ph.D.,** Associate Professor, Miami Dade College *Title: Understanding the Biological Diversity of Soil Microbiomes in Semi-Native and Improved Pastures at Buck Island Ranch*
2:00 PM–2:20 PM	**Amit Subedi, Ph.D.,** Assistant Professor, Larkin University *Title: Countering TET2 mutation driven Cardiovascular disease risk through anti-inflammatory intervention*
2:20 PM–2:30 PM	**Closing Remarks, Dr. Thomas A. Edwards**

Larkin University
4th ANNUAL LEONARD A. LEVY SYMPOSIUM 2026

Highlighting Research on Biomedical, Pharmaceutical and Health Sciences

November 19, 2026 | 9:00 AM – 2:30 PM | Lecture Hall 105

KEYNOTE SPEAKER



Stephan Christoph Schürer, Ph.D.
Professor of Pharmacology, University of Miami
Associate Director of Data Science, Sylvester Comprehensive Cancer Center, Director of Digital Drug Discovery

Targeting the Dark Cancer Kinome: AI-Enabled Translational Drug Discovery

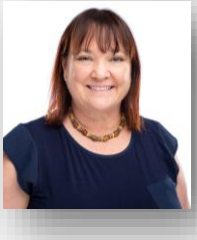
INVITED SPEAKERS



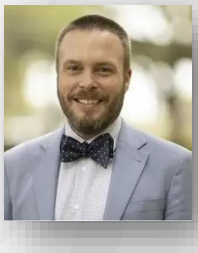
Fenfei Leng, Ph.D.
Professor
Department of Chemistry and Biochemistry
Florida International University



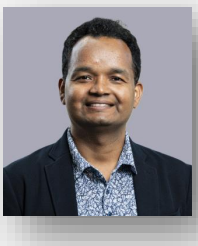
Narasimman Gurusamy, Ph.D.
Associate Professor
BJS College of Pharmacy
Nova Southeastern University



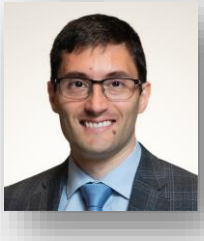
Tammy Laberge, Ph.D.
Associate Professor Senior
Miami Dade College, North Campus



Joshua D. Hutcheson, Ph.D.
Associate Professor
Department of Biomedical Engineering
Florida International University



Taraman Kadayat, Ph.D.
Assistant Professor
College of Pharmacy
Larkin University



Settimio Pacelli, Ph.D.
Associate Professor
College of Pharmacy
Larkin University



Heqin Yang, Ph.D.
Assistant Professor
College of Pharmacy
Larkin University



Amit Subedi, Ph.D.
Assistant Professor
College of Pharmacy
Larkin University

ORGANIZED BY:
Larkin University
18301 N. Miami Ave, Miami, FL 33169
Contact: ashrestha@larkin.edu

LARKIN UNIVERSITY
Change Your Life

Larkin University
4th ANNUAL LEONARD A. LEVY SYMPOSIUM 2026

Keynote Speaker



Title: *Targeting the Dark Cancer Kinome: AI-Enabled Translational Drug Discovery*

Stephan Christoph Schürer, Ph.D.
Professor of Pharmacology,
Associate Director of Data Science, Sylvester Comprehensive Cancer Center
Director of Digital Drug Discovery, Institute for Data Science & Computing, University of Miami

Bio:

Dr. Stephan C. Schürer is a Professor of Molecular and Cellular Pharmacology at the University of Miami, Associate Director of Data Science at the Sylvester Comprehensive Cancer Center, and Director of Digital Drug Discovery at the Frost Institute for Data Science & Computing (IDSC). His research bridges chemistry, data science, and biology to advance AI-enabled drug discovery and precision oncology.

Dr. Schürer earned his PhD in chemistry from the Technical University of Berlin and was a member of the founding teams of two Silicon Valley biotechnology startups before joining Scripps Florida, where he led discovery informatics for the NIH Molecular Libraries Program. He developed the BioAssay Ontology (BAO), now a widely adopted standard for describing biological assays and drug screening results. He has served as a principal investigator in multiple national initiatives, including LINCS, IDG, BD2K, RADx, and MorPhiC.

His laboratory, the Systems Drug Discovery Group, integrates computational modeling, AI, chemical synthesis, and medicinal chemistry to discover and optimize small molecules for understudied cancer targets. The group also develops scalable data infrastructure to connect research and clinical datasets. Together, these capabilities support the translation of computational predictions into experimentally validated compounds and the development of patient-informed therapeutic strategies.

Abstract:

Despite the clinical success of kinase inhibitors in oncology, a substantial fraction of the human kinome remains understudied and therapeutically unexplored. This keynote will present an integrated informatics, artificial intelligence (AI), and medicinal chemistry approach to identifying clinically relevant targets within the “dark” cancer kinome and advancing small-molecule drug discovery.

We developed the Clinical Kinase Index (CKI) to prioritize underexplored kinases using molecular and clinical evidence, and kinome-wide deep learning models that, together with physics-based simulations, guide the identification of new chemical matter. Combining these computational approaches with experimental testing, chemical synthesis, and structure–activity analysis supports an iterative path from target nomination to hit discovery and medicinal chemistry lead optimization.

The lecture will also discuss complementary data infrastructure efforts, including the Sylvester Data Portal (SDP) and the Platform for Accelerating Collaborative Computational Cancer Research (PAC3R). These platforms support FAIR (Findable, Accessible, Interoperable, Reusable) data management, analysis, and secure collaboration, providing a foundation for connecting research and clinical genomics with drug discovery. The broader vision is to integrate multimodal patient and experimental data into the design–make–test–analyze cycle, enabling a more patient-informed, systems-based approach to compound development and precision oncology.

Larkin University
4th ANNUAL LEONARD A. LEVY SYMPOSIUM 2026

Invited Speaker



Title: *Synthesizing supercoiled synthetic DNA circles in vitro for biomedical applications*

Fenfei Leng, Ph.D.
Professor
Department of Chemistry and Biochemistry
Florida International University

Bio:

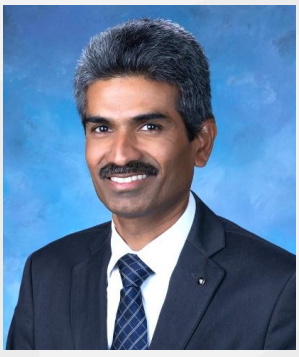
Dr. Fenfei Leng is a Professor in the Department of Chemistry and Biochemistry at Florida International University (FIU), Miami, Florida, and the Founder and President of Top Biosciences, LLC. He received his B.S. in Biochemistry from Nanjing University, China, and his Ph.D. in Biochemistry from the University of Mississippi Medical Center. He subsequently completed postdoctoral training in Biochemistry at Johns Hopkins University. Professor Leng joined FIU in 2001 and has progressed through the academic ranks to become a tenured Professor. With extensive experience in biochemical research and higher education, he has also contributed to the scientific community through service on National Science Foundation (NSF) and National Institutes of Health (NIH) review panels, peer review for the German Research Foundation, and membership in the Biophysical Society and the American Chemical Society. He also serves on the Editorial Board of *Scientific Reports*. His professional experience combines academic leadership, scientific research, peer review, and biotechnology entrepreneurship.

Abstract:

Circular DNA molecules or DNA circles, such as plasmids (typically in the supercoiled (Sc) form), are essential in basic biomedical research and also hold strong therapeutic potential in the fields of gene and cell therapies, and DNA vaccines. Traditionally, plasmids are produced in E. coli and consequently contain bacterial methylations, unnecessary bacterial DNA sequences, and contaminants (genomic DNA and endotoxins) that significantly hinder downstream uses, particularly therapeutic applications. These limitations could be avoided by synthesizing plasmids or DNA circles entirely in vitro, but synthesizing high-purity Sc DNA circles biochemically remains a significant technical challenge. To overcome this challenge, we recently developed a new technology to produce high-quality circular DNA molecules or synthetic DNA circles (SDCs) in vitro. Specifically, linear DNA with two loxP sites in the same orientation is generated by PCR or RCA. Cre DNA recombinase efficiently converts the linear DNA into relaxed (Rx) SDCs. T5 exonuclease is then used to digest unwanted linear DNA, and topoisomerases are employed to generate Sc SDCs. Using this approach, we have synthesized several milligrams of EGFP-FL, a 2 kb SDC encoding essential enhanced green fluorescence protein (EGFP) expression elements. EGFP-FL transfected HeLa, C2C12, and Human Umbilical Vein Endothelial cells (HUVECs) with significantly higher efficiency than its E. coli-derived counterpart. These methods enable the efficient production of Rx and Sc SDCs from 196 bp to several kb, and in quantities from micrograms to milligrams, providing a versatile, scalable, and bacteria-free platform for basic research and therapeutic applications. We also use biochemical and biophysical methods to study DNA structures of these SDCs. Part of this work has been published in Nucleic Acids Research.

Larkin University
4th ANNUAL LEONARD A. LEVY SYMPOSIUM 2026

Invited Speaker



Title: *Ketone Bodies and Long Non-Coding RNAs in Cardiac Mitochondrial Adaptation*

Narasimman Gurusamy, Ph.D..
Associate Professor,
Department of Pharmaceutical Sciences
Barry and Judy Silverman College of Pharmacy
Nova Southeastern University

Bio:

Dr. Narasimman Gurusamy is an Associate Professor in the Department of Pharmaceutical Sciences at the Barry & Judy Silverman College of Pharmacy, Nova Southeastern University, Fort Lauderdale, Florida. His research focuses on the molecular mechanisms of cardiovascular injury and repair, with particular interests in non-coding RNAs, mitochondrial function, autophagy, and cardiomyocyte survival. His research program also investigates mesenchymal stem cells and their secreted exosomes as potential therapeutic approaches for cardiac protection and regeneration. He serves as Principal Investigator on research awards from the American Heart Association and the National Institutes of Health's National Institute of General Medical Sciences. Dr. Gurusamy earned his B.Pharm. from The Tamil Nadu Dr. M.G.R. Medical University, his M.Pharm. from Birla Institute of Technology, and his Ph.D. from Niigata University of Pharmacy and Applied Life Sciences, Japan. He completed postdoctoral training at the University of Connecticut Health Center and Harvard Medical School and subsequently served as a Research Assistant Professor at the University of Tennessee Health Science Center. He also serves as an Associate Editor for Frontiers in Cardiovascular Medicine and as a grant reviewer for the American Heart Association.

Abstract:

The heart requires a continuous supply of energy and adapts its metabolism to changes in substrate availability and physiological demand. Ketone bodies, particularly β-hydroxybutyrate, have attracted interest as both energy substrates and signaling molecules that may influence cardiac mitochondrial function. However, the molecular mechanisms connecting ketone metabolism with gene regulation and cellular adaptation remain incompletely understood.

Long non-coding RNAs regulate diverse cellular processes and may provide a link between metabolic signals and mitochondrial responses. This presentation will explore the relationship between ketone bodies and long non-coding RNA regulation in cardiomyocytes, with particular emphasis on metastasis-associated lung adenocarcinoma transcript 1 (MALAT1). Topics will include ketone utilization, mitochondrial bioenergetics, and the regulation of oxidative stress responses.

Drawing on bioinformatic and experimental approaches, the presentation will discuss a framework for investigating how RNA-mediated regulation contributes to cardiomyocyte adaptation to altered metabolic conditions. It will also consider the challenges of distinguishing molecular associations from functional mechanisms and identifying context-dependent effects. Understanding these relationships may reveal new avenues for investigating cardiac metabolic resilience and potential targets for future cardiovascular research.

Larkin University
4th ANNUAL LEONARD A. LEVY SYMPOSIUM 2026

Invited Speaker



Title: *From the Clinic to the Bench and Back: Uncovering the Origins of Asymmetric Aortic Valve Calcification and Developing Noninvasive Detection Strategies*

Joshua D. Hutcheson, Ph.D.
Associate Professor and Associate Chair, Department of Biomedical Engineering
Director, Center for Innovation in Cardiovascular Health
Florida International University

Bio:

Dr. Joshua D. Hutcheson is an Associate Professor and Associate Chair of Biomedical Engineering at Florida International University (FIU), where he directs the Cardiovascular Matrix Remodeling Laboratory. He is also the founding director of the FIU–Florida Heart Research Foundation Center for Innovation in Cardiovascular Health, which works to remove barriers to cardiovascular innovation and clinical translation in South Florida. He earned his Ph.D. in Biomedical Engineering at Vanderbilt University and completed postdoctoral training in Cardiovascular Medicine at Brigham and Women's Hospital and Harvard Medical School. His research examines how mechanical and molecular cues drive cardiovascular development and pathological remodeling. His laboratory pairs human tissue studies, conducted with clinical partners at Baptist Health South Florida, with animal models, computational modeling, and machine learning to identify therapeutic targets and develop noninvasive methods for early detection. His work is supported by the National Institutes of Health, the National Science Foundation, the American Heart Association, the Florida Heart Research Foundation, and the Miami Heart Research Institute. He is a Fellow of the American Heart Association and of the American Institute for Medical and Biological Engineering, and he received the 2018 Stop Heart Disease Researcher of the Year Award from the Florida Chapter of the American College of Cardiology.

Abstract:

Calcific aortic valve disease is the most common valve disease in older adults, yet no medical therapy slows its progression, and valve replacement remains the only treatment. Many patients are not diagnosed until symptoms appear, and by then the disease is often severe. Closing these gaps requires research that begins and ends with the patient. We must understand the mechanisms that drive the disease in order to develop treatments, and we must be able to identify the patients who need them. Through a partnership between Florida International University and the Miami Cardiac & Vascular Institute at Baptist Health South Florida, we collect consented, de-identified leaflets from patients undergoing aortic valve replacement. We analyze these tissues with high-resolution mineral imaging, histology, cell culture, and proteomic and transcriptomic methods. These studies revealed distinct calcification phenotypes and support a long-standing clinical observation: calcification differs among the three valve cusps, and the noncoronary cusp is often the most affected. The prevailing explanation holds that lower shear stress on the noncoronary cusp drives this pattern. We tested this hypothesis in a mouse model of chronic kidney disease that reproduces the asymmetric calcification seen in patients. Computational fluid dynamics, anatomical measurements, and transcriptomics indicate that hemodynamics alone do not explain the pattern. Instead, our data point to intrinsic, cusp-specific differences in cell populations that may arise during development. These mechanisms offer new targets for medical therapy. We are also bringing this work back to the clinic, because a new therapy will help only if we can find the patients who need it before the valve is severely damaged. Using the same model, we developed a patented heart sound segmentation method and a machine learning algorithm that detects valve calcification from features of the second heart sound. Clinical testing of this approach has begun at Baptist Health South Florida, with the goal of identifying, early and noninvasively, the patients who would benefit most from treatment.

Larkin University
4th ANNUAL LEONARD A. LEVY SYMPOSIUM 2026

Invited Speaker



***Title**: Understanding the Biological Diversity of Soil Microbiomes in Semi-Native and Improved Pastures at Buck Island Ranch*

Tammy Laberge, Ph.D.
Associate Professor Senior
Miami Dade College, North Campus

Bio:

Dr. Tammy Laberge is an Associate Professor Senior at Miami Dade College (MDC) North Campus, where she leads the Biotechnology program. With a passion for education and research, Dr. Laberge has mentored over 30 undergraduate students on diverse projects, including the impact of temperature changes on Cnidarians and the use of environmental DNA (eDNA) to identify biodiversity and cryptic species. Her outstanding contributions to student mentorship were recognized when she received the MDC School of Science Excellence in Mentoring Award for STEM Undergraduate Research in 2022. Dr. Laberge's students have showcased their research at numerous conferences and symposia, reflecting her commitment to integrating authentic research experiences into the classroom. Beyond mentorship, she has collaborated with leading organizations, including Galatea Bio, Inc., on building a biobank with MDC and with Archbold Biological Research Station to explore microbial biodiversity using eDNA. Dr. Laberge's academic background includes a master's degree from the University of British Columbia with a research focus on glutamine synthetase as a biological marker for fish phylogenetics. She obtained her doctorate from the University of Miami (UM), where she explored molecular aspects of nitrogen metabolism in fishes. Dr. Laberge further honed her expertise through a postdoctoral role in the Department of Biomedical Engineering at UM, focusing on dental stem cells and mechanotransduction. She also served as a visiting scientist in a marine genomics lab at UM, investigating the genomic responses of *Fundulus* species to hypoxia. Her background in molecular physiology and molecular evolution qualifies her to teach over 18 courses in Biological Sciences at MDC. Dr. Laberge is deeply engaged in advancing MDC's Biotechnology program and its bachelor's degree curriculum. She also actively participates in campus and community initiatives. Dr. Laberge's dedication to science education, mentorship, and research collaborations underscores her significant impact on students, colleagues, and the broader academic community. Her work continues to inspire innovation and excellence in the fields of biology and biotechnology.

Abstract:

Soil microbial communities play an essential role in ecosystems by contributing to organic matter decomposition, nutrient cycling, carbon turnover, and plant–soil interactions. Their composition is closely linked to soil properties and can influence soil fertility, plant productivity, and ecosystem resilience. Agricultural management practices can modify soil conditions and nutrient availability, potentially shifting the composition of soil microbial communities. At Archbold Biological Station's Buck Island Ranch near Lake Placid, Florida, managed pastures include both semi-native and improved soils. Improved pastures are generally higher-elevation areas that have been ditched, fertilized, and planted with non-native forage grasses, while semi-native pastures are lower-lying, wetter areas that have not been fertilized or planted and retain more native wet-prairie vegetation. These contrasting management histories provide an opportunity to examine how agricultural modification may be associated with differences in soil microbial communities. Our study used metagenomics to compare bacterial and fungal community compositions in semi-native and improved pastures at Buck Island Ranch using 16S rRNA gene and fungal Internal Transcribed Spacer region (ITS) sequencing. By identifying differences in the dominant groups between pasture types, we aim to better understand how pasture management may influence microbial community structure and the ecological functions associated with nutrient cycling, soil health, and agricultural productivity.

Larkin University
4th ANNUAL LEONARD A. LEVY SYMPOSIUM 2026

Speaker



Title: *Medicinal Chemistry: A Game of Whack-a-Mole: From Structure-Based Design to Small-Molecule Inhibitor Discovery*

Taraman Kadayat, Ph.D.
Assistant Professor
Department of Pharmaceutical Sciences
College of Pharmacy
Larkin University

Bio:

Dr. Kadayat is a medicinal chemist experienced in structure-based drug design, multi-step synthesis, and chemical biology. Prior to joining the Department of Pharmaceutical Sciences at Larkin University, he did postdoctoral fellowship with Dr. Kip Guy at the University of Kentucky College of Pharmacy. He earned his undergraduate degree in Pharmacy, with a Dean's Award, from Pokhara University (2009, Nepal), and an MS & PhD in Medicinal Chemistry from Yeungnam University College of Pharmacy (2016, South Korea), supported by the Korean Government Scholarship Program. From 2016 to 2021, he worked as a drug discovery chemist at the New Drug Development Center DGMIF, K-MEDIhub, refining skills in drug design and pharmacokinetic studies on topoisomerase, epigenetics, and nuclear receptor modulators.

Dr. Kadayat has designed and generated a diverse collection of chemotypes, ranging from small molecule inhibitors to PROTACs, employing knowledge of structure-based drug design, LipE, SAR/SPR, and modern synthetic and analytical techniques. He has contributed to teams that optimized six leads in oncology, infectious diseases, and inflammatory diseases. Dr. Kadayat has a proven track record of collaborative teamwork, problem-solving, CRO management, and securing independent research grants. He holds 3 patents, has published over 50 peer-reviewed scientific papers, and has presented his research at several conferences, including ACS, IUPAC, and the Gordon Research Conference. Dr. Kadayat has completed the Graduate Certificate in College Teaching and Learning (GCCTL) at the University of Kentucky, specializing in course design, active learning, student assessment, and promoting creativity, curiosity, and inclusivity. He is the recipient of multiple awards, including the NSF Regional Innovation Corps Discovery Rockstar Award, Korea Research Fellow Young Scientist Award, and the NRF Korea Early Career Research Grant. His primary research interests include discovering small molecules that target epigenetics and protein-protein interactions for the treatment of cancer, metabolic and infectious diseases.

Abstract:

Medicinal chemistry is often a game of *"Whack-a-Mole"*—improving one drug-like property may compromise another. Enhancing potency can affect selectivity, while improving metabolic stability may alter solubility or pharmacokinetic properties. Balancing these competing parameters makes drug discovery both challenging and exciting, requiring iterative molecular design, synthesis, and biological evaluation. The first part of presentation will focus on the structure-based design and optimization of **TK-59**, a bridged piperidine derivative targeting the DCN1–UBE2M protein–protein interaction within the neddylation pathway, which regulates cullin-RING ubiquitin E3 ligase (CRL) activity. High-throughput screening identified TK-06 as a potent DCN1 inhibitor; however, rapid metabolic degradation in mouse liver microsomes limited its development. Guided by X-ray co-crystal structures, systematic structural modifications led to TK-59, an orally bioavailable analogue with improved metabolic stability and enhanced anticancer activity. The second part will briefly highlight the design and synthesis of selective histone deacetylase 8 (HDAC8) inhibitors. HDAC8 is an epigenetic target implicated in several cancers, including neuroblastoma, acute myeloid leukemia, and colorectal cancer. Selected SAR findings and inhibitor potency will illustrate the challenges of achieving isoform selectivity among structurally related HDAC enzymes.

Larkin University
4th ANNUAL LEONARD A. LEVY SYMPOSIUM 2026

Speaker



Title: *Association Between Social Drivers of Health and Engagement in Self-Care and Professional Care Among Adults with Diabetes in the United States*

Heqin Yang, MS, Ph.D.
Assistant Professor,
Department of Clinical and Administrative Sciences
College of Pharmacy
Larkin University

Bio:

Dr. Yang is an Assistant Professor and researcher at Larkin University College of Pharmacy. Her research aims to promote patient-centered pharmaceutical care and improve healthcare quality through the development, evaluation, and implementation of patient-centered interventions that support informed health decision-making. Her expertise includes patient-centered communication, shared decision-making, and patient-reported outcomes research, with a particular emphasis on understanding patients' lived experiences, decision-making processes, and healthcare needs and preferences. She employs quantitative and qualitative research methods, including stakeholder interviews, surveys, secondary data analysis, and validation of patient-reported outcome measures, to inform the design, evaluation, and implementation of interventions.

Her current research focuses on improving diabetes management by examining how social determinants of health influence patients' engagement in self-care, medication-taking behaviors, and access to professional healthcare. She is particularly interested in collaborating with public health researchers, pharmacists, and other healthcare professionals to develop and evaluate pharmacist-led interventions that promote diabetes self-management, medication adherence, and patient-centered care. Her research also extends to over-the-counter medication decision-making and tobacco cessation. She welcomes interdisciplinary collaborations to advance patient-centered interventions for chronic disease management, acute health conditions, and preventive healthcare.

Abstract:

Background: Effective diabetes management depends on consistent engagement in diabetes self-care and professional care; however, social drivers of health (SDOH) may limit an individual's ability to engage in recommended care. The purpose of this study was to examine the association between SDOH and self-care and professional care engagement among adults with diabetes in the United States (U.S.).

Methods: This cross-sectional study used secondary data from the 2022 Health Information National Trend Survey (HINTS) (n = 6052) and included respondents who self-reported having type 2 diabetes. A composite SDOH variable (having at least one SDOH issue or no SDOH issues) was created using measures of food insecurity, housing insecurity, and transportation insecurity. Self-care engagement was assessed by measuring moderate exercise, strength training, alcohol consumption, binge drinking (i.e., 4 or more drinks for females or 5 or more drinks for males on one occasion), smoking status, and noticing calorie information on restaurant menus. Engagement with professional healthcare was assessed using a single item asking participants whether they had delayed needed professional care (yes/no). Engagement in self-cares were compared between two SDOH groups. A multivariable logistic regression model was conducted to examine the association between SDOH issue and delayed needed professional care. Statistical significance was defined as a two-sided $p < 0.05$.

Results: A total of 1,304 participants were included. Most participants were 50-74 years old (65.5%), 58.6% were female, and 33.6% were employed. Compared with participants reporting no SDOH issues, those reporting at least one SDOH issue engaged in moderate exercise less frequently ($p = 0.002$) and had higher proportions of binge drinking (20.1% vs. 14.6%, $p = 0.02$) and current smoking (every day or some days, $p < 0.001$), but a lower proportion reported noticing calorie information on restaurant menus (41.9% vs. 51.3%, $p = 0.002$). However, participants reporting at least one SDOH issue consumed alcohol on fewer days per week ($p = 0.04$). There was no statistically significant difference in strength training between the two groups. After adjusting for age, gender, race, education, and annual household income, respondents with at least one SDOH issue had a higher odd of delayed needed professional care compared with those without an SDOH issue (odds ratio [OR] = 3.50; 95% CI: 2.55 – 4.83).

Conclusion: Social drivers of health (SDOH) were associated with engagement of self-care behaviors among adults in the U.S. with diabetes. Experiencing at least one SDOH issue was associated with greater odds of delayed needed professional care among individuals with type 2 diabetes. These findings highlight the importance of assessing SDOH to identify individuals who may benefit from targeted interventions aimed at promoting engagement in self-care and professional healthcare services and improving diabetes management.

Larkin University
4th ANNUAL LEONARD A. LEVY SYMPOSIUM 2026

Speaker



Title: *Countering TET2 mutation driven Cardiovascular disease risk through anti-inflammatory intervention*

Amit Subedi, Ph.D.
Assistant Professor
Department of Pharmaceutical Sciences
College of Pharmacy
Larkin University

Bio:

Dr. Amit Subedi is an Assistant Professor and researcher at Larkin University College of Pharmacy. With over a decade of experience in pharmaceutical research, he specializes in drug discovery and development, focusing on the translational development of antibodies and small molecules to target cancer and inflammation. His current research aims to address the growing challenge of chronic inflammatory diseases by targeting metabolic vulnerabilities.

Dr. Subedi earned his Ph.D. in Life Science in Japan and completed a postdoctoral fellowship at the University of Toronto in Canada. Before joining Larkin University, he worked in the biotech industry in Canada, where he led the pre-clinical development of a novel therapeutic antibody targeting head and neck cancer, which has successfully advanced to a Phase I clinical trial in the UK. His research has been widely published in peer-reviewed journals and presented at regional and national conferences.

Abstract:

Ten-Eleven Translocation 2 (*TET2*) is a nuclear enzyme with epigenetic properties whose role is to catalyze the oxidation of 5-methylcytosine (5mC) to 5-hydroxymethylcytosine (5hmC) in DNA. A mutation of the gene leads to a loss of function of the *TET2* enzyme leading to the hypermethylation of the DNA which increases the secretion of inflammatory cytokines like interleukin-6 (IL-6). The risk of cardiovascular diseases increases due to the elevated levels of IL-6 secreted by cells containing this *TET2* mutation. At the moment there is no therapeutic intervention for patients carrying this mutation. Using *Tet2* mutant macrophages we developed an inflammatory model to test FDA-approved drugs that have shown anti-inflammatory properties in other experimental models. We hypothesized that these drugs could decrease the production of IL-6 mRNA and we tested it using RNA extraction and RT-qPCR. After pre-treatment we induced inflammation using IL-6 and proceeded to conduct RNA extraction and RT-qPCR. The result supported our hypothesis concluding that the tested drugs have good prospects for future therapeutic intervention to reduce the risk of cardiovascular disease in patients carrying the *TET2* mutation.

Larkin University
4th ANNUAL LEONARD A. LEVY SYMPOSIUM 2026

Speaker



***Title**: Hydrogel-Based Biomimetic Platforms for Characterizing Vascular Deficits in Diabetic Musculoskeletal Tissues*

Settimio Pacelli, Ph.D.
Associate Professor
Department of Pharmaceutical Sciences
College of Pharmacy
Larkin University

Bio:

Dr. Settimio Pacelli has recently joined the College of Pharmacy at Larkin University as an Associate Professor in the Department of Pharmaceutical Sciences. He has obtained his master's degree in Chemistry and Pharmaceutical Technology and his Ph.D. in Pharmaceutical Science at the Sapienza University of Rome in 2015. Dr. Pacelli's research includes hydrogels for drug delivery, biomaterials, and tissue engineering. The objective of his research is to identify therapeutic interventions that can restore healthy microvasculature in bone and skeletal muscle, thereby alleviating the adverse symptomatology associated with type-2 diabetes. Dr. Pacelli's past efforts at the University of Kansas and the University of Texas at San Antonio included the design and characterization of hydrogels as drug delivery formulations and diagnostic tools to investigate changes in gene expression and the secretory signaling of stem cells within skeletal muscle and bone tissue, directly assessing their impact on angiogenesis. Beyond his bench research, he is an active contributor to the broader biomedical engineering community, having served on the Biomedical Engineering Society (BMES) Education Committee, and acted as abstract reviewer for the BMES Annual Meeting. He is the recipient of the 2022 Burroughs Wellcome Young Investigator Award, and he has also served as a panelist and grant reviewer for the National Science Foundation (NSF) merit review process.

Abstract:

Beyond its classic metabolic hallmarks, Type 2 diabetes (T2D) triggers several metabolic and phenotypic changes in skeletal muscle. Specifically, a significant reduction in myofiber size, a decline in the capillary-to-fiber ratio, and ectopic fat formation are key pathological adaptations tightly linked to insulin resistance. Counteracting these destructive mechanisms requires a dual approach: advanced pathological modeling paired with targeted tissue repair. This research talk explores how 3D fibrin-based hydrogel models seeded with satellite cells derived from skeletal muscle tissues can be used as high-fidelity platforms for studying and characterizing these *in vivo* physiological and metabolic dysfunctions. These platforms also offer the opportunity to discover key differences between healthy and diabetic models in the gene expression and secretory profiles of muscle-resident satellite cells. The talk will highlight how these models can be used as screening tools to identify novel therapeutic targets to alleviate peripheral insulin resistance. Ultimately, the discussion will outline how these engineered models can be expanded to study bone-skeletal muscle crosstalk, offering a promising avenue to drive microvascular regeneration and offset the deleterious effects of T2D.

Larkin University
4th ANNUAL LEONARD A. LEVY SYMPOSIUM 2026

THANK YOU FOR JOINING US!

At Larkin University, we remain committed to fostering a collaborative and innovative research environment that advances discovery, education, and service in the biomedical, pharmaceutical, and health sciences.

We sincerely thank you for participating in the Fourth Annual Leonard A. Levy Research Symposium. We hope this year's symposium provided an engaging platform for sharing scientific discoveries, exchanging ideas, and fostering meaningful collaborations that will inspire continued research and innovation.

We extend our heartfelt appreciation to our keynote speaker, Dr. Stephan Christoph Schürer from the University of Miami, our invited speakers and distinguished guests from Florida International University, Nova Southeastern University, Miami Dade College, and Larkin University, as well as all faculty and student presenters, for their valuable contributions.

We are also deeply grateful to Eleonore Levy for her continued generosity and support in making this annual symposium possible and for helping preserve the legacy of Dr. Leonard A. Levy.

Thank you for being part of this year's symposium. We look forward to building upon the connections and ideas shared today as we continue advancing research and improving human health.

Thank you for being part of this year’s symposium.

Sincerely,
Aarajana Shrestha, Ph.D.
Research Director, Office of Research and Graduate Studies
Assistant Professor, College of Phramacy
Larkin University

LU Research Advisory Committee 2026
Thomas A. Edwards, Ph.D. (Chair)
Sandeep Sheth, Ph.D.
Jasmine Miles, Pharm.D.
Emmanuel Adediran, Ph.D.
Bearnard Ashby, MD

