CENTER FOR INNOVATIVE DRUG DISCOVERY

2023 Annual San Antonio Drug Discovery Symposium

April 10th – 11th, 2023

Greehey Children's Cancer Research Institute

University of Texas Health San Antonio

UT Health San Antonio

UTSA The University of Texas at San Antonio™

2023 Annual San Antonio Drug Discovery Symposium

Greehey Children's Cancer Research Institute Auditorium
University of Texas Health San Antonio

April 10th- 11th, 2023

Monday, April 10th

8:00 AM-8:30 AM	**Continental Breakfast and Registration**
8:30 AM-8:45 AM	**Welcome from Symposium** **Stanton F. McHardy, PhD,** Co-Director, Center for Innovative Drug Discovery (CIDD); Director, Max and Minnie Tomerlin Voelcker Medicinal Chemistry Core Facility, UT San Antonio (UTSA)
8:45 AM-9:00 AM	**Introductory Remarks** **Robert Hromas, MD**, Dean, Joe R. & Teresa Lozano Long School of Medicine; Vice President for Medical Affairs, UT Health San Antonio (UTHSA)
9:00 AM-10:30 AM	**Session One, Chair: Randy Strong** ***Finding Drugs to Combat Aging and Age-Related Diseases***
9:00 AM-9:30 AM	**Rajagopal V. Sekhar, MD** (Baylor College of Medicine) The novel role of GlyNAC supplementation on promoting Healthspan and Lifespan: Evidence from Translational Research
9:30 AM-10:00 AM	**James F. Nelson, PhD and Randy Strong, PhD** (UTHSA) Discovering drugs that retard aging: Lessons from the Interventions Testing Program
10:00 AM-10:30 AM	**Roger Shi, PhD** (UTHSA) Dafaglitapin as a Paradigm-shifting Treatment of All Age-related Diseases as One Disease
10:30 AM-10:45 AM	**Coffee Break**

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10:45 PM-12:15 PM **Session Two, Chair: Daohong Zhou**

Targeted Protein Degradation and Beyond

10:45 AM-11:15 AM **Stewart Fisher, PhD** (C4 Therapeutics)
Targeted Protein Degradation: Navigating the Challenges of Degrader Optimization

11:15 AM-11:45 AM **Hong-yu Li, PhD** (University of Arkansas for Medical Sciences)
Improving druggablity of targeting BRD4 by dialing-in HDAC inhibition

11:45 AM-12:15 PM **Dongwen Lyu, PhD** (UTHSA)
Genome-wide CRISPR Screening and Isogenic Cell Generation for Basic Science Research and Drug Development

12:15 AM-1:00 PM **Lunch (GCCRI Lobby and Dining room)**
Learn Vendor Presentations (SWRI, ThermoFisher, and Keliomics)

1:00 PM-2:30 PM **Session Three, Chair: Jean Jiang**

Biological Therapeutics/Anti-viral Therapy

1:00 PM-1:30 PM **Reuben Harris, PhD** (UTHSA)
Next generation SARS-CoV-2 protease inhibitor development

1:30 PM-2:00 PM **Zhiqiang An, PhD** (UT Health Science Center at Houston)
Academic drug discovery: challenges and opportunities

2:00 PM-2:30 PM **Sumit Chanda, PhD** (Scripps Research)
Building the plane while flying: antiviral drug discovery in the time of COVID-19

2:30 PM-2:45 PM **Coffee Break**

2:45 PM-4:45 PM **Session Four, Chair: Doug Frantz**

Synthesis & Medicinal Chemistry in Drug Discovery

2:45 PM-3:15 PM **Uttam Tambar, PhD** (UT Southwestern)
Development of Chemical Reactions to Advance Drug Discovery

3:15 PM-3:45 PM **David Griffith, PhD** (Pfizer)

Discovery of PF-07081532: A Small Molecule GLP-1 Receptor Agonist Suitable for Once-daily Oral Administration

3:45 PM-4:15 PM **Christopher am Ende, PhD** (Pfizer)
Advancing Chemical Biology and Drug Discovery Through Innovative Chemistry

4:15 PM-4:45 PM **Michael J. Soth, PhD** (MD Anderson Cancer Center)
Discovery and preclinical development of IACS-52825, a potent and selective DLK inhibitor for the treatment of chemotherapy-induced peripheral neuropathy

4:45 PM-6:30 PM **Wine & Cheese Social and Poster Session**

Tuesday, April 11th

8:00 AM-8:30 AM **Continental Breakfast**

8:30 AM-10:00 AM **Session Five, Chair: Patrick Sung**
DNA Damage and Synthetic Lethality

8:30 AM-9:00 AM **Li Lan, MD, PhD** (Harvard Medical School/MGH Cancer Center)
Understanding and targeting RNA-dependent DNA repair in cancer

9:00 AM-9:30 AM **Tomasz Skorski, MD, PhD, DCs** (Temple University/Fox Chase Cancer Center)
Targeting Leukemia Cells with DNA Repair Inhibitors

9:30 AM-10:00 AM **Alexander Mazin, PhD** (UTHSA)
Development of new cancer therapies by targeting DNA repair proteins

10:00 AM-10:15 AM **Coffee Break**

10:15 AM-11:45 AM **Session Six, Chair: Ratna Vadlamudi**
Cancer Therapeutics

10:15 AM-10:45 AM **April Risinger, PhD** (UTHSA)
Development of covalent microtubule stabilizers for the treatment of drug-resistant cancers

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10:45 AM-11:15 AM	**Masahiro Morita, PhD** (UTHSA) Targeting mRNA degradation for the treatment of metabolic syndrome
11:15 AM-11:45 AM	**Hari Vankayalapati, PhD** (Biolexis Therapeutics) Empirical FIELDS™ Platform Empowered AI/Deep Learning Fragment-Based Design and Development of Small Molecules and Degraders Targeting (un)Druggable Protein Targets
11:45 AM-1:00 PM	**Lunch (GCCRI Lobby and Dining room)** **Learn Vendor Presentations (ION Biosciences, Bruker, and Malvern Panalytical)**
1:00 PM-2:00 PM	**Plenary Keynote Presentation, Chair: Stanton F. McHardy** **John LaMattina, PhD** (Senior Partner PureTech Health) Pharma & Profits - Balancing Innovation, Medicines and Drug Prices?
2:00 PM-3:00 PM	**Round Table Discussion – Academic and Industrial Collaborations, Chair: Dan Hargrove** **John LaMattina, PhD**, Senior Partner PureTech Health **Stewart Fisher, PhD**, Chief Scientific Officer, C4 Therapeutics **Robert Hromas, MD**, Dean and Professor, UTHSA School of Medicine **Brian Hobbs, PhD**, Associate Professor at Dell Medical School and Scientific Advisor of Telperian
3:00 PM	**Closing Remarks** **Daohong Zhou, MD**, Co-Director, CIDD; Associate Director for Drug Development, Mays Cancer Center, UTHSA

CIDD Symposium Keynote Speaker

John LaMattina, PhD

Dr. John L. LaMattina is the former President of Pfizer Global Research and Development. In this role, he oversaw the drug discovery and development efforts of over 12,000 colleagues in the United States, Europe and Asia. During his tenure. Pfizer produced new treatments for cancer, smoking cessation, rheumatoid arthritis, neuropathic pain, and AIDS. He retired from Pfizer at the end of 2007. He is currently on the Board of Directors of PureTech Health, Ligand Pharmaceuticals, Vedanta Biosciences, and Immunome and also serves as a scientific advisor to Frequency Therapeutics. He is also the author of three books: "Drug Truths – Dispelling the Myths About Pharmaceutical R&D" (2008); "Devalued and Distrusted – Can the Pharmaceutical Industry Restore Its Broken Image?" (2013) and "Pharma and Profits – Balancing Innovation, Medicines, and Drug Prices" (2022). His views on current issues facing the biopharmaceutical industry can be found on his "Drug Truths" blog on Forbes.com.

CIDD Symposium Organizers

Stanton F. McHardy, PhD

Dr. Stan McHardy is an Associate Professor of Chemistry and the Director of the Center for Innovative Drug Discovery (CIDD) Max and Minnie Tomerline Voelcker Medicinal Chemistry Core Facility at UTSA. Dr. McHardy is co-Director with Dr. Daohong Zhou in overseeing all CIDD operations across the four core facilities at our partnering institutions. After receiving his Ph.D. in organic chemistry at the University of Utah in 1996, Stan served as a Pfizer Post-Doctoral Research Fellow. Dr. McHardy has over 26 years' experience in the pharmaceutical R&D and academic areas of neuroscience, cancer, non-opioid pain and infectious disease drug discovery, medicinal chemistry and synthesis and process chemistry. From 1996 to 2006, Stan worked in the department of Neuroscience Medicinal Chemistry at Pfizer Global Research in Groton, Connecticut. In his roles there, Stan led project teams toward the discovery of several clinical drug candidates in the areas of addiction, schizophrenia, Alzheimer's and ADHD and managed multi-disciplinary project teams as Associate Director. Dr. McHardy returned to Texas in 2006 and joined Southwest Research Institute and as an Assistant Director, was responsible for developing a strategy that ensured continued growth of exploratory and discovery research programs. Dr. McHardy joined UTSA in July 2012 as the first Director of the Center for Innovative Drug Discovery Medicinal Chemistry Core. In his capacity as Director, Stan has established a state-recognized core medicinal chemistry/drug discovery facility on the campus of UTSA and developed state and national research collaborations with both academic and private industry partners. Currently, the private, state and federally funded collaborative research programs in Dr. McHardy's CIDD labs are focused on various small molecule drug discovery approaches to cancer, psychotherapeutic and neurodegenerative diseases, non-opioid pain and infectious diseases.

Daohong Zhou, MD

Dr. Daohong Zhou is a tenured professor in Department of Biochemistry & Structural Biology and a Joe R. and Terry Lozano Long Distinguished Chair of Developmental Therapeutics at the Long School of Medicine. Dr. Zhou also serves as the Director of the National Cancer Institute (NCI)- and Cancer Prevention and Research Institute of Texas (CPRIT)-funded Center of Innovative Drug Discovery (CIDD) and as the Associate Director for Drug Development at the NCI-designated Mays Cancer Center (MCC). Prior to joining UTHSA, he was a Professor in the Department of Pharmacodynamics at the College of Pharmacy and a Professor in the Department of Radiation Oncology at the College of Medicine, University of Florida (UF) at Gainesville and served as the Associate Director for Translation and Drug Development and the Henry E. Innes Endowed Professor of Cancer Research at the UF Health Cancer Center. His research has led to a better understanding of the role of cellular senescence in ionizing radiation (IR) and chemotherapy induced normal tissue damage (such as bone marrow suppression and pulmonary fibrosis) and the discovery of the first potent and broad-spectrum senolytic agent, ABT263 (a dual Bcl-2 and Bcl-xl inhibitor), that can selectively kill senescent cells. This discovery may lead to new therapeutics for various age-related diseases and the side effects induced by chemotherapy and IR. More recently, he developed several proteolysis targeting chimeras (PROTACs) that can target Bcl-xl and other proteins of interest for degradation via the ubiquitination and proteasome system. He found that Bcl-xl PROTACs can selectively induce Bcl-xl degradation in senescent cells and various cancer cells but not in platelets, suggesting that Bcl-xl PROTACs have the potential to be developed as a better senolytic and anticancer agent than ABT263 by not causing thrombocytopenia. Importantly, Dr. Zhou's efforts in the development of promising senolytics and cancer therapeutics has led to the FDA approval of DT2216, a Bcl-xl PROTAC, in phase I studies, and the founding of two biotechnology companies, Unity Biotechnology, which is publicly traded (UBX on NASDAQ) and Dialectic Therapeutics, a Texas-based company that has received two CPRIT Awards for Product Development. Using the PROTAC drug development platform, he is developing additional specific antitumor and better senolytic agents.

Robert A Hromas, MD, FACP

Dr. Hromas is the Dean at the Long School of Medicine and the Vice President for Medical Affairs at the University of Texas Health Center in San Antonio. The Long School of Medicine has over 1500 faculty, 960 medical students, and 935 residents and fellows, and cares for 2.6 million patients annually. He has won numerous teaching and patient care awards, including the Indiana University Humanism in Medical Education Award, the Indiana University Board of Trustees Outstanding Teacher Award, and the People Living Through Cancer Caring Award. He has served as Chair of multiple NIH, ASH, and ACS review committees. He has published 196 research papers with an H-index of 62. He has multiple patents and has co-founded two biotechnology companies, Abfero (purchased by Pharmacosmos) and Dialectic Therapeutics, both with compounds in clinical trials. He is the author of the business leadership book, Einstein's Boss- 10 Rules for Leading Genius. He was elected to the Liaison Committee on Medical Education, the accrediting body for US medical schools. He is the founding Chair of the Board for the UT Health San Antonio Regional Physician Network Accountable Care Organization and the founding Chair of the Board for the UT Health Multispecialty Research Hospital. For these and other accomplishments he has been elected to the American Society of Clinical Investigation, Association of Professors of Medicine, the American Clinical and Climatologic Association, and the Association of American Physicians.

CIDD Symposium Speakers

Session One

Randy Strong, PhD

Dr. Strong is the holder of the Dielmann Distinguished Chair in Aging and is the Associate Director for Translational Research of the Barshop Institute for Longevity and Aging Studies. He is a Professor of Pharmacology at UT Health at San Antonio, Texas and is a Senior Research Career Scientist of the South Texas Veterans Health Care System. He is the PI for one of three sites for the Aging Interventions Testing Program, which was established by the National Institute on Aging (NIA) in 2004 by a U01 mechanism to investigate the potential of dietary and pharmaceutical interventions to promote healthy aging and longevity. He is Director of the San Antonio Nathan Shock Center of Excellence in the Biology of Aging and is a Co-Director of the San Antonio Claude D. Pepper, Older Americans Independence Center which are each funded by the NIA through a P30 mechanism. The focus of each of these centers is on discovering compounds that promote healthy aging.

Rajagopal V. Sekhar, M.B.B.S.

Dr. Sekhar is tenured Professor of Medicine, in the Section of Endocrinology, Diabetes and Metabolism at Baylor College of Medicine, where he is a clinician, researcher and educator. Dr. Sekhar's research expertise is in energy, redox and nutritional metabolism. Over the past 25 years, he has been investigating mitochondria dysfunction in aging, diabetes, HIV-infection and cognitive disorders. Via translational studies in rodents and humans, he discovered why mitochondrial dysfunction occurs in aging, and developed a nutritional solution termed GlyNAC to successfully reverse mitochondrial dysfunction. The impact of GlyNAC on successfully reversing mitochondrial dysfunction, glutathione deficiency and oxidative stress are published. A more recent NIH-funded randomized clinical trial in older humans led by Dr. Sekhar confirmed that supplementing GlyNAC in older adults successfully improves/corrects several key defects associated with and contributing to aging, including mitochondrial dysfunction, oxidative stress and seven aging hallmarks (including mitochondrial dysfunction, loss of proteostasis, abnormal nutrient sensing, altered intercellular communication, genomic instability, stem cell exhaustion and cellular senescence). Based on his early reports that GlyNAC can improve brain health and cognition in older adults and HIV-infected patients, he is currently leading NIH-funded randomized clinical trials investigating oxidative stress, mitochondrial dysfunction, glutathione deficiency, inflammation and abnormal nutrient/energy metabolism as mechanistic contributors to cognitive decline in Mild Cognitive Impairment (MCI) and Alzheimer's disease. Dr. Sekhar's research and discoveries hold significant promise for promoting healthy aging, and improving brain and organ health.

James Nelson, PhD

James F. Nelson, PhD is a Professor of Cellular and Integrative Physiology and the Barshop Institute for Longevity and Aging Studies at UT Health San Antonio. Dr. Nelson's research aims to understand the genetic and physiological basis for aging, using nutritional and pharmacologic interventions. His early work focused on female reproductive aging in mice and humans, with findings that continue to be highly cited. His studies of dietary restriction have identified an important role of hyperadrenocorticism in its anti-aging effects, as well as striking genetic variation in its ability to extend lifespan. For nearly two decades, he has participated in the NIA Interventions Testing Program, which has identified 10 drugs that increase longevity in genetically heterogeneous

mice. His current work analyzing the enormous lifespan dataset of the ITP has uncovered striking sex differences in the life-extending efficacy of those drugs, and also in the age-specific mortality of the untreated mice that remarkably parallels that of humans.

Yuguang 'Roger' Shi, PhD

Dr. Yuguang (Roger) Shi is currently a Joe R. & Teresa Lozano Long Distinguished Chair Professor in Metabolic Biology at Barshop Institute for Longevity and Aging Studies, University of Texas Health Science Center at San Antonio (UTHSCSA). His led a unique career path that encompasses a pharmaceutical research experience at Eli Lilly and Company and academic positions at various academic institutions. His laboratory pioneered the cloning of the PERK kinase, a milestone work in ER-stress and translational control, and several first in class enzymes that catalyze the remodeling of phospholipids, including ALCAT1 and LPGAT1. His longstanding research interests in translation medicine has led to the identification of ALCAT1 as the key enzyme that controls mitochondrial etiology of aging and aging-related metabolic diseases, including type 2 diabetes, obesity, diabetic complications, cardiovascular diseases, and neurodegenerative diseases. His previous research work at Penn State University uncovered a novel signaling pathway by which GLP-1 regulates glucose-sensing by pancreatic beta cells. During his tenure at Lilly, he helped the company to build a robust drug pipeline for type 2 diabetes and obesity, including the successful launch of Byetta (Exenatide), the first-in-class treatment for type 2 diabetes.

Session Two

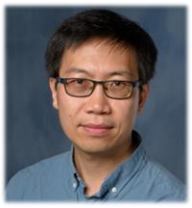
Stewart Fisher, PhD

Dr. Fisher is the Chief Scientific Officer at C4 Therapeutics, a new biotechnology company established in 2015 that is focused on the selective recruitment of targets to E3 ligases for ubiquitination and degradation by the ubitiquin/proteasome system where he is responsible for strategic delivery of the project portfolio and collaboration management. Prior to joining C4, Dr. Fisher was the Director of Enzymology and Quantitative Biochemistry in the Center for the Development of Therapeutics at the Broad Institute. His group focused on the mechanistic analysis and quantitative assessment of protein:ligand interactions required for therapeutic discovery. Prior to joining the Broad Institute, Dr. Fisher spent 15 years at AstraZeneca in the Infectious Diseases Innovative Medicines Unit, where he led numerous antibacterial programs that progressed through Phase I clinical trials and was the Executive Director, Biological Sciences. His department supported the entire drug discovery project portfolio, from target validation to pharmacodynamics modeling in support of Phase III candidates. In addition, Dr. Fisher spent 2 years at Hoffmann LaRoche leading drug discovery programs in Metabolic Diseases. Dr. Fisher received his B.A. in Chemistry at the University of Vermont and Ph.D. in Chemistry at Caltech and was a National Institutes of Health Post-Doctoral Fellow at the Harvard Medical School with Professor Christopher T. Walsh.

Hong-Yu Li, PhD

Hong-yu Li is a Professor of Medicinal Chemistry at the University of Arkansas for Medical Sciences (UAMS). He is also an Arkansas Research Alliance (ARA) Scholar, the Helen Adams & ARA endowed chair in drug discovery, and the leader for the Developmental Therapeutics Program, Winthrop P Rockefeller Cancer Institute. He received his Ph.D. degree from the University of Tokyo and did postdoctoral training at Columbia University and Harvard University. He previously worked at Eli Lilly and the University of Arizona where he focused on oncology drug discovery. His current

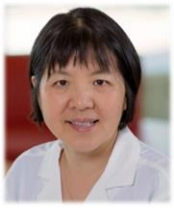
research interests are in chemical biology and drug discovery, especially for oncology related targets and phenotypes.



Dongwen Lyu, PhD

Dr. Dongwen Lyu (Lv) is an Assistant Professor/Research in the department of Department of Biochemistry and Structural Biology at UT Health San Antonio. His current research addresses two broad topics. The first topic is to study the cellular and molecular mechanisms of aging and age-related diseases and discover new senolytic drugs which can selectively eliminate senescent cells to treat aging and age-related diseases. The second topic is to study the mechanism of cancers and develop small molecules including covalent and non-covalent inhibitors and proteolysis targeting chimeras (PROTACs) degraders to treat cancers. He has published 42 peer-reviewed papers. He developed the first-generation selective BCL-XL PROTAC degrader (DT2216) and the second-generation BCL-xL and BCL-2 dual-degrading PROTAC (753b). DT2216 is currently being investigated as a novel anticancer agent in a Phase-1 clinical trial at Dialectic Therapeutics. Most recently, he led an interdisciplinary team building new assays including CRISPR screening and gene editing and finding new E3 ligase ligands to extend the frontiers of targeted protein degradation.

Session Three

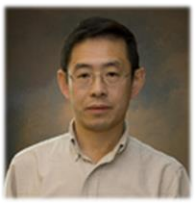


Jean Jiang, PhD

Dr. Jiang is currently a Professor and the Zachry Distinguished University Chair in Cancer Research in the Department of Biochemistry & Structural Biology at UT Health San Antonio. Dr. Jiang received her PhD in Biochemistry from the State University of New York at Stony Brook in Biochemistry and her postdoctoral training at Harvard Medical School in Cell Biology. She has been a faculty member at UT Health San Antonio since 1997. Her major research projects focus on connexin channels, and cell signaling mechanism in various tissues and cells and development of therapeutics in treating cancer and other disease indications. Dr. Jiang has published more than 160 papers and has multiple patents published and issued. Her research has been funded by multiple federal and private funding agencies. She has received the UT Health President Distinguished Senior Scholar Award and she is an elected fellow of AAAS and the National Academy of Inventors (NAI).

Reuben Harris, PhD

Dr. Harris is a professor and chair of the biochemistry and structural biology department at University of Texas Health Science Center at San Antonio. Dr. Harris received his PhD in Molecular Genetics from the University of Alberta, Edmonton and prior to joining UT Health SA was Professor at the University of Minnesota, Twin Cities. His research seeks to understand how DNA-mutating enzymes (APOBECs) provide immunity against viral infections, yet also contribute to tumor evolution through genomic DNA mutagenesis. Harris and his team are studying the mechanistic interplay between cellular APOBEC enzymes and multiple viruses, including retroviruses, herpesviruses, and small DNA tumor viruses. They are also investigating the contribution of APOBECs to cancer progression and tumor evolution, from the initial stages of transformation to the later stages of metastasis and therapy resistance. Dr. Harris also aims to translate its fundamental discoveries into novel therapeutics against viruses and cancer.



Zhiqiang An, PhD

Dr. Zhiqiang An is Professor of Molecular Medicine, the Robert A. Welch Distinguished University Chair in Chemistry, and Director of the Texas Therapeutics Institute at the University of Texas Health Science Center at Houston. His laboratory focuses on antibody drug resistance mechanisms, biomarkers for therapeutic antibodies, and antibody drug discovery targeting human diseases. During the last five years, more than 10 novel antibody drug leads discovered in his laboratory were licensed to seven biotech companies, and five have advanced to clinical trials. Previously, he served as Chief Scientific Officer at Epitomics, Inc. and was Director of Biologics Research at Merck Research Laboratories. He has authored over 200 journal articles and two books including the award-winning book "Therapeutic Monoclonal Antibodies: from Bench to Clinic". He is an elected fellow of Society for Industrial Microbiology and Biotechnology (SIMB), the American Academy of Microbiology (ASM), American Association for the Advancement of Science (AAAS), and the National Academy of Inventors (NAI). Dr. An received his Ph.D. degree from the University of Kentucky and his postdoctoral training at the University of Wisconsin-Madison.

Sumit Chanda, PhD

Dr. Chanda is a Professor in the Department of Immunology and Microbiology at Scripps Research. Dr. Chanda received his PhD in Molecular Pharmacology from Stanford University School of Medicine. Dr. Chanda's research focuses on the molecular mechanisms of virus-host interactions using advanced technologies such as CRISPR, RNAi, omics, super-resolution 3D microscopy, among others. The goal of Dr. Chanda's research is to understand a pathogen's ability to exploit the host cellular machinery and evade innate immune defenses to drive viral pathogenesis. Currently their research efforts target several RNA viruses of pandemic potential, including influenza virus, coronavirus, flaviviruses, and filoviruses.

Session Four

Doug Frantz, Ph.D.

Doug E. Frantz currently holds the Max and Minnie Tomerlin Distinguished Professorship in Chemistry at The University of Texas at San Antonio. He earned his Ph.D. in organic chemistry at Texas A&M University in 1998 with Dr. Dan Singleton where he studied the mechanistic details of organocuprate conjugate additions using natural abundance kinetic isotope effects (KIEs) and NMR techniques. He then moved on to do a post-doctoral fellowship with Dr. Erick Carreira at the ETH Zürich in Zürich, Switzerland where he discovered and developed the Zn-catalyzed asymmetric acetylide addition to aldehydes resulting in 8 publications in 14 months. Doug then joined the Process Research group at Merck & Co., in 2000 in Rahway, NJ followed by a move to Wayne, PA to help start up a brand new site for Merck where he remained until 2005. While at Merck, he helped develop robust syntheses for several clinical candidates across a wide-range of therapeutic areas including diabetes, chronic pain, oncology, and neurodegeneration. He decided to return to Texas in 2005 to pursue a career in academia where he joined the faculty in the Department of Biochemistry at the University of Texas Southwestern Medical Center at Dallas as a research assistant professor and Director of the Synthetic Chemistry Core Facility. In 2009, he was recruited to the Department of Chemistry at UTSA where he has help recruit outstanding colleagues in organic chemistry that has rapidly established the department as one of the premier places for organic chemistry in Texas. His research group continues to pursue their mutual interests in asymmetric catalysis, physical organic chemistry, stem cell differentiation, and neurodegeneration. He is also Co-Founder of the Center for Innovative Drug Discovery (CIDD), a joint drug discovery initiative between UTSA and the UT Health Science Center in San Antonio.

Uttam K. Tambar, PhD

Uttam K. Tambar moved from India to New York City in 1982. He received his A.B. degree from Harvard University in 2000, where he conducted research with Professors Cynthia Friend and Stuart Schreiber. He obtained his Ph.D. from the California Institute of Technology in 2006 under the guidance of Professor Brian Stoltz. After he completed his NIH Postdoctoral Fellowship at Columbia University with Professor James Leighton in 2009, Uttam began his independent research career at UT Southwestern Medical Center in Dallas. The Tambar lab is interested in asymmetric catalysis, natural product synthesis, chemical biology, and medicinal chemistry. Uttam is currently the Bonnie Bell Harding Professor in Biochemistry, Director of Diversity for Biochemistry, and Director of the Organic Chemistry Graduate Program, and Co-Leader of the Simmons Cancer Center's Chemistry and Cancer Program

Dave Griffith, PhD

Dave received his PhD in Chemistry from Yale University in the laboratory of Professor Sam Danishefsky. Following postdoctoral studies at the University of California, Berkeley, with Professor Clayton Heathcock, he joined Pfizer in 1995. There he has led Medicinal Chemistry efforts and broader Project Teams against targets for Obesity, Osteoporosis, Diabetes and Infectious Disease resulting in multiple candidates advanced for clinical testing including the Ph3 CB-1 antagonist Otenabant and the Ph2 GLP-1R agonists danuglipron and PF-07081532. He is an author on 51 publications and is an inventor on 57 patents.

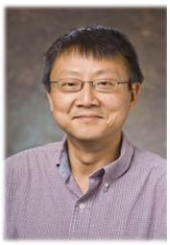
Christopher am Ende, PhD

Dr. Christopher W. am Ende is an Associate Research Fellow at Pfizer Inc. where he leads a team focused on chemical biology and drug discovery. Before starting at Pfizer in 2008, he obtained his B.S. in Biochemistry from the University of Delaware, conducting research with Neal J. Zondlo developing lanthanide-binding peptides. During graduate studies, he worked with Peter J. Tonge designing slow, tight binding inhibitors of InhA, the enoyl reductase from M. tuberculosis and then with Kathlyn A. Parker, where he completed the first total synthesis of the natural product bisabosqual A. Chris also serves on the steering committee for the New York Academy of Sciences Chemical Biology Discussion Group, is an adjunct instructor of chemistry at Connecticut College and has published more than 70 journal articles and patents.

Michael J. Soth, PhD

Mick is director and head of medicinal chemistry at MD Anderson's Institute for Applied Cancer Science. He received his training in organic chemistry at UC Irvine with a PostDoc at the University of Pittsburgh before starting his career at Roche Pharmaceuticals, where he advanced drug discovery programs in the inflammatory diseases area. He joined MD Anderson in 2013 and has led multiple programs there in both the cancer and neurodegeneration areas. The glutaminase inhibitor program he led resulted in a compound currently in clinical trials. The DLK program that he'll talk about today was spun-out of MD Anderson to create a company, Magnolia Neurosciences.

Session Five



Patrick Sung, PhD

Patrick Sung was born in Hong Kong and earned his doctoral degree from Oxford University. After a postdoctoral fellowship with Louise and Satya Prakash at the University of Rochester, he established his laboratory in 1993 at UT Medical Branch, Galveston. Since then, Patrick has maintained a strong commitment toward understanding how eukaryotes engage homologous recombination (HR) as tool in eliminating DNA breaks. The efficiency of HR catalyzed by the RAD51 recombinase is regulated by the tumor suppressors BRCA1 and BRCA2, providing evidence for a key role of HR in cancer avoidance. His labs key findings have appeared in journals such as Cell, Genes and Development, Nature, and Science. Dr. Sung has also played a leading role in teaching, advising, and mentoring students and fellows. He serves on various NIH study sections, on the editorial board of various journals including Genes and Development (since 2002), and as an Editor or Associate Editor of Molecular & Cellular Biology (from 2000-2008) and The Journal of Biological Chemistry (since 2014). Dr. Sung was elected into the Connecticut Academy of Science and Engineering while a faculty at Yale University, where he also served as Chair of Molecular Biophysics & Biochemistry for six years. He was recruited to UT Health San Antonio in 2019 as a Professor of Biochemistry and Structural Biology and an Established Investigator of the Cancer Prevention and Research Institute of Texas (CPRIT). Dr. Sung also holds the Robert A Welch Distinguished Chair in Chemistry, and is the recipient of an Outstanding Investigator Award from the National Cancer Institute.

Li Lan, MD, PhD

Li Lan is an Associate Professor at Harvard Medical School. Dr. Lan received her PhD from Tohoku University in Japan and an MD from North China Medical University. The research in Dr. Lan's laboratory has focused on the basic mechanisms of genome maintenance and DNA damage responses. For nearly two decades, Dr. Lan has been an active contributor to the research of DNA damage response (DDR) and DNA repair-targeted cancer therapy. As a Ph.D. student, Dr. Lan established the first laser micro-irradiation system to induce localized DNA damage in a single nucleus and investigated how DNA single-strand breaks (SSBs) are repaired. This research helped elucidate the role of PARP in SSB repair in cells, providing a molecular basis to targeting PARP in cancer therapy. To understand the cellular responses to oxidative DNA damage in different chromosomal environments, Dr. Lan developed the first molecular experimental system to introduce oxidative damage at specific chromosomal loci (e.g. active genes, telomeres). With this system, her lab has discovered a novel transcription- and RNA-regulated DNA repair pathway critical for the protection of the transcribed regions of the genome. Dr. Lan's studies have not only advanced the basic research of DNA repair, but also led to the identification of potential therapeutic targets in cancer cells.

Tomasz Skorski, PhD

Dr. Skorski has more than 30 years of experience in studying molecular mechanisms of leukemogenesis. In the past 20 years his laboratory was focused on determination of the role of DNA repair mechanisms in acute (AML, ALL) and chronic (CML) leukemias and in myeloproliferative neoplasms (MPNs) including the potential of therapeutic interventions. His research found that acute and chronic leukemia stem cells (LSCs) accumulate potentially lethal DNA double-strand breaks (DSBs), but homologous recombination (HR) and non-homologous end-joining (NHEJ) protect their survival. Normal cells use BRAC1/2-dependent HR and DNA-PK –mediated NHEJ to prevent DSB-triggered apoptosis. However, leukemia cells may employ alternative mechanisms such as RAD52-mediated HR and PARP1-mediated NHEJ. These changes may be driven by genetic and epigenetic aberrations. Individual

patients with leukemias displaying deficiencies in specific DSB repair pathway are identified by Gene Expression and Mutation Analysis (GEMA) (1). We explore these differences to target tumor-specific DNA repair mechanisms to achieve synthetic lethality in leukemia cells, with negligible effects on normal cells. These studies will lead to novel therapeutic approaches based on induction of personalized medicine-guided synthetic lethality in leukemias from individual patients. We were first to demonstrate that targeting PARP1 and/or RAD52 combined with standard therapeutic regimens can be applied in individual leukemias identified by GEMA (1-4).

Alexander Mazin, PhD

Dr. Mazin is a Professor in the Department of the biochemistry and structural biology department at University of Texas Health Science Center at San Antonio. Dr. Mazin received his PhD in biochemistry from the Institute of Cytology & Genetics of the Russian Academy of Sciences, followed by additional post-doctoral training in the department of microbiology at the University of California Davis and the Institut Curie- Biologie in Orsay, France. His research is focused on the discovery of branch migration activity of Rad54 protein, understanding the role of the ATPase activity of human RAD51 and its homologs, the function of BLM helicase, studies on RNA-dependent DNA repair and targeting BRCA1- and BRCA2-deficient cells with RAD52 small molecule inhibitors.

Session Six

Ratna Vadlamudi, PhD

Dr. Vadlamudi joined our faculty in January 2006. In 1994, he graduated with a doctorate in molecular biology from the University of Wyoming in Laramie, Wyoming. In 1997, he finished his post-doctoral fellowship at Harvard Medical School/Dana Farber Cancer Institute. He has held academic positions as Assistant and Associate Professor at the MD Anderson Cancer Center's Department of Molecular and Cellular Oncology and Associate Professor at the Stanley S. Cancer Center/Department of Genetics in New Orleans. In September 2010, Dr. Vadlamudi was granted tenure as a professor, and he currently holds the Tom C. and Patricia H. Frost Endowed Chair for Cancer Research and Education. He also leads the Mays Cancer Center's cancer development program and is the MD, PhD program's Associate Program Director. For his remarkable contributions to the field of cancer molecular biology, he was chosen as an AAAS Fellow in 2015. His current research focuses on the characterization of novel oncogenes and tumor suppressors, endocrine therapy resistance, the development of novel cancer therapeutics for breast, ovarian, endometrial, and gynecological malignancies, as well as estrogen signaling in these diseases. His work aims to use laboratory-based discoveries to create new therapies for the treatment of women's cancers. His research is funded by grants from the Department of Defense, the National Cancer Institute, and the VA Merit Award. Dr. Vadlamudi serves as the Vice Chair for Research in the Department of Obstetrics and Gynecology.

April Risinger, PhD

April Risinger received her BS in Biochemistry from Texas A&M University and her PhD in Cellular Biology from the Massachusetts Institute of Technology. She then completed her postdoctoral training in Molecular Oncology with Dr. Susan Mooberry at The University of Texas Health Science Center at San Antonio where she gained expertise in the pharmacology of secondary metabolites derived from natural products with a focus on microtubule targeted agents. Dr. Risinger is currently an Associate Professor in the Department of Pharmacology at UT Health San Antonio and the Greehey Distinguished Chair in Targeted Molecular Therapeutics. Overarching goals of her collaborative and multidisciplinary research program include the identification of biomarkers to guide a more rational choice among clinically

approved microtubule targeted agents for the treatment of women with breast cancer or gynecological malignancies, the development of novel classes of microtubule targeted agents that retain efficacy in drug-resistant disease and identifying strategies to alleviate neuropathic toxicities associated with cancer chemotherapy.

Masahiro Morita, PhD

Dr. Morita received B.A. and Ph.D. degrees from the University of Tokyo and completed postdoctoral training at McGill University. In 2017, Dr. Morita moved to UTHSCSA and established his laboratory to elucidate the molecular mechanisms underlying how whole-body metabolic homeostasis is dysregulated to cause metabolic syndrome and obesity-associated cancer. The goal of his research is to translate his discoveries into novel therapeutic strategies for the treatment of metabolic syndrome and its associated cancer.

Hari Vankayalapati, PhD

Prior to founding Biolexis Therapeutics, Hari was a founder of Oncolexis Therapeutics and Arrien Pharmaceuticals, serving as Chief Scientific Officer of the Companies. Hari and his colleague, Dr. David Bearss, developed the empirical-driven MolecuLern™ technology and successfully translated MolecuLern into an early discovery pipeline of targeted therapeutics for Oncology, Immunology, and CNS/Neurodegenerative indications. He recently moved from his academic career back to the pharmaceutical industry; Biolexis Therapeutics. He was an Associate Prof. at Huntsman Cancer Institute (2019-2022), and TGen (2017-2019) supporting drug discovery programs for cancer immunotherapeutics. He was Asst. Prof./Chief Scientist at the Center for Investigational Therapeutics (CIT) of The Huntsman Cancer Institute (HCI) and School of Medicine of the University of Utah (2009-2017). His presence at HCI led to the discovery of two agents (HCI-2577/SP-2577, HCI-2084/TP-0903) currently in clinical trials. From 2006-2009, Hari was Chief Scientist at SuperGen, Inc., (now Astex/Otsuka Pharmaceuticals). From 2003-2006, he was a Director of Medicinal Chemistry, and he was key in creating three clinical agents; MP-470/Amuvatinib, SGI-1776, and SGI-110/Guadecitabine, several preclinical candidates, CLIMB technology and co-founded Montigen Pharmaceuticals with Dr. Bearss with initial financing of $5.0 million. In 2006, Montigen was acquired by SuperGen for $40 million where Hari played a key role in bringing science/technology into this transaction. Hari is an author of more than 70 publications, presentations, and an inventor of several issued/published US/WO patents. He received Ph.D. and M. Pharm degrees in Medicinal Chemistry from the Institute of Chemical Technology (formerly UDCT), of the University of Mumbai and the University of Karnataka in India. He completed his Postdoctoral training in Organic Chemistry at the University of Sunderland in England and Medicinal Chemistry at the University of Arizona Cancer Center under Prof. Laurence H. Hurley.

Round Table Discussion

Dan Hargrove

Dan Hargrove is a biotech entrepreneur, investor, and lawyer. Dan received his BS degree from Texas A&M University and attended law school at University of Texas and St. Mary's University (JD), as well as the U.S. Army JAG School, LL.M (Federal Procurement Law). Mr. Hargrove is co-founder and past president of Cancer Insight, LLC (now LumaBridge), which is a full-service clinical Contract Research Organization that develops immunotherapeutics. Mr. Hargrove led Cancer Insight to exit and acquisition by the private equity firm Summit

Partners (deal closed in 2021) and remains a board member. He is also the co-founder of PalloV, LLC, a clinical-stage drug company developing novel immunotherapeutics. Mr. Hargrove is the former CEO of Emtora Biosciences where he led the company's efforts to translate its lead drug candidate from the bench to its first-in-human clinical trial; earned a multimillion-dollar investment from the Cancer Prevention & Research Institute of Texas (CPRIT), which was matched by private investors; obtained orphan drug designation from FDA for its lead drug candidate; and commenced a phase II study in the rare disease of familial adenomatous polyposis (ongoing). Emtora is soon to commence its first registrational study and recently was awarded $17.7 Million from CPRIT. Mr. Hargrove was awarded the 2004 San Antonio Young Lawyer of the Year and Texas Monthly recognized Mr. Hargrove as a "Super Lawyer" (federal government contracts), which is awarded to the top 5 percent of Texas lawyers.

Brian Hobbs, PhD

Dr. Hobbs completed a doctoral degree in biostatistics at the University of Minnesota and then joined The University of Texas MD Anderson as an Assistant Professor of biostatistics. He was promoted to Associate in 2017, and then recruited to Cleveland Clinic to found a Section of Cancer Biostatistics. He joined The University of Texas Dell Medical School in August 2020 as a tenured Associate Professor. The Eastern North American Region of International Biometric Society selected his thesis paper for the John Van Ryzin Award in 2010. In 2016, Dr. Hobbs was selected by The University of Minnesota for the Emerging Leader Award, an honor bestowed on alumni on the basis of impactful contributions within 10 years of graduating from one of The School of Public Health's 20 programs. Recognized as an expert in clinical oncology research methodology, in 2017 Dr. Hobbs was invited to lead the publication of National Cancer Institute's Clinical Trials Design Task Force with the goal of providing national, consensus recommendations for first-in-human cancer drug trials that use seamless designs. In 2018, he co-founded Telperian Inc. where he currently contributes in the role of scientific advisor. In 2020, he was invited to contribute to an article for Nature Reviews Clinical Oncology describing the current state of tumor agnostic trials. In 2021, Dr. Hobbs was invited to review the landscape of basket trials in the Journal of Clinical Oncology.

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Poster Session

Poster Number	Poster Presenter	Institution	Poster Title
1	Farzaneh Atrian	UT Health San Antonio	
2	Debjyoti Banerjee	Texas A&M University	
3	Shawn Blumberg	Southwest Research Institute	Improved Total Synthesis of Scopolamine and Atropine
4	Shelton Boyd	Baylor College of Medicine	
5	Kayla Cassady	Texas State University	Isolation of Anticancer Agent Narciclasine from Daffodil Bulbs Using the Soxhlet Extraction Method
6	Srinivas Chamakuri	Baylor College of Medicine	DNA-Encoded Chemistry Technology Yields Expedient Access to SARS-CoV-2 Mpro Inhibitors
7	Srinivas Chamakuri	Baylor College of Medicine	Synthesis of Chiral 2, 3- di Substituted Piperazines from 1,2-Diamines
8	Alexia Collier	UT Health San Antonio	Novel Targeted Therapy to treat Ovarian Cancer
9	Anjana Delpe Acharige	Baylor university	Design and Synthesis of Novel Pateamine A Derivatives for Combination Therapy: Promising eIF4A Inhibitors Targeting Cellular and Microenvironment Components in Pancreatic Cancer
10	Behnam Ebrahimi	UT Health San Antonio	Targeting LIF/LIFR autocrine loops with EC359 in ovarian cancer: A novel LIFR targeted therapy
11	Daniel Hinojosa	Southwest Research Institute	Optimization of Next Generation Filovirus Therapeutics
12	Zoe Hoffpauir	UTSA	The Riboflavinator: Rise of the biosynthetic machines
13	Annabel Maciolek	UTSA	Design, Synthesis, and Structure-Activity Relationships of Small Molecule ER-Beta Agonists for Glioblastom

14	Vinay Nair	UT MD Anderson Cancer Center	Targeting a novel cryptic pocket in ATG4B disrupts its functional activity
15	Karinel Nieves-Merced	UTSA	Design and Synthesis of Novel Menin PROTACs for Pediatric Leukemia
16	Thiago Pasin	UTSA	Structural and mechanistic studies on the deaminase/reductase RibD: a valuable model for antimicrobial drug design
17	Uday Pratap	UT Health San Antonio	Novel MDK targeted therapy for treating Endometrial Cancer
18	Uday Pratap	UT Health San Antonio	Preclinical development of brain permeable ERβ agonist for the treatment of glioblastoma
19	Vijayan Ramaswamy	MD Anderson Cancer Center	Structure-guided Discovery of Potent, Selective, Orally Bioavailable, and Brain-Penetrating RIPK1 Inhibitors
20	Lois Randolph	UT Health San Antonio	The Role of Obesity in Promoting the LIF/LIFR Signaling in Triple Negative Breast Cancer
21	Shiva Rastogi	Texas State University	Synthesis of Water Soluble Analogues of Narciclasine 1
22	Ryan Rutledge	Texas State University	Synthesis of Water Soluble Analogues of Narciclasine 2
23	Alondra Rodriguez Sanchez	UT Health San Antonio	Novel MDK targeted therapy for treating Endometrial Cancer
24	Liwen Shih	U of Houston - Clear Lake	
25	Ivan Maria Smoday	School of Medicine, University of Zagreb	
26	Kevin Tran	Baylor College of Medicine	Synthesis of Chiral 2, 3- di Substituted Piperazines from 1,2-Diamines
27	Alan Xu	UT MD Anderson Cancer Center	Development and Validation of LC-MS/MS Methods for Analysis of IACS-6274 in Human Plasma and 13C5-Glutamine and 13C5-Glutamate in Human Ex-Vivo PBMCs

28	Xue Yang	UT Health San Antonio	Targeting PELP1 reduces endometrial cancer progression via attenuation of ribosomal biogenesis
29	Yanai Zhan	MD Anderson Cancer Center	Development of robust pharmacodynamic tumor and blood biomarkers for PRMT type I inhibitors
30			
31	Daohong Zhou and Stan McHardy	UTSA	Center For Innovative Drug Discovery; A Unique Drug Discovery Resource for San Antonio and South Texas
32	Yaxia Yuan	UT Health San Antonio	CIDD Computer-Aided Drug Discovery Core
33	Srikanth Polusani and Guiming Li	UT Health San Antonio	CIDD High Throughput Screening Core
34	Doug Frantz and Nicholas Clanton	UTSA	CIDD Preclinical Pharmacology Core
35	Daifeng Jiang and Dongwen Lyu	UT Health San Antonio	GCCRI Target Identification Facility
36			
37	Dave Gallup	EMPIRI	
38	Jessica Granados	Ion Biosciences	
39	Frank Lau	Keliomics Inc.	Accelerate and De-Risk Therapeutic Development with OncoTrials, a Breakthrough Synthetic Clinical Trials Service
40	May Poh Lai	Malvern Panalytical Inc.	

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