



SALSI ACADEMY INNOVATION FORUM

FEBRUARY
26, 2016

GREEHEY CHILDREN'S
CANCER RESEARCH INSTITUTE
UT HEALTH SCIENCE CENTER



ACKNOWLEDGEMENTS

Conference Chairs

Mauli Agrawal,

Vice President for Research, UTSA

Andrea Giuffrida,

Vice President for Research, UT Health Science Center

Mark Nijland,

Assistant Vice President for Research, UT Health Science Center

Bernard Arulanandam,

Assistant Vice President for Research Support, UTSA

Planning Committee Members

Jaclyn Shaw,

Director for Research Support, UTSA

Linda Lopez-George,

Manager, Corporate Relations & Strategic Partnerships, UT Health Science Center

Ana Delgado,

Program Manager, Research Support, UTSA

Beth Manning,

Director for Financial Research Administration, UTSA

Rosanne Hurst,

Administrative Associate II, Research Support, UTSA

Rebecca Smith,

Senior Project Coordinator, UT Health Science Center

Karina Patino-Guzman,

Administrative Assistant-Senior, UT Health Science Center

ABOUT SALSII

San Antonio Life Sciences Institute (SALSII)

Established in 2003, researchers involved in SALSII have driven the expansion of new scientific knowledge throughout Texas and have enhanced the research, teaching and service missions of The University of Texas at San Antonio (UTSA) and The University of Texas Health Science Center at San Antonio (UTHSCSA). This collaboration has enabled joint doctoral programs and research projects, and has driven initiatives that stimulated the growth of the biomedical and biotechnology industries in San Antonio. SALSII has also fostered the commercialization of the products of research with institutional partners such as the Southwest Research Institute and the Texas Biomedical Research Institute.

The present global issues and challenges that research institutions are working to address are complex and occur at the intersection of disciplines. Understanding that in order to advance research, creativity, and innovations, there must be an integration and convergence of disciplines. In the past year new joint initiatives have been launched within SALSII to enhance interdisciplinary research collaborations, significantly raise our international research profile and competitiveness, and foster excellence and innovation for both institutions.

The SALSII Academy

The SALSII Academy has been created to serve as the focal point for a wide range of educational, scientific and policy issues in the life sciences. Under the auspices of SALSII and with guidance from leadership of UTSA and UTHSCSA, the Academy has a mission to bring together expertise to collaborate on joint studies that significantly contribute to solutions for challenges facing healthcare in Texas and around the nation. The SALSII Academy will achieve its mission through faculty development programs, shared resources (Core Laboratories, etc.) and collaborative funding mechanisms.

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AGENDA

LOEFFLER ATRIUM

7:30AM

CONTINENTAL BREAKFAST

8:00AM

REGISTRATION OPEN

AUDITORIUM

8:30AM

WELCOME AND REMARKS

- **WILLIAM L. HENRICH, M.D., MACP**, President
The University of Texas Health Science Center at San Antonio
- **RICARDO ROMO, PH.D.**, President
The University of Texas at San Antonio
- **RANDY CHARBENEAU, PH.D.**, Assistant Vice Chancellor for Research
The University of Texas System
- **JOSÉ MENÉNDEZ**, Texas State Senator, District 26

8:50AM

SALSI OPPORTUNITIES

- **MARK NIJLAND, PH.D.**, Assistant Vice President for Research
UT Health Science Center San Antonio
- **BERNARD ARULANANDAM, PH.D.**, Assistant Vice President for Research Support
The University of Texas at San Antonio

9:00AM

KEYNOTE SPEAKER

NATIONAL INSTITUTES FOR HEALTH - THE \$2B APPROPRIATION!

- **TOM JACOBS, PH.D.**, Associate Vice Chancellor for Federal Relations
The University of Texas System

10:15AM

BREAK

10:30AM

SALSI-CLUSTER RESEARCH EXCELLENCE GRANT KEY FINDINGS

- **NATHAN WIEDERHOLD, PHARM.D.**, Director of the Fungus Testing Laboratory and
Associate Professor of Pathology, UT Health Science Center San Antonio

11:15AM

KEYNOTE SPEAKER

CHALLENGES OF UNIVERSITY STARTUPS AND THE FUNCTION OF THE MEDICAL OFFICER

- **PETER C. JOHNSON, M.D.**, Principal, MedSurgPI, LLC and President and CEO, Scintellix, LLC

COMMONS

12:00PM

INFORMAL NETWORKING LUNCH

1:00PM

KEYNOTE SPEAKER

LEVERAGING PRIVATE/PUBLIC PARTNERSHIPS

- **RUBEN RATHNASINGHAM, PH.D.**, Assistant Dean for Health Product Innovation and
Director, Texas Health Catalyst, The University of Texas at Austin

- 1:45PM **LILLY OPEN INNOVATION DRUG DISCOVERY PROGRAM**
- A STORY OF VIRTUAL TO TANGIBLE COLLABORATION
- **SHARON SEMONES, M.S.**, External Environment, Search and Evaluate, Discovery Chemistry, Open Innovation Drug Discovery Program, Eli Lilly and Company
 - **DOUG FRANTZ, PH.D.**, Associate Professor of Chemistry
The University of Texas at San Antonio
- 2:15PM **DRUG DISCOVERY PANEL DISCUSSION**
FACILITATOR
- **CHARLES FRANCE, PH.D.**, Professor of Pharmacology and The Robert A. Welch Foundation Distinguished Chair, UT Health Science Center San Antonio
- PANEL MEMBERS**
- **SHARON SEMONES, M.S.**, Eli Lilly and Company
 - **STAN MCHARDY, PH.D.**, Director, Center for Innovative Drug Discovery and Associate Professor of Research, The University of Texas at San Antonio
 - **JONATHAN BOHMANN, PH.D.**, Principal Scientist, Southwest Research Institute
 - **PETER HOUGHTON, PH.D.**, Greehey Distinguished Chair for the Greehey Children's Cancer Research Institute, UT Health Science Center San Antonio
- 2:45PM **BEING A DATAOLOGIST: BIG AND SMALL DATA FOR PERSONALIZED AND POPULATION HEALTH**
- **NITESH CHAWLA, PH.D.**, Director of The Interdisciplinary Center for Network Science & Applications (iCeNSA) and Frank Freimann Professor of Computer Science and Engineering, The University of Notre Dame
- 3:15PM **DATA ANALYTICS PANEL DISCUSSION**
FACILITATOR
- **MAX KILGER, PH.D.**, Director of Data Analytics Program
The University of Texas at San Antonio
- PANEL MEMBERS**
- **NITESH CHAWLA, PH.D.**, The University of Notre Dame
 - **DAVID W. VICKERS, P.E.**, Staff Engineer-Intelligent Systems Department, Southwest Research Institute
 - **ROBIN LEACH, PH.D.**, Chief, Division of Research and Professor of Cellular and Structural Biology, UT Health Science Center San Antonio
- 3:45PM **BREAK**
- 4:00PM **KEYNOTE SPEAKER:**
FACULTY ADVOCACY IN SHAPING POLICY AND FUNDING SUPPORT FOR LIFE SCIENCES
- **ERIN HEATH, MSC**, Associate Director of Government Relations
American Association for the Advancement of Science
- 4:45PM **CLOSING REMARKS**
- **ANDREA GIUFFRIDA, PH.D.**, Vice President for Research
UT Health Science Center San Antonio
 - **C. MAULI AGRAWAL, PH.D., P.E.**, Vice President for Research
The University of Texas at San Antonio
- LOEFFLER ATRIUM**
- 5:00PM **NETWORKING RECEPTION**

WELCOME AND REMARKS



WILLIAM L. HENRICH, M.D., MACP

PRESIDENT, UT HEALTH SCIENCE CENTER SAN ANTONIO

Dr. Henrich, specialist in kidney diseases, has served as the president of The University of Texas Health Science Center at San Antonio since 2009. He received his undergraduate degree from Columbia University and his medical degree from Baylor College of Medicine, and later completed a residency in Internal Medicine at the University of Oregon Medical School and a fellowship in Nephrology at the University of Colorado School of Medicine. Dr. Henrich served as Professor of Internal Medicine at UT Southwestern

Medical School, Associate Chief of Staff for Research and Development at the VA Medical Center in Dallas and Attending Physician at Zale Lipshy University Hospital.

Following his services as Professor and Chairman of Medicine at the Medical College of Ohio and Chief of the Medical Service, Medical College Hospital, in Toledo, Ohio, he served as the Theodore Woodward Professor and Chairman of the Department of Medicine at the University of Maryland School of Medicine in Baltimore and then as the Dean of the School of Medicine and Vice President for Medical Affairs at The University of Texas Health Science Center at San Antonio. He is the editor of the popular dialysis textbook "Principles and Practice of Dialysis" and his research has been funded by the National Institutes of Health.



RICARDO ROMO, PH.D.

PRESIDENT, UTSA

During his 15 years as president of The University of Texas at San Antonio, Ricardo Romo has presided over a period of unprecedented growth in the university's footprint, its student enrollment and the quality of its academic and research programs. By emphasizing excellence in scholarship, groundbreaking research and community outreach, President Romo has helped build a university whose graduates are prepared to change the world.

Romo is a San Antonio native who grew up on the city's West Side. He earned a bachelor's degree in education from The University of Texas at Austin in 1967 and a master's degree in history from Loyola Marymount University in 1970. Romo earned a Ph.D. in history in 1975 from the University of California, Los Angeles. Romo taught at the University of California at San Diego, UT-Austin, and the University of California, Berkeley. In 1993, he became vice provost for undergraduate education at UT-Austin before becoming president of UTSA in 1999.

During his presidency, UTSA has evolved from a commuter campus to an emerging Tier One research institution, with research strengths in health, cybersecurity, energy and sustainability, and human and social development. He has overseen an increase in the number of degree programs from 90 to 147, growth in the number of tenured and tenure-track faculty members by nearly 70 percent, an increase in the number of endowed faculty positions from 7 to 61 – with a goal of 80 over the next few years – and an increase in research expenditures from nearly \$18 million to more than \$50 million.



RANDALL J. CHARBENEAU, PH.D., P.E.

ASSISTANT VICE CHANCELLOR FOR RESEARCH, UT SYSTEM

Dr. Randall J. Charbeneau is the Assistant Vice Chancellor for Research with The University of Texas System, Professor of Civil Engineering at The University of Texas at Austin and an Administrative Judge (technical), Atomic Safety and Licensing Board, United States Nuclear Regulatory Commission.

After joining the University in 1978 as an Assistant Professor in Civil Engineering, Dr. Charbeneau served as Director of the Center for Research in Water Resources from 1989-1997. During this period Dr. Charbeneau directed the environmental thrust for a university consortium focused on issues of the Department of Energy's Pantex Plant facility near Amarillo, Texas. Dr. Charbeneau also directed research and development in surface water hydrology and performance assessment for a license application by the Texas Low-Level Radioactive Waste Disposal Authority. From 1999-2008, Dr. Charbeneau served as Associate Dean for Research for the College of Engineering (The Cockrell School of Engineering). As Associate Dean, Dr. Charbeneau oversaw the administration activities of 20 research centers that report through the College of Engineering. Since 2008, Dr. Charbeneau serves part-time as an Administrative Judge with the Atomic Safety and Licensing Board Panel of the United States Nuclear Regulatory Commission.

Dr. Charbeneau's research interests include subsurface fate and transport of hazardous and radioactive materials, site assessment and remedy evaluation for petroleum-contaminated sites, stormwater management and hydraulics, and

radiological assessments. Dr. Charbeneau's research program developed the United States Environmental Protection Agency's (EPA) Hydrocarbon Spill Screening Model (HSSM, 1994) and American Petroleum Institute's Light Non-Aqueous Phase Liquid Distribution and Recovery Model (API LDRM, 2003, 2007).

Dr. Charbeneau's prominent professional activities include serving on the Texas Council on Environmental Technology (2001-05), peer review panel for the Love Canal Habitability Investigation (1985-89) under the United States EPA, the New York State Department of Environmental Quality and Center for Disease Control and numerous committees for the United States Department of Energy and the National Research Council.

Dr. Charbeneau has published more than 50 peer-review journal articles and more than 100 additional technical publications, including a textbook on groundwater hydraulics and pollutant transport.

Dr. Charbeneau has degrees in Civil Engineering from the University of Michigan (BS, 1973), Oregon State University (MS, 1975) and Stanford University (PhD, 1978).



JOSÉ MENÉNDEZ

TEXAS STATE SENATOR, DISTRICT 26

The son of immigrants, State Senator José Menéndez grew up working at his family's small business in San Antonio. He graduated from Central Catholic High School before earning degrees in Business Administration and Latin American Studies at Southern Methodist University.

As a family man, Senator Menéndez has been married to his best friend Cehlia Newman-Menéndez since 1995. In his spare time, José enjoys spending time with his three children, Dominic, Victoria, and Austin. He feels so blessed to have such a wonderful family.

As a businessman, Senator Menéndez has helped tens of thousands of families realize the American Dream of homeownership through his work at Stewart Title. His work ethic and business success led to his rapid promotion from a local commercial marketing representative, to National Director for Multi-Cultural markets, to a Vice President of the National Title Services division in less than 15 years.

He was first elected to San Antonio City Council in 1997 where he represented the city's west side. During his three years on City Council, Jose served as Chair of the International Relations Committee and was a member of the Small Business Strategy Committee.

Senator Menéndez was first elected State Representative for House District 124 in the year 2000. As a freshman he passed a greater ratio of his legislation than any other member of the Bexar County delegation. During his tenure, he was entrusted with an appointment to the powerful Appropriations Committee where he secured thousands of dollars for Haven for Hope, Morgan's Wonderland and other crucial San Antonio initiatives. In his final session as State Representative, Jose was appointed Chairman of the House Committee on Defense and Veterans' Affairs where he passed one of the state's largest mental health programs for Veterans.

Most Recently, Senator Menéndez won a special election to fill Texas Senate District 26. The newest member among the Senate's freshman class this session, he has distinguished himself as a commonsense problem solver who gets to the table where decisions are being made and works with all sides to get the job done for Texas families. He remains very committed to improving the state's public education system, utilities and energy infrastructure, housing and economic development issues, health and human services matters and the state's operating budget. He was appointed to the Intergovernmental Relations, Criminal Justice, and Higher Education Committee. His first session as State Senator was also his most successful. Senator Menéndez passed 38 bills that benefited seniors, veterans, and San Antonio families and secured millions of dollars for the renovation of the Alamo complex.

SALSI OPPORTUNITIES



MARK NIJLAND, PH. D.

ASSISTANT VICE PRESIDENT, UT HEALTH SCIENCE CENTER SAN ANTONIO

Dr. Mark Nijland is the Assistant Vice President at The University of Texas Health Science Center at San Antonio. He received his Ph.D. at the University of Witwatersrand in Johannesburg, South Africa followed by postdoctoral fellowships at UC Riverside and then UCLA. His first faculty appointment was at UCLA, followed by positions at Cornell and then NYU. He joined the Department of Obstetrics and Gynecology at UTHSCSA in 2004. Dr. Nijland is a tenured Associate Professor in Ob-Gyn where he was the Scientific Director of the Center for Pregnancy and Newborn Research. He has extensive teaching and mentoring skills, he is an accomplished scientist with over 100 peer-reviewed publications, and is either the PI or Co-PI on multiple NIH grants.

Dr. Nijland's research interests are focused on the Developmental Origins of Adult Disease, a process by which predisposition to diseases such as heart disease, stroke, obesity and diabetes is believed to be influenced by events occurring during pregnancy. He was among the first to demonstrate that renal structure, function and hypertension are produced in a model of growth restriction using pregnant sheep. His funding has primarily been through the Eunice Kennedy Shriver National Institute of Child Health and Human Development. Currently Dr Nijland is responsible for the Institutional Research Core Laboratories, the Department of Laboratory Animal Resources, and Research Information Technologies at the Health Science Center.



BERNARD ARULANANDAM, PH.D., M.B.A.,

ASSISTANT VICE PRESIDENT FOR RESEARCH SUPPORT, UTSA

Dr. Bernard Arulanandam obtained a Ph.D. in microbiology and immunology at the Medical College of Ohio and an executive M.B.A. at the University of Texas at San Antonio. Dr. Arulanandam is a cellular immunologist and directs a research program that is focused on understanding host-microbe interactions and identifying approaches to induce optimal mucosal protection and immunity. Specifically, Dr. Arulanandam's research efforts are focused on vaccine development for Chlamydia trachomatis, the leading bacterial sexually transmitted infection and Francisella tularensis, the causative agent of pneumonic tularemia. Dr. Arulanandam's research accomplishments are demonstrated by his continued funding from the National Institutes of Health, extensive list of research publications, and international recognition. Dr. Arulanandam is the Director of the South Texas Center of Emerging Infectious Diseases and currently directs the DoD Center of Excellence in Infection Genomics that encompasses a research program in microbial genomics and bacterial pathogenesis along with extensive community outreach and training components. In December 2012, Dr. Arulanandam was appointed as the Assistant Vice President of Research Support. In this capacity Dr. Arulanandam is involved in promoting and supporting research and scholarly activities at UTSA. In February 2015, Dr. Arulanandam was named a fellow of the American Association for the Advancement of Science (AAAS). He was elected by his peers for the honor, recognizing his scientific and socially distinguished efforts to advance science and its applications.

NATIONAL INSTITUTES FOR HEALTH – THE \$2B APPROPRIATION!



KEYNOTE SPEAKER

TOM JACOBS, PH.D.

ASSOCIATE VICE CHANCELLOR FOR FEDERAL RELATIONS
UT SYSTEM

Dr. Tom Jacobs, Associate Vice Chancellor for Federal Relations, is focused on aligning the research priorities between UT scientists and the NIH, NSF and other federal agencies.

He has broad scientific program expertise as the NIH Program Director for stroke, brain cancer, neuroimaging and the pulmonary circulation that spanned a 24-year tenure. Dr. Jacobs' experience in basic, translational and clinical research also includes extensive knowledge of NIH peer review, training, diversity and small business programs.

Prior to his NIH experience, Tom received his doctoral degree from the University of Maryland in Physiology. He was a faculty member at the Uniformed Service University of the Health Sciences (USUHS) in Bethesda, MD where his research focused on mechanisms of central nervous system injury in stroke/trauma. He has contributed over 50 peer-reviewed publications.

SALSI-CLUSTER RESEARCH EXCELLENCE GRANT KEY FINDINGS



NATHAN WIEDERHOLD, PHARM.D.

DIRECTOR OF THE FUNGUS TESTING LABORATORY
AND ASSOCIATE PROFESSOR OF PATHOLOGY, UT HEALTH SCIENCE CENTER SAN ANTONIO

Dr. Nathan Wiederhold is an Associate Professor in the Departments of Pathology and Medicine/Infectious Diseases at the University of Texas Health Science Center at San Antonio. He also serves as the Director of the Fungus Testing Laboratory (FTL), a large reference mycology laboratory that receives clinical specimens from different institutions throughout the United States and other parts of the world for fungal identification, antifungal susceptibility testing, and measurement of antifungal drug levels. In addition to its clinical service, the FTL is also highly involved in clinical and pre-clinical studies of antifungal agents and instruments for the diagnosis of invasive fungal infections. Dr. Wiederhold has received funding from industry, professional organizations, and the National Institutes of Health, and he currently serves as a Co-Principal Investigator on several NIH/NIAID contracts that provide in vitro and in vivo pre-clinical resources to the research community for the evaluation of novel antibiotic and antifungal agents.

Dr. Wiederhold received his B.A. in Biology at the University of Texas at Austin in 1996, and his Doctor of Pharmacy from the University of Texas at Austin & the University of Texas Health Science Center at San Antonio in 2000. He then completed Pharmacy Practice and Infectious Diseases residencies at Barnes-Jewish Hospital in St. Louis before completing his research fellowship in Medical Mycology / Antifungal Pharmacology at the University of Houston and the University of Texas MD Anderson Cancer Center. In addition to his clinical and research responsibilities as Director of the FTL, Dr. Wiederhold also is an Associate Editor for the journal Medical Mycology and serves on the editorial board for Antimicrobial Agents and Chemotherapy.

CHALLENGES OF UNIVERSITY STARTUPS AND THE FUNCTION OF THE MEDICAL OFFICER



KEYNOTE SPEAKER

PETER C. JOHNSON, M.D.

PRINCIPAL, MEDSURGPI, LLC AND PRESIDENT AND CEO, SCINTELLIX, LLC

Peter C. Johnson, MD is a University of Notre Dame and SUNY Upstate Medical University graduate. After General and Plastic Surgery training, Dr. Johnson practiced reconstructive surgery for ten years at U.

Pittsburgh where he founded and was the first President of the Pittsburgh Tissue Engineering Initiative.

Subsequent roles were co-founder/CEO of TissueInformatics, EVP of Life Sciences, CMO and CBO of Icoria,

EVP, Entegriion, Inc. and VP, Research and Development and Medical and Scientific Affairs of Vancive Medical Technologies, an Avery Dennison business. He presently serves as President and CEO of Scintellix, LLC, Chief Medical Advisor to Vancive Medical Technologies and Principal, MedSurgPI, LLC. He is the current President of NCTERMS (North Carolina Tissue Engineering and Regenerative medicine Society). He has chaired the Plastic Surgery Research Council, was President of the Pennsylvania Biotechnology Association and the Tissue Engineering Society, International and is presently the Co-Editor-in-Chief of the three-part Journal, Tissue Engineering. He serves on the Industry Committee of Tissue Engineering and Regenerative Medicine International Society (TERMIS) on the board of the Transverse Myelitis Association and on the Industry Advisory Board of the UNC/NC State Joint Program in Bioengineering. He is an Adjunct Professor of Surgery, Bioengineering and Business at the University of North Carolina at Chapel Hill, of Bioengineering at NC State and of Regenerative Medicine at Wake Forest University School of Medicine. He is an avid cook, fly fisherman, artist and novelist.

LEVERAGING PRIVATE/PUBLIC PARTNERSHIPS



KEYNOTE SPEAKER

RUBEN RATHNASINGHAM, PH.D.

ASSISTANT DEAN FOR HEALTH PRODUCT INNOVATION
AND DIRECTOR, TEXAS HEALTH CATALYST, UT AUSTIN

Ruben Rathnasingham, PhD has more than 15 years of biomedical leadership experience in several companies founded on technologies invented and developed in academic institutions. In his current role, as the Assistant Dean for Health Product Innovation at the Dell Medical School, he is responsible for creating and growing initiatives to support health-related translational research at UT Austin. This includes leading the newly formed Texas Health Catalyst Program which brings product development and commercialization expertise from industry into the academic setting to maximize the health impact of academic research. Most recently, he was Associate Director of Early Translational Research at the University of California, San Francisco, where he helped develop and led the UCSF Catalyst Program which successfully leveraged industry partners to help identify, support and translate technologies through and out of the university.

Prior to his tenure in academia, Ruben co-founded and grew a number of healthcare companies, including most recently, StrataGent Life Sciences, where he helped develop a needle free, wearable infusion pump that was honored with a 2010 Edison Award for Best New Product. Ruben has a Masters in Engineering from Imperial College, London University, and a MS and Ph.D. from MIT.

LILLY OPEN INNOVATION DRUG DISCOVERY PROGRAM – A STORY OF VIRTUAL TO TANGIBLE COLLABORATION

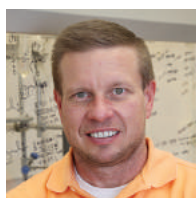


SHARON SEMONES, M.S.

EXTERNAL ENVIRONMENT, SEARCH AND EVALUATE, DISCOVERY CHEMISTRY,
OPEN INNOVATION DRUG DISCOVERY PROGRAM, ELI LILLY AND COMPANY

Sharon received her B.S. in Chemistry from Chatham University and then studied under Dr. Ron Hites at Indiana University where she earned her M.S. in Analytical Chemistry. She joined Lilly Research Labs in 1999, building a Physical Properties group in Discovery Research. In 2004, Sharon transferred to Global External R&D where her responsibilities ranged from developing and managing technology portfolios and strategy to partnering with academic, alumni and external parties to foster novel business models and licensing opportunities. In May 2012, Sharon took on a newly formed role supporting the external environment for Eli Lilly's Open Innovation Drug Discovery Program (<https://openinnovation.lilly.com/dd/>) and Lilly's Innovation Starts Here campaign, whose mission is to foster and align people, environment and technical innovation. In October 2015, Sharon's role expanded to cover Search and Evaluate Opportunities within the Organization and novel partnership strategies.

***ALSO A PANEL MEMBER**



DOUG FRANTZ, PH.D.

ASSOCIATE PROFESSOR OF CHEMISTRY, UTSA

Doug Frantz is an associate professor in the Department of Chemistry where he 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 College Station, TX in 1998 with Dr. Dan Singleton and 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 several new chemical reactions for reducing the costs associated with the manufacturing of new drugs. From 2000 to 2005, Frantz worked in the Department of Process Research at Merck & Co., developing practical and efficient ways to synthesize drug candidates through all phases of pre-clinical and clinical development in multiple therapeutic areas. Frantz returned 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 continues to pursue his research interests in identifying biologically active small molecules as potential therapeutics for various diseases. He is also Co-Founder of the Center for Innovative Drug Discovery (CIDD), a joint drug discovery initiative between UTSA and UTHSCSA.

DRUG DISCOVERY PANEL DISCUSSION



FACILITATOR

CHARLES FRANCE, PH.D.

PROFESSOR OF PHARMACOLOGY AND
THE ROBERT A. WELCH FOUNDATION DISTINGUISHED CHAIR, UT HEALTH SCIENCE CENTER
SAN ANTONIO

Dr. France is a University of Michigan graduate and did his postdoctoral training at Harvard Medical School. He is a tenured professor in the Departments of Pharmacology and Psychiatry at the University of Texas Health Science Center San Antonio. As a testament to his exemplary research and teaching career, he was appointed in 2015, to hold the Robert A. Welch Foundation Distinguished Chair. Professor France's research focuses on biological and behavioral factors that contribute to drug abuse and drug dependence. He has conducted drug abuse research for more than 36 years and his laboratory has been continuously supported by the NIH for the past 30 years. He has published more than 280 original research reports, chapters, and reviews.

He has received numerous awards and honors for his research including a prestigious Senior Scientist Research and Mentorship Award (K05) from the National Institute on Drug Abuse (NIDA), National Institutes of Health (NIH). He has trained numerous high school, undergraduate, and graduate students, postdoctoral fellows, junior faculty and he directs a NIDA/NIH-supported training program for "Training in Drug Abuse Research: Behavior and Neurobiology." He is the principal investigator of an NIDA/NIH grant that supports an annual meeting entitled "Behavior, Biology and Chemistry: Translational Research in Addiction" that brings together a diverse group of addiction researchers, including many students, from throughout the country to present their findings and explore new approaches for treating drug and alcohol abuse. In addition to NIH-sponsored research, his laboratory has evaluated the abuse liability of many compounds for the pharmaceutical industry. He has served as President of the Society for Stimulus Properties of Drugs, President of the Behavioral Pharmacology Society, Chair of the Behavioral Pharmacology Division of the American Society for Pharmacology and Experimental Therapeutics (ASPET), Councilor of ASPET, and he is currently the Secretary/Treasurer Elect of ASPET. He has been a member of and chaired numerous NIH and VA study sections.



PANEL MEMBER

STAN MCHARDY, PH.D.

DIRECTOR, CENTER FOR INNOVATIVE DRUG DISCOVERY
AND ASSOCIATE PROFESSOR OF RESEARCH, UTSA

Dr. Stan McHardy is the director of the Center for Innovative Drug Discovery and an Associate Professor of Research in the Department of Chemistry. 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 19 years' experience in the pharmaceutical R&D and academic areas of neuroscience, cancer 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-discovery project teams as Associate Director.

Dr. McHardy returned to Texas in 2006 and joined Southwest Research Institute as a senior research scientist. In 2008, he became a manager in Research and Development in synthesis and process chemistry and materials chemistry. Stan became the Assistant Director of the division in September 2011 and 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. 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 and infectious diseases. Dr. McHardy has numerous publications in the area of medicinal chemistry and drug discovery and is inventor or co-inventor on 22 patents.



PANEL MEMBER

JONATHAN BOHMANN, PH.D.

PRINCIPAL SCIENTIST, SOUTHWEST RESEARCH INSTITUTE

Dr. Bohmann is director of biostructure-based drug design laboratory at Southwest Research Institute. He is the author of the Rhodium™ molecular docking platform at SwRI, a new approach to drug design based on the information theory of hydrophobic interactions. His professional experience includes computer-aided design for materials engineering, protein engineering, and drug discovery. Dr. Bohmann has contributed to internal and client research in several areas of drug discovery including computer-aided rational design of novel pharmaceuticals for infectious diseases, dementia, pain research, drug safety and neurosciences.



PANEL MEMBER

PETER HOUGHTON, PH.D.

GREEHEY DISTINGUISHED CHAIR FOR THE GREEHEY CHILDREN'S CANCER RESEARCH INSTITUTE, UT HEALTH SCIENCE CENTER SAN ANTONIO

Dr. Peter Houghton's received his Ph.D. from the Institute for Cancer Research, London University, and joined St. Jude Children's Research Hospital where he became Chair, Department of Molecular Pharmacology, and Co-Leader for the Solid Malignancies Program. In 2009 he became Director, Center for Childhood Cancer and Blood Diseases, at The Research Institute at Nationwide Children's Hospital, Columbus Ohio, and from 2014 has been Director, Greehey Children's Cancer Research Institute, University of Texas Health Science Center, San Antonio. His work in developmental therapeutics, has focused largely on pediatric sarcomas. Specifically, understanding the role of insulin-like growth factors in the genesis of pediatric sarcomas, and developing approaches to inhibiting these signaling pathways. This focus led him to identify rapamycin and other rapalogs as potent inhibitors of sarcoma cell proliferation, and to map the pathway downstream of mTORC1 that is important for tumor cell proliferation. Another major focus of his work has been developing xenograft models of childhood cancers. He initiated preclinical development of the camptothecin drugs, topotecan and irinotecan that are now standard components of many pediatric clinical protocols. Dr. Houghton was the Principal Investigator of the National Cancer Institute (NCI) sponsored Pediatric Preclinical Testing Program (PPTP), and a member of the Pediatric Preclinical Testing Consortium where he conducts new agent evaluation against pediatric sarcoma and kidney cancer models. He is the PI on a large multi-institutional P01 grant entitled Studies of Childhood Sarcomas as well as other NIH funded grants. Dr. Houghton has over 35 years of experience in preclinical testing. Dr. Houghton has both NIH and industry support for studies involving drug combinations with ionizing radiation using human tumor xenograft models of pediatric cancer.

BEING A DATAOLOGIST: BIG AND SMALL DATA FOR PERSONALIZED AND POPULATION HEALTH



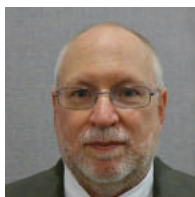
NITESH CHAWLA, PH.D.

DIRECTOR OF THE INTERDISCIPLINARY CENTER FOR NETWORK SCIENCE & APPLICATIONS (ICENSA) AND FRANK FREIMANN PROFESSOR OF COMPUTER SCIENCE AND ENGINEERING THE UNIVERSITY OF NOTRE DAME

Nitesh Chawla, PhD is the Frank Freimann Professor of Computer Science and Engineering, and director of the research center on network and data sciences (iCeNSA) at the University of Notre Dame. A core theme of his research focus is: Big Data for the Common Good. He started his tenure-track career at Notre Dame in 2007, and quickly advanced from assistant professor to endowed full professor position in eight years. He has brought in over \$18M dollars in research funding to the university since 2007. He has received numerous awards for research, scholarship and teaching. His work has led to several innovations in machine learning, network science, and health care analytics. He is the recipient of multiple best paper awards. He is the recipient of the IEEE CIS Outstanding Early Career Award; the IBM Watson Faculty Award, the IBM Big Data and Analytics Faculty Award, National Academy of Engineering New Faculty Fellowship, and his PhD dissertation also received the Outstanding Dissertation Award. In recognition of the societal and community driven impact of his research, he was recognized with the Rodney Ganey Award and Michiana 40 Under 40. He is also a two-time recipient of Outstanding Teaching Award at Notre Dame. He is also a frequent speaker at national and international venues. He is a Fellow of the Reilly Center for Science, Technology, and Values; Fellow of the Institute of Asia and Asian Studies; and Fellow of the Kroc Institute for International Peace Studies at Notre Dame. He is the founder of Aanalytics, a data science company.

***ALSO A PANEL MEMBER**

DATA ANALYTICS PANEL DISCUSSION



FACILITATOR

MAX KILGER, PH.D.

DIRECTOR OF DATA ANALYTICS PROGRAM, UTSA

Max Kilger is a Senior Lecturer with a joint appointment in the Department of Information Systems & Cyber Security and the Department of Marketing at the University of Texas at San Antonio (UTSA). He is currently the director of the new Masters in Data Analytics program at UTSA. He has seventeen years of experience in industry including his most recent post as Chief Behavioral Scientist at Experian Marketing Services where he led a number of Big Data efforts in analyzing television audiences, consumer behavior and mobile device analytics. He holds patents on the integration of large databases with disparate individuals and also on audience engagement measurements.

His areas of expertise include developing a better understanding of the relationship between individuals and digital technology. This interest coincides with his research into the social and psychological factors motivating malicious online actors, hacking groups and cyberterrorists. Max has written and co-authored a number of journal articles and book chapters on profiling, the social structure of the hacking community, cyberviolence and the emergence of cyberterrorism. He recently co-authored the popular book *Reverse Deception: Organized Cyberthreat Counter-Exploitation* and is working with his co-authors on his second book *Deception in the Digital Age*. He is a founding and board member of the HoneyNet Project, a not-for-profit information security organization with 54 teams of experts in 44 countries working for the public good. Max was a member of a National Academy of Engineering committee dedicated to make recommendations for combating terrorism. He is a frequent national and international speaker to information security forums, federal law enforcement and the intelligence community as well as a member of an instructional team for a NATO counterterrorism course. Dr. Kilger received his Ph.D. in Social Psychology from Stanford University.



PANEL MEMBER

DAVID W. VICKERS, P.E.

STAFF ENGINEER-INTELLIGENT SYSTEMS DEPARTMENT, SOUTHWEST RESEARCH INSTITUTE

David Vickers is a Professional Engineer who has developed computer based systems in domains ranging from undersea automation, automobile manufacturing, and spacecraft instruments to point of sale terminals and national sensor systems. He is a Staff Engineer in the Intelligent Systems Department at Southwest Research Institute. He is the Vice-Chair of the Software Engineering PE Exam committee. He has participated in the design, development, integration and deployment of many systems over the years, including medical information systems for the DoD and the VA, as well as medical systems for integrating data among multiple government agencies. David's current focus includes safety and security critical systems, computational optimization, and organizational process improvement. He is also currently supporting the Advanced Data Management section which conducts data analytics projects in a wide variety of domains including materials manufacturing, traffic management and litigation support. The section focuses on integrating predictive analytics into operational applications.

PANEL MEMBER

ROBIN LEACH, PH.D.

CHIEF, DIVISION OF RESEARCH AND PROFESSOR OF CELLULAR AND STRUCTURAL BIOLOGY,
UT HEALTH SCIENCE CENTER SAN ANTONIO

Dr. Robin J. Leach is a molecular geneticist who works on the genetics of complex diseases. In addition to her appointment in the Department of Cellular and Structural Biology, she is appointed in the Department of Urology where she is the chief of the Division of Research. She is the co-leader of the institutional Biobanking and Genome Analysis Core for the Cancer Therapy and Research Center (CTRC), an NCI-designated cancer center. In addition, she chairs the biobanking and education committees for the CTRC. She has over 180 peer-reviewed publications.

Using molecular genetic approaches, she has studied a number of diseases including prostate, bladder and testicular cancers, diabetes, and schizophrenia. In addition, her laboratory has been involved in identifying and validating biomarkers for prostate cancer in collaboration with Dr. Ian Thompson. This work has been funded for the past 15 years by the National Cancer Institute's Early Detection Research Network. This study, known as SABOR (San Antonio Biomarkers of Risk for prostate cancer) involves screening men for prostate cancer in the greater San Antonio area. Dr. Leach's laboratory has been attempting to identify novel genomic markers for prognosis with prostate cancer. In addition, they are working on identify factors that contribute to cancer progression in bladder cancer, especially in obese individuals, who have a significantly higher incidence of dying from this disease.

Dr. Leach's work has resulted in large datasets and she has worked with faculty at UTSA to identify new means to train students in bioinformatics. This led to an NCI funded program co-directed by Kay Robbins from the Department of Computer Science at UTSA, which provides summer opportunities for quantitative sciences at UTHSCSA in cancer biology laboratories. In addition, this has supported the development of new courses at UTSA on big data and the development of enrichment programs available to staff, students and faculty at both institutions.

FACULTY ADVOCACY IN SHAPING POLICY AND FUNDING SUPPORT FOR LIFE SCIENCES



ERIN HEATH, MSC

ASSOCIATE DIRECTOR OF GOVERNMENT RELATIONS
AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

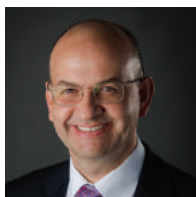
Erin Heath is the Associate Director of Government Relations at the American Association for the Advancement of Science, the world's largest general scientific society and publisher of the journal *Science*. She has worked at AAAS since 2006. The Office of Government Relations provides timely, objective information on science and technology issues to lawmakers, and assists scientists in understanding and

getting involved in the policy process.

Ms. Heath handles a range of policy issues of interest to the scientific community, with a particular focus on biomedical and public health research, and is heavily involved in efforts to empower scientists and engineers to become engaged with policymakers, the media and the public. She also serves as AAAS's liaison to state and local science education advocates. She co-chairs the Coalition for National Science Funding and the Engaging Scientists and Engineers in Policy Coalition, heads the selection committee for the AAAS Science and Technology Congressional Fellowships, and sits on the steering committee of the Golden Goose Awards.

Before joining AAAS, Ms. Heath worked for the American Institute of Biological Sciences, where she led the organization's media training and outreach efforts and cut her teeth on science policy. Ms. Heath holds a Master of Science with Merit in Public Policy and Administration from the London School of Economics and Political Science. While in London, she served as a research assistant in Parliament. Prior to graduate school, she spent years as a journalist in Washington, most notably as a science policy reporter and columnist for the *National Journal*. She earned a B.A. in Journalism from the University of Maryland.

CLOSING REMARKS



ANDREA GIUFFRIDA, PH.D.

VICE PRESIDENT FOR RESEARCH, UT HEALTH SCIENCE CENTER SAN ANTONIO

Dr. Andrea Giuffrida is Vice President for Research and Professor of Pharmacology at The University of Texas Health Science Center at San Antonio. He received his Ph.D. in Biology from the University of Catania (Italy), and worked as postdoctoral fellow at the Neuroscience Institute in San Diego (USA) and as an adjunct faculty at the University of California Irvine before joining the Department of Pharmacology in the School of Medicine at the Health Science Center.

Dr. Giuffrida has provided important breakthroughs to the neurobiology of the endocannabinoid system, which have been published in high-impact journals, including *Nature* and *Nature Neuroscience*. His research laboratory focus is on the role played by the endocannabinoid system in psychomotor disorders characterized by dopaminergic dysfunction, such as, schizophrenia and Parkinson's disease. He serves on the editorial boards of *International Journal of Neuropsychopharmacology* and *Pharmaceutical Regulatory Affairs*.

During the 2011-2012 academic year, Dr. Giuffrida served as the Science & Technology Policy Fellow in the Office of Science Policy at the National Institutes of Health (NIH) and in the Office of the Director of the National Institute of Neurological Disorders and Stroke. As a Policy Fellow, Dr. Giuffrida gained a key understanding of political influences on the national science agenda and funding appropriations.



C. MAULI AGRAWAL, PH.D., P.E.

VICE PRESIDENT FOR RESEARCH, UTSA

Dr. Agrawal is the Vice President of Research at UTSA. He holds the Peter Flawn Professorship in Biomedical Engineering. Prior to joining UTSA in 2003, he worked at the University of Texas Health Science Center at San Antonio. Before that he served on the faculty at Duke University. He obtained his Ph.D. from Duke University, MS from Clemson University, and a B. Tech. from IIT-Kanpur, India.

Prior to his latest appointment he served as the Dean for the College of Engineering (COE) at UTSA. During his eight-year tenure as the dean, the COE experienced a 40-50% increase in both student enrollment and faculty size, and a 400% rise in research funding. He was instrumental in establishing the Texas Sustainable Energy Research Institute at UTSA and helping it receive a \$50m pledge of support from CPS Energy.

In addition to his experience on the editorial boards of various scientific journals, he serves on the following non-profit boards: Board of Trustees, Southwest Research Institute, Clemson University's College of Engineering Advisory Board, United Way's Master's Leadership Program, Biomed SA, Texas Research Park Foundation, and the San Antonio Medical Foundation.

During his professional career, Dr. Agrawal has authored more than 315 scientific publications and 28 patents (14 issued and 14 pending). His latest book, a textbook on biomaterials, was published in 2014. He is an International Fellow of Biomaterials Science and Engineering, a Fellow of the American Institute for Medical and Biological Engineering and was elected the 2006 national President of the Society for Biomaterials. Recently, Dr. Agrawal was named a Fellow of the National Academy of Inventors, a first for UTSA, and will be inducted formally in April 2016.

His bioengineering research group has been responsible for the launching of three companies in San Antonio. During his career, Agrawal has been the recipient of several honors and awards, including the Chancellor's Entrepreneurship and Innovation Award (2007) from the University of Texas System, the Healthcare Hero Award for biomedical research from the San Antonio Business Journal, and the Julio Palmaz Award for Innovation in Healthcare and the Biosciences (2010). He was appointed by Governor Rick Perry to serve (2008-2011) on the Advisory Board for the Texas Emerging Technology Fund.

