

BIODISCOVERY INSTITUTE

Research EXPO 2026

PROGRAM BOOKLET



8:00 AM-5:30 PM

EESAT Atrium

1704 W. Mulberry, Denton, TX 76201

Welcome to the BioDiscovery Research EXPO 2026

The **BioDiscovery Institute (BDI)** at the University of North Texas is proud to host the 3rd Annual **Research EXPO 2026** on Tuesday, May 12, 2026. This full-day event will take place in the Atrium of the EESAT Building and marks a special milestone as we celebrate **10 years of BDI** research, discovery, and impact.

The Research EXPO showcases the groundbreaking work of our research community through **poster presentations, short talks, and collaborative networking** opportunities, bringing together students, postdoctoral researchers, faculty, and staff from across UNT. Attendees are invited to immerse themselves in a dynamic environment of scientific exploration and interdisciplinary connection.

This year's program also features an engaging industry panel discussion, offering valuable insights into the challenges and opportunities involved in transitioning from academia to industry and professional careers.

We are honored to welcome **Dr. Kent Chapman**, Regents Professor of Biochemistry at UNT and former Director of the BioDiscovery Institute, as our keynote speaker. His presentation, "Reflections and Opportunities for Intentional Impact in an Academic Interdisciplinary Research Institute," will provide insight into the role of interdisciplinary research in shaping future scientific innovation.

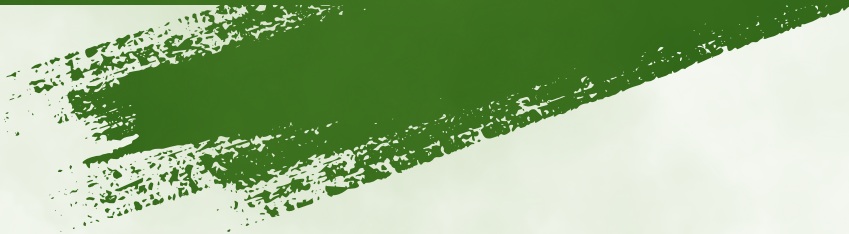
Ahead of the Expo, attendees can also participate in the Career Development Workshop on Monday, May 11, 2026, from 12:00 PM to 4:30 PM, sponsored by COS Career Coaches. This workshop will focus on professional growth through resume and CV development, personal branding, and interview preparation.

Join us for this inspiring celebration of discovery as we honor a decade of excellence, foster an inclusive scientific community, and continue advancing knowledge for the future. The BDI Research EXPO 2026 is not only a showcase of innovation but also a reflection of our collective commitment to meaningful research and lasting impact.

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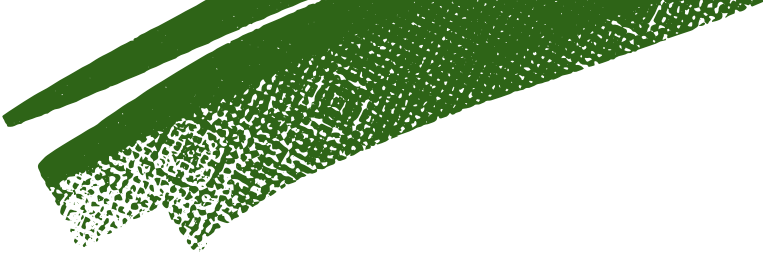
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CAREER DEVELOPMENT WORKSHOP

Monday, May 11, 2026
12 PM - 4:30 PM



Career Development Workshop

PROGRAM SCHEDULE

Welcome & Kickoff	12:00 - 12:15 PM
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Resume/CV Building	12:15 - 1:15 PM
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Break	1:15 - 1:30 PM
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Networking and Individual Branding	1:30 - 2:30 PM
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Break	2:30 - 2:45 PM
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Interview Skills	2:45 - 3:45 PM
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Q & A Discussion	3:45 - 4:30 PM
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Career Coaches

College of Science Career Team



Kate Summerhill

kate.summerhill@unt.edu



Nancy Sierra

nancy.sierra@unt.edu



Brittney Sosa

brittney.sosa@unt.edu

STEM Career Team



David Bekker

david.bekker@unt.edu



Chido Kwande

chido.kwande@unt.edu

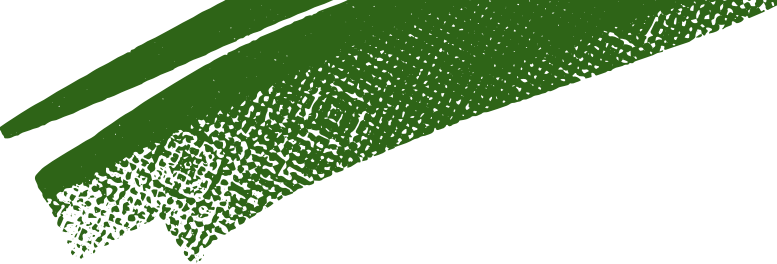


Travis Brents

travis.brents@unt.edu

Research EXPO

Tuesday, May 12, 2026
9 AM - 5:30 PM



Research EXPO 2026

PROGRAM SCHEDULE



Breakfast/Poster Setup	8:00 AM - 9:00 AM
Welcome Address	9:00 AM - 9:15 AM
Research Talks	9:15 AM - 11:00 AM
Break	11:00 AM - 11:15 AM
Poster Sessions	11:15 AM - 12:30 PM
Lunch	12:30 PM - 1:30 PM
Career Panel Discussions	1:30 PM - 2:30 PM
Break	2:30 PM - 3:00 PM
Keynote Lecture	3:00 PM - 3:45 PM
Closing Comments/Awards	3:45 PM - 4:30 PM
Mixer	4:30 PM - 5:30 PM

Keynote Speaker:

Dr. KENT CHAPMAN

Lecture Hall 130



Reflections and Opportunities for Intentional Impact in an Academic Interdisciplinary Research Institute

Dr. Kent Chapman earned his A.B. in Biology from Lycoming College in 1986 and his Ph.D. in Botany from Arizona State University in 1991. Following an NSF postdoctoral fellowship at Louisiana State University, he joined the University of North Texas in 1993, where he has built an internationally recognized research program in plant biochemistry and cell biology, with a focus on plant lipid metabolism, storage, and function. He is a Regents Professor of Biochemistry at UNT and has received numerous honors, including the Terry Galliard Medal in 2020, election as a Fellow of the American Society of Plant Biologists in 2021, and Fellow of the American Association for the Advancement of Science in 2025. In 2024, he was elected President of the American Society of Plant Biologists.

He served as Director of the BioDiscovery Institute from 2018 to 2024, where he advanced its interdisciplinary research mission and helped strengthen its role as a center for biological innovation. He continues to contribute as an active member of the institute.

Discussion Panel



BASF
We create chemistry

Dr. Brenda Owens is a cotton breeder with BASF in the Southeastern United States, where she enjoys to work in a diverse team of people using genomic and remote sensing data, combined with modeling and field evaluations to bring improved varieties to farmers. Dr. Owens completed a B.S. degree in Agronomy at Texas Tech University. This was followed by a Fulbright Fellowship at the ETH in Zurich where she was a member of the group that worked on the Swiss FACE project. Dr. Owens then completed an M.S. degree at Texas Tech University studying the effect of fatty acids in cotton seedlings on cold tolerance. She completed a Ph.D. at Purdue University in Plant Breeding and Genetics where she did QTL mapping and genome-wide association mapping of carotenoids in maize. During this program, Dr. Owens obtained a Borlaug Fellowship and studied for a year in Colombia on the CIAT campus. Dr. Owens' hobbies include making sourdough bread and traveling.



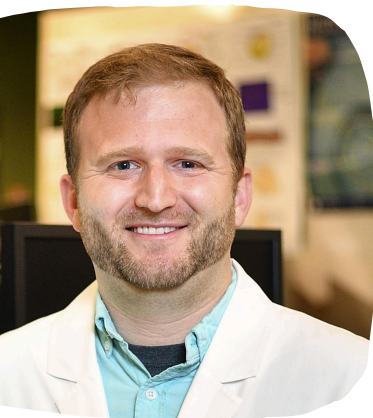
UNT

Jon McCarry has worked in venture and private equity for over 20 years and currently serves as Executive Director of the University of North Texas Murphy Center for Entrepreneurship & Innovation and as an advisor to both the UNT Student Investment Group and UNT Foundation. Additionally, he is a co-founder of cybersecurity start-up The HACC Group and a Partner at Wave Ventures, a deep tech focused early-stage venture capital fund. Prior to joining UNT, he served as Managing Director with New York based OmniCap, LLC focusing on secondary private equity transactions and capital raises. He is a serial entrepreneur, was a Senior Group Internal Auditor at Nestlé, managed a venture capital portfolio for a Hong Kong family office and served in the United States Marine Corps. He has held various board and committee seats for both public and private entities, lived and worked in the US, Japan, Hong Kong, Belgium and Switzerland. Jon holds Series 7 & 63 licenses, earned his BS in Engineering Physics at the University of North Texas, an MBA from Vlerick Management School and completed the Oxford University Private Equity Programme.



Dr. Ashley Cannon is a Senior Scientist on the Computational Biology team at a local start-up company where she leads and supports projects focused on product development. Prior to taking on this role, she worked at Ambry Genetics as a Bioinformatics Scientist in the Advanced Analytics group. While at Ambry, she was named a Hall of Fame recipient for Informatics due to her role in connecting the lab, R&D, and bioinformatics team and driving lab efficiency initiatives and advancing pipeline updates. Ashley holds a B.S. in Chemistry from Midwestern State University and a Ph.D. in Plant Biology from the University of Texas at Austin. Science enthusiast, informatics professional, and avid runner, Ashley is fueled by discovery. Outside of work, she loves exploring with her husband and their Aussiedoodle.

Discussion Panel



Dr. Drew Sturtevant is a Senior Scientist and Associate Director at CAGE Bio. Inc, where he is developing drug candidates for inflammatory skin diseases. In addition to his role at CAGE Bio, Dr. Sturtevant is a product of the North Texas life science ecosystem and is devoted to providing scientists with the tools and resources they need to find careers in the life sciences in North Texas. Previously, Dr. Sturtevant worked for Lantern Pharma in scientific communications/affairs. Dr. Sturtevant received a Ph.D. at the University of North Texas in Biochemistry and Molecular Biology in the Kent Chapman, Ph.D. Laboratory, followed by a Post-Doctoral Research Fellowship at UTSW Medical Center, Department of Molecular Genetics, in the Co-Lab of Helen Hobbs, M.D., and Jonathan Cohen, Ph.D.



Leslie Perry is a biochemist and molecular biologist with 10 years of industry experience at Agricen. She holds a B.S. in science and an M.S. in Biochemistry and Molecular Biology, and her work has focused on applied agricultural research spanning biochemistry, microbiology, fermentation, metabolomics, and data-driven discovery. She is especially interested in translating complex biological data into practical insights that support innovation in crop productivity, sustainability, and biological product development.



Talk Titles and Rooms

Room 110

Time	Title	Presenter
9:15 AM	Using Expression Profiling and Machine Learning Models to identify Genetic Factors underlying Liver Metastasis	Ahmad Bereimipour
9:30 AM	Cryopreservation effects on viability, membrane integrity and biomass of Coffea canephora seeds	Gabriela Gontijo
9:45 AM	Multifaceted explorations of redox based post-translational modifications on Arabidopsis thaliana stearyl-ACP-desaturase	Jordan King
10:00 AM	Developing robust virus tools for meristem-based gene editing of non-model and crop plants	Kuo Tai (Johnson) Chiu
10:15 AM	Investigating the Estradiol Binding Site on the G Protein-Coupled Estrogen Receptor by Molecular Dynamics and Machine Learning	Rick Sexton
10:30 AM	CAAT-EHR: Cross-Attentional Autoregressive Transformer for Multimodal Electronic Health Record Embeddings	Shaika Chowdhury

Undergrad
Student

Graduate
Student

Post-Doc

Faculty

Talk Titles and Rooms

Room 115

Time	Title	Presenter
9:15 AM	Exploring the Role of Cyclopropyl Fatty Acids in Stress Response in Cotton Both Biochemistry	Brandon Deeb
9:30 AM	Exploring Doxorubicin-Induced Childhood Cardiotoxicity with ROBO2 Genotype — hPSC-derived Cardiac Organoids and Targeted Nanomedicine Treatment	Debosmita Shome
9:45 AM	Regulation of Arabidopsis Actin Depolymerizing Factor 3 and its Role in Limiting Green Peach Aphid Infestation	Lani Archer
10:00 AM	Investigating Silicle Contributions to Pennycress Seed Biomass and Oil Production	Salim Makni
10:15 AM	Agentic AI Framework to Assess Generative AI Diagnostic Accuracy and Reasoning Reliability	Thuan Nguyen
10:30 AM	Role of KAT8-Mediated H4K16 Acetylation in Chromatin Regulation During Zebrafish Embryogenesis	Vijaykumar Naidu

Talk Titles and Rooms

Room 120

Time	Title	Presenter
9:15 AM	Designer Lipid Droplets: Redirecting Enzymatic Activity to Plant Lipid Droplets	Carlos Roberto Bucio
9:30 AM	Enabling Methane Monooxygenase Genetics in <i>M. capsulatus</i>	Daniel Grinffiel
9:45 AM	Sulfated Flavonoid-Based Non-Saccharide GAG Mimetics as Direct, Selective Allosteric Inhibitors of Plasmin	Francis Nzubechukwu Eze
10:00 AM	Mechanotransduction-Mediated Pathogenesis of Hypertrophic Cardiomyopathy with MYBPC3 Deficiency	Joel Kofi Aboagye
10:15 AM	Structural and functional studies of the high affinity nitrate transporter NRT2.1 and its partner NAR2.1 from <i>Medicago truncatula</i>	Antonella Longo

Posters

Poster No.	Title	Presenter
1	Stepwise Reconstruction and LC-MS/MS Validation of the Penicillin G Biosynthetic Pathway in <i>Nicotiana benthamiana</i>	Abdul Rawoof
2	Using Expression Profiling and Machine Learning Models to identify Genetic Factors underlying Liver Metastasis	Ahmad Bereimipour
3	Synergistic Enhancement of Antibacterial Efficacy of Conventional Antibiotic Using Biogenic Silver Nanoparticles	Alireza Momeni
4	A CRISPRi Promoter Library for Optimized Gene Regulation in Methanotrophs	Andrew E. Kihwili, Opriye C. David-West, Ebenezer O. Fasola, Simon H. Pham, and Gia T. Nguyen
5	CRISPRi-Mediated Repression of the RubisCO Activase Genes in an Autotrophic Methanotroph.	Andrew Esher Kihwili
6	Enhanced Vascularization in hPSC-derived Cardiac Organoids by Dynamic Culture	Angello Huerta Gomez
7	Anticoagulant Activity Profiling of Selected Compounds	Anika Godavarti & Shakila Silva
8	Functional characterization, sub-cellular localization and structural modelling predict HR4 to be a novel ER-PM bridging ion channel that regulates plant immunity	Anil Girija
9	Isolation and Analysis of Ultimate Fibers from Cotton, Kenaf, and Jute	Anna Borden
10	Comparing Tobacco rattle virus and Turnip vein-clearing virus as tools for genetic manipulation in the oilseed crop, pennycress (<i>Thlaspi arvense</i>)	Ashlyn Irwin

Posters

Poster No.	Title	Presenter
11	Structural Determination of Key Enzymes Involved in Oxalate Catabolism in <i>Arabidopsis thaliana</i>	Axel Herrera
12	Optimization of Culture Conditions to Mimic in-planta Embryo Development in <i>Physaria fendleri</i>	Brady Erlandsen
13	Exploring the Role of Cyclopropyl Fatty Acids in Stress Response in Cotton	Brandon Deeb
14	Designer Lipid Droplets: Redirecting Enzymatic Activity to Plant Lipid Droplets	Carlos Roberto Bucio
15	A Code-Based Automated Pipeline for Complex Untargeted Metabolomics Data Processing	Cindy Alonso-Cocuron
16	Exploring Doxorubicin-Induced Childhood Cardiotoxicity with ROBO2 Genotype — hPSC-derived Cardiac Organoids and Targeted Nanomedicine Treatment	Debosmita Shome
17	Fully Modified Version of miR-34a Exhibits Superior Stability, Potency, and in-Vivo Anti-Tumor Efficacy Through Ligand-Mediated Delivery	Emmanuel L. Lamptey
18	Pan-Cancer Stage Prediction Using Machine Learning	Fereshteh Sadeghi Naieni Fard
19	Elucidating NSGM Structural Features that Drive G6b-B Binding	Francis Nzubechukwu Eze
20	Optimizing CRISPRi for Transcriptional Control in Methanotrophic Bacteria (<i>Methylococcus capsulatus</i>)	Hahnbee Choi, Rosa Contreras, Kanada Denley, Christian Gonzalez, and Moon Shrestha

Posters

Poster No.	Title	Presenter
21	Understanding the Role of Wheat Lpx3 in Fusarium Head Blight Resistance Using Dual Transcriptomics	Isha Mittal
22	Establishing Stress Phenotypes in Cotton: A Baseline for Lipid Remodeling Studies	Jamie Kimbrell
23	Investigating the Regulatory Role of miRNA-Encoded Peptides in Nutrient Deficiency Responses in Arabidopsis	Jesseca Hemminger
24	Mechanotransduction-Mediated Pathogenesis of Hypertrophic Cardiomyopathy with MYBPC3 Deficiency	Joel Kofi Aboagye
25	Streamlined LC-MS/MS Workflow for Quantitative Profiling of C2-C18 Acyl CoA Species	Jordan Gonzales
26	Multifaceted explorations of redox based post-translational modifications on Arabidopsis thaliana stearoyl-ACP-desaturase	Jordan King
27	Multi-Omics Cancer Classification using Machine Learning	Kartikaya Vashishth
28	Developing robust virus tools for meristem-based gene editing of non-model and crop plants	Kuo Tai (Johnson) Chiu
29	Regulation of Arabidopsis Actin Depolymerizing Factor 3 and its Role in Limiting Green Peach Aphid Infestation	Lani Archer
30	Maturation of hPSC-derived Chamber-Forming Cardiac Organoids	Marcel El-Mokahal

Posters

Poster No.	Title	Presenter
31	Modulating Mechanical Microenvironment for Modeling Hypertrophic Cardiomyopathy using a Biocompatible and Photosensitive Hydrogel	Marcella Edwards
32	Establishing a Dual-Selectable Transgenic System in <i>Physaria fendleri</i> via <i>Agrobacterium</i> Floral Dip Transformation	Marjorie Mendoza
33	Exploring Genetic Networks Governing Bast Fiber Development in Cotton	Matthew Feragne
34	Long-distance mobility of Arabidopsis microRNAs expressed in distinct tissues	MD SHOYEB
35	Role of TPS13 and TPS19 in Modulating Terpene-Mediated Defense and Systemic Acquired Resistance in Arabidopsis	Mohammad Alatoum
36	Understanding the mechanisms underlying VLCFA-impairment driven drug resistance in fungi.	Nandini Shukla
37	iFRET Technology for Studying GAG-Protein Interactions	Nneoma James
38	Breakpoint Cluster Region Protein is a Novel Akt Kinase That Medicate HDL Action in Endothelium	Paul Galletti
39	Investigating the Estradiol Binding Site on the G Protein-Coupled Estrogen Receptor by Molecular Dynamics and Machine Learning	Rick Sexton
40	Mechanisms of Protein Recycling in Starving Bacteria	Rohan Balakrishnan

Posters

Poster No.	Title	Presenter
41	Investigating Silicle Contributions to Pennycress Seed Biomass and Oil Production	Salim Makni
42	In vivo knockdown screen identifies novel calcium-binding proteins in hemostasis	Savannah Bryant
43	CAAT-EHR: Cross-Attentional Autoregressive Transformer for Multimodal Electronic Health Record Embeddings	Shaika Chowdhury
44	Identification of A Novel Chemical Scaffold for Plasmin Inhibition	Shakila Silva
45	The Genome's Anchor: Characterizing the Long-Term Stability of Cas9 Integration at the 80.9 Safe Harbor Locus in Malaria vector Anopheles stephensi.	Shivani Dave
46	Functional Analysis of Regulatory Elements Influencing Lysogeny of Mycobacteriophage Adephagia	Simran Pereira
47	Discovery of a novel carbon dioxide starvation response in Methylococcus capsulatus	Spencer Lee
48	Evidence-Weighted Transcriptomic Integration to Inform Cardiac Organoid Protocol Design	Sriprajnav Koduri
49	Reprogramming Flavonoid Biosynthesis in Nicotiana benthamiana Through Combinatorial Transcription Factor Expression	Swapna Bodampati
50	Role of KAT8-Mediated H4K16 Acetylation in Chromatin Regulation During Zebrafish Embryogenesis.	Vijaykumar Naidu
51	CO ₂ is required for enrichment of methanotrophs in soil microcosms	Yao-Chuan Yu
52	Lipidomic Characterization of Newly Developed High-Stearic Sunflower Lines	Yasmeen Elharis

Special Thanks to the BDI Research EXPO Organizing Committee 2026

Neha Goud Baddam (Chair)

Abdul Rawoof

Brandon Deeb

Camrie Johnson

Crystal Garrett-McEwen

Himanshu Sharma

Jamie Kimbrell

Jessica Hemminger

Suman Pandey

Samara Cahill



1155 Union Circle, Denton, TX 76203

bdi@unt.edu

(940) 565-2491

<https://bdi.unt.edu>