

RESEARCH & INNOVATION WEEK

Showcasing discoveries, igniting change

Poster Sessions Program

TUESDAY, APRIL 2 - WEDNESDAY, APRIL 3, 2024

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UNDERGRADUATE POSTER SESSION

Tuesday, April 2 | 2-5 p.m.

- 1 **Micah Pressler**, “Investigating the Thermal Properties of Compressed Earth Blocks”
- 2 **Silvio Caroselli**, “Effects of Math Anxiety and Math Self-Efficacy on Fraction Performance Among FFO Students”
- 3 **Vivian Thai**, “CRY-Based Optogenetic Tools for Drug Discovery”
- 4 **Bangaru Bhaskararao**, “Conversion of Biomass Lignin Derivatives into Aromatic Hydrocarbons: A Quantum Chemical Study”
- 5 **Karen Lin**, “C3 Knockout Mice are Protected Against Memory Deficits, Astrogliosis, and Inflammation Induced by Prolonged Seizures”
- 6 **Reid Spittle**, “Our Personal Issue: The Maternal Impact on Eating Disorders in Women”
- 7 **Daniel Ryan and Tran Lam**, “Greedy Heuristics for the Backhaul Profit Maximization Problem”
- 8 **Apurva Veeraswamy**, “A Study of Narrative Medicine Usage and Implementation in Health Professionals, a Practice in the North Dallas Shared Ministries and Texas Indo-American Physicians Society Community Clinics”
- 9 **Joshua Ange**, “Exploring Stylometric and Formal Patterns in the Scholarly Impact of Scientific Literature”
- 10 **Anna Su**, “Early Interventions in STEM Education: Examining Spectrums of Youth Interest in Engineering”
- 11 **Maxine Parkinson**, “Non-invasive Assessment of Cardiorespiratory Function in Mouse Epilepsy Models Using Pulse Oximetry”
- 12 **Theodore Morris**, “SMU Guildhall Capstone Recording Sessions: Year Two”
- 13 **Jesse Cheng**, “Does teaching Ffo Effect Interventionist Fraction Competency?”
- 14 **Ross Yenerich**, “What’s so Special about the Special Olympics?”
- 15 **Meredith Hughes**, “Atypical Carbapenem Modifications to Treat *M. tuberculosis* and *M. abscessus*”
- 16 **Kristen Edwards**, “Community Informed Sustainable Materials”
- 17 **Drew Harris**, “Lapis: Realtime Tracking of In-game Student Events”
- 18 **Ellen Aughenbaugh**, “Non-invasive Electrocardiography (ECG) as a Method to Identify Cardiac Dysfunction in Mouse Models of Disease”
- 19 **Veronica Khoury Seeling**, “The Relationship Between Executive Functioning and Immediate Memory”
- 20 **Zachary Oldham**, “Effects of Menstrual Cycle Phase on Cold Pressor Test Responses”
- 21 **Victoria Cunningham**, “Interventional Assistance: Relationships to Student Skill Generalization and Standardized Exam Scores”
- 22 **Veronica Tanner**, “Threat Emulation on Consumer Vehicles Using a Digital Twin”
- 23 **Ria Parpelli**, “Effects of Specific Metal Nanoclusters on Cancerous and Non-Cancerous Cells”
- 24 **Arian Shamaei**, “Prediction of Vehicle Height for Emissions Characterization Using Machine Learning”
- 25 **Mason Morland**, “SteadyLife App”
- 26 **Alexis Schroeder**, “Neoliberalism and Healthcare: Disabled in America”
- 27 **Kevin Nguyen**, “Synthesis of Biodegradable Polymers from Furan-protected Maleimide Compounds”
- 28 **Rachel Schellsmidt**, “Interactive Web-based Simulation for Embodied Learning of School Physics Concepts: An Eye- and Interaction-Tracking Investigation”
- 29 **Elisabeth Hood**, “Factors Affecting Romantic Partner Preferences”
- 30 **Anika Saiprabhu**, “Prisoner of the Strings”
- 31 **Jordan Hall**, “Associations between Parental Involvement and Technology Use on Child Language”
- 32 **Michael Guerrero**, “Particle Focusing using Dielectrophoresis”
- 33 **Caden Arras**, “The Director’s Chair”
- 34 **Regina Moreno Vera**, “Autism in Genetic Carriers of Epilepsy”
- 35 **Aaron Chapman**, “Determining the Effect of Soil Gas Diffusivity (and Air Permeability) in Subsurface Migration of Leaked NG from Upstream Belowground Pipelines”
- 36 **Anna Kelley Zielke**, “House Divided”

GRADUATE POSTER SESSION

SESSION 1 Wednesday, April 3 | 9 a.m. – 12 p.m.

STATISTICS AND DATA SCIENCE

- 1 **Emily Berry**, “A Statistical Solution to the Colonoscopy Capacity Issue Risk Prediction for Colorectal Cancer Using Quantitative Fecal Immunochemical Test Results,” *Co-author(s): Steven Chio, Monnie McGee*
- 2 **Kaiwen Wang**, “Comparative Analysis of Dimension Reduction Methods for Cytometry by Time-of-Flight Data,” *Co-author(s): Yuqiu Yang; Fangjiang Wu; Bing Song; Xinlei Wang; Tao Wang*
- 3 **Yaofang Hu**, “Variational Bayesian Semi-supervised Keyword Extraction,” *Co-author(s): Yichen Cheng; Yusen Xia; Xinlei Wang.*
- 4 **Yuhyeong Jang**, “A Multivariate Heavy-tailed Integer-valued GARCH Process with EM Algorithm-Based Inference,” *Co-author(s): Raanju R. Sundararajan; Wagner Barreto-Souza*
- 5 **Yifan Lu**, “Uncertainty Quantification and Prediction of Multi-Modality Data with Block-wise Missingness Structure,” *Co-author(s):*
- 6 **Yifei Wang**, “Calibration of Composite Likelihood in Bayesian Multivariate Network Meta-analysis,” *Co-author(s): Yu-lun Liu*

- 7 **Zichang Xiang**, “High-Dimensional Locally Stationary Models for Identifying Neuroimaging Biomarkers in Autism Spectrum Disorder,”
- 8 **Zifang Kong**, “A Two-stage Approach for Longitudinal Measurements and Recurrent Events: an Application to MSTONE Dataset,” *Co-author(s): Yu-lun Liu*

PSYCHOLOGY

- 9 **Alexa Jimenez**, “Capturing Personality States in Daily Life Using Ecological Momentary Assessments,” *Co-author(s): Mayson Trujillo, MA; Michael Chmielewski, PhD*
- 10 **Elizabeth Bell**, “Associations between Cognitive Vulnerabilities and Internalizing Fear and Distress,” *Co-author(s): Michael Chmielewski*
- 11 **Hyung Seo (Caroline) Lee**, “Examining the Hierarchical Taxonomy of Psychopathology (HiTOP) in a Nationally Representative Epidemiological Sample with a Quantitative Intersectional Approach,” *Co-author(s): Chmielewski, Michael*



Thank you to
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- 12 Diane Moon**, “The Use of Trauma Film Paradigm and Visual Negative Stimuli in Memory Reconsolidation Paradigms: A Systematic Review,”
- 13 Iris Yang**, “After the Marriage Ends: The Prolonged Impact of Marital Quality on Inflammation and Functional Aging after Relationship Dissolution,”
Co-author(s): Sumaiyah Syed; Stephanie Wilson
- 14 Julie Pham**, “COVID-19 Information Eliciting Stereotype Threat Can Harm Older Adults’ Cognitive Function,”
Co-author(s): Morgan D. Shumaker; Holly J. Bowen
- 15 Mayson Trujillo**, “A Systematic Review of the Dependability of the BFI, NEO, PID-5, and PiCD Families of Measure,”
Co-author(s): Austin Baldwin
- 16 Margot Salsman**, “Revisiting Fear of COVID-19 in Individuals with Asthma: Did Contributing Factors Change over the Course of the Pandemic?,”
Co-author(s): Hannah O. Nordberg, M.A.; Maria M. Berthet-Miron, M.Psy.; Windsor Hall; Thomas Ritz, Ph.D.
- 17 Mbonobong Usua**, “Adolescent and Caregiver Reports of Potentially Traumatic Events Experienced By Adolescents Who Have Been Sexually Abused: Relations with Adolescent Adjustment,”
Co-author(s): Melissa Sitton, MS; Julia Griffin; Mindy Jackson; Renee McDonald, Ph.D.; and Ernest N. Jouriles
- 18 Sneh Jhaveri**, “Predicting Child Language Outcomes Using Narrow and Broad Socioeconomic Status (SES) Factors,”
- 19 Sam Molli**, TBD
- 20 Sierra Rufino**, “Write It Out: How Does Journaling Positive Experiences Impact Borderline Personality Traits Over Time?,”
Co-author(s): Nathan Hudson
- 21 Sofia Uribe**, “Examining Impairments in Working and Episodic Memory in Young Adults with Anhedonia,”
Co-author(s): Sofia Uribe; Alicia Meuret
- 22 Windsor Hall**, “The Role of Asthma Trigger Perceptions in Fear of COVID-19,”
Co-author(s): Margot Salsman; Hannah Nordberg; Thomas Ritz
- MATHEMATICS**
- 23 Austin Marsteller**, “Dynamics and Localization for Discrete Schrodinger Type Systems”
- 24 Qing He**, “DeepMartNet: A Martingale based Deep Neural Network Learning Algorithm for PDE Problems,”
Co-author(s): Daniel Margolis
- 25 Abdullah Saiffee**, “Investigating the Impact of Mechanosensation on Retronasal Olfaction”
- 26 Md Abu Talha**, “Mathematical Model and Numerical Solver for the Studies of Infectious Diseases”
- 27 Jacob Davis**, “Droplet Levitation Over a Thermally Conductive Liquid Layer,”
Co-author(s): Vladimir Ajaev
- 28 Daniel Margolis**, “Using Deep Martingale-based Neural Networks to Solve Elliptic PDEs (like Fokker-Planck),”
Co-author(s): Dr. Wei Cai
- 29 Jessie M. Henderson**, “A Photonic Physically Unclonable Function’s Resilience to Multiple-Valued Machine Learning Attacks,”
Co-author(s): Elena R. Henderson; Clayton A. Harper; Hiva Shahoei; William V. Oxford; Eric C. Larson; Duncan L. MacFarlane; Mitchell A. Thornton
- 30 Jaryd Domine**, “Waves in Black Hole Geometries: An Energy-Based Discontinuous Galerkin Method,”
Co-author(s): Thomas M. Hagstrom; Stephen R. Lau
- 31 Md Shamser Ali Javed**, “Advection and Deposition of Microdroplets in Stagnation Point Flow,”
Co-author(s): Vladimir Ajaev
- 32 Nicholas Bagley**, “Thermal Effects and Shockwave Formation Due to UV Filaments in Air,”
Co-author(s): Nicholas Bagley; Johnathon Upperman; Ali Rastegari; Jean-Claude Diels; Alejandro Aceves
- 33 Md Nayan Dhali**, “Tranter’s Method Approach to Solve Diffusion Equation of Fluid Flow near the Boundary of a Dry Patch”
- 34 Sabrina Hetzel**, “Interaction of Solitary Waves in Nonlinear Laser Systems Under the Presence of Dominant Fourth-Order Dispersion”
- 35 Xin Yang**, “Simulating Implicitly Solvated Biomolecules with Atomic Polarizable Multipoles”
- ECONOMICS**
- 36 Ayus Mitra**, “Election Outcomes and Crimes Against Women in India”
- 37 William Cunningham**, “Conditional IV Estimation of Neighborhood Demand”
- 38 Hsin-Wei Chang**, “Children’s Health and Household Bargaining”
- 39 Jun Nie**, “International Trade, Technology Diffusion, and Cross-Country Income Differences
- 40 Shuo Qi**, “Identification and Estimation of Discrete Choice Models with Spillovers Using Partial Network Data”
- 41 Md Tahmeed Hossain**, “Sporting Events and Road Accidents: A Case Study from NFL Matches”

EARTH SCIENCES

- 42 Kivanc Sabunis**, “The Urban Acoustics Project: Acoustic Wave Propagation in the Urban Environment,” *Co-author(s): Stephen Arrowsmith; Chris Hayward; Brian Stump; Junghyun Park*
- 43 Ketan Singha Roy**, “Exploiting Signal Coherence to Simultaneously Detect and Locate Earthquakes,” *Co-author(s): Stephen Arrowsmith; Brian Stump; Chris Hayward; Junghyun Park*
- 44 Prajwal Neupane**, “Focal Mechanisms of Earthquakes from 2012 to 2021 in New Madrid Seismic Zone,” *Co-author(s): Heather DeShon; Jacob Walter; Raymond Ng*
- 45 Umanga Weerasingha**, “Mapping Intermittent Ice Cover on Lakes Using Satellite Remote Sensing”
- 46 Sunwoo Yoon**, “Reach Scale River Ice Cover Classification with Optical Satellite Imagery,” *Co-author(s): Xiao Yang; Mahima Quazi*

CHEMISTRY: COMPUTATIONAL

- 47 Duc Anh Lai**, “The Electric Field-Induced Second Energy Minima of Non-switchable Molecules,” *Co-author(s): Devin Matthews*
- 48 Ayesha Madushanka**, “Discovery of Novel HIV NNRTI and NRTI Inhibitors using Generative Techniques,” *Co-author(s): Eli Laird; Corey Clark; Elfi Kraka*
- 49 Afifa Yousaf**, “Signatures of Hydrogen Bonding in Soft X-ray Spectroscopy,” *Co-author(s): Devin Matthews*
- 50 Chao Yin**, “Spatial Signatures of Electron Correlation in Least-Squares Tensor Hypercontraction,” *Co-author(s): Sara Beth Becker; James Thorpe*
- 51 Dhanuddhara Gamage**, “A Proper Active Space to Investigate U-O Bonds and the Peroxide Bond in the Uranium-Peroxide Dimer,” *Co-author(s): Barbara peluzo; Elfi Kraka*
- 52 Filippo Bodo**, “Chemical Bonding in High Energy Density Cocrystals: A Local Mode Perspective on the DAF:ADNP Case,” *Co-author(s): Barbara M. T. C. Peluzo; Jefferson Maul; Alessandro Erba; Elfi Kraka*
- 53 Kevin Fleming**, “Astrochemical Modeling of Acetonitrile Chemistry in the Interstellar Medium: A Computational Study”
- 54 Hunter La Force**, “Bending the Blueprint: Investigating DNA Distortion and Chemotherapeutic Applications with Ru(II) Polypyridyl Drugs,” *Co-author(s): Marek Freindorf; Elfi Kraka*

- 55 Ishna Satyarth**, “Machine Learning Approaches for Tensor Hypercontraction,” *Co-author(s): Eric Larson, Gabriel Mongaras*

- 56 Juliana Antonio**, “Unveiling Structural Insights: Exploring Group 2 Ansa-Metallocenes with Local Mode Theory”

- 57 Tingting Zhao**, “The First-Order Analytic Gradients of EOM-CCSD”

CHEMISTRY

- 58 Imogen Hoffman**, “Visible Light 3D Micropatterning of Thiol-Ene Polymers via Digital Light Processing Microscopy,” *Co-author(s): Joshua Plank*

- 59 Lida Aeindartehran**, “Mechanochemical Innovations in Ethosuximide and Lamotrigine salts/co-crystals,” *Co-author(s): Luke Kwan*

- 60 Reyad Alkhalalah**, “Synthesis of Degradable Linear Polymers Based on Furan-maleimide Diels-Alder Reactions of Silyl Ether Derivatives”

BIOLOGICAL SCIENCES

- 61 Adaeze Gbutor**, “Dissecting the Role of Ribosome-Associated Protein Quality Control in Muscle Aging”

- 62 Arlene Hernandez**, “Optimizing Targeted Inhibitors of P-glycoprotein using Biochemical and Structural Approaches,” *Co-author(s): Pia D. Vogel*

- 64 Jesiska Lowe**, “Assessing Novel Compounds for Reversing Multidrug Resistance in Cancers,” *Co-author(s): Ria Parpelli; Gabrielle Gard; Pia Vogel*

- 65 Michelle Saucedo**, “Identifying Breast Cancer Resistance Protein (BCRP) Inhibitors in Multidrug Resistant HEK Cell Line,” *Co-author(s): Pia Vogel*

- 66 Nicole Pinzon Hoyos**, “Correlation Between Serum Inflammatory Cytokines and Complement Signaling with Cognitive Abilities in Human Drug-Resistant Epilepsy,” *Co-author(s): Yibo Li*

- 67 Zahra Sadri**, “Trem2 Signaling-Related Sex Differences in Human Drug Resistant Epilepsy,” *Co-author(s): Phuoc Nguyen; Yibo Li; Amy L. Brewster*

ANTHROPOLOGY

- 68** **McKenzie Alford**, “Old Data, New Format: Digitizing to Increase the Accessibility of Mortuary Information at S’edav Va’aki, Phoenix, Arizona,” *Co-author(s): Douglas R. Mitchell*
- 69** **Rose Hurwitz**, “Dealing with Disaster: How Jewish Residents Experienced Compounding Catastrophic Events in Dallas, Texas”
- 70** **Sara Becker**, “PRIDE and Resistance in the Rio Grande Valley”
- 71** **Samantha Lagos**, “Storage Pit Prospection and Capacity Estimation: a Comparison of Surface Detection Methods”

GRADUATE POSTER SESSION

SESSION 2 Wednesday, April 3 | 2-5 p.m.

POSTDOCTORAL SCHOLARS

- 1 **Alexis Delgado**, “XPS Core-Level Ionization Energies of Small Water Clusters Obtained via Coupled Cluster Methods Using Novel Hybrid and Mixed Basis Sets Strategies”
- 2 **Asiye Aziz Zanjani**, “Insights into Temporal Evolution of Induced Earthquakes in West Texas Using Calibrated Relocations From the TXAR Catalog (2009-2016),”
Co-author(s): Heather R. DeShon, Vamshi Keranam, and Alexandros Savvaiddis
- 3 **Avdhoot Datar**, “Analytic Energy Gradients for Particle-Particle Ladder Term using Tensor-Hypercontraction Approximation”
- 4 **Bhaskararao Bangaru**, “Conversion of Biomass Lignin Derivatives into Aromatic Hydrocarbons: A Quantum Chemical Study”
- 5 **Ozgur Unsal**, “Health Care Facility Location Planning With Multi-type Facilities and Staff Sharing,” *Co-author(s): Halit Uster*
- 6 **Divya Baranwal**, “Exploring Promises and Pitfalls of Artificial Intelligence in Education: A Pilot Study”
- 7 **Chhavi Fnu**, “Distributed Accelerated Gradient Methods with Restart under Quadratic Growth Condition,” *Co-author(s): Vishnu Narayanan, P. Balamurugan*
- 8 **Gozde Sirganci**, “Modeling of Oral Reading Fluency Performance Employing Artificial Intelligence Approaches,” *Co-author(s): Sarunya Somsong, Akihito Kamata*
- 9 **Jimmie Adriazola**, “Generating High-Order Rogue Waves,” *Co-author(s): Panayotis Kevrekidis*
- 10 **James Thorpe**, “Local Interactions in Chemistry”
- 11 **Jyoti Sharma**, “Distributed Acoustic Sensing Using Dark Fiber in Urban Environments: Application to the Dallas Plano and Southern Methodist University Campus,” *Co-author(s): Stephen Arrowsmith; Heather DeShon; Chris Hayward*
- 12 **LeaAnne Daughrity**, “Measuring Changes in Motivation: Gamified Learning with Stemuli”
- 13 **Milad Armaghan**, “Distributionally-robust Newsvendor Game with Spill-over Demand,” *Co-author(s): Metin Cakanyildirim, Andrew Frazelle*

NVIDIA and Mark III (NVIDIA Elite Partner) are excited to co-sponsor Research and Innovation Week 2024 at SMU. Research and Innovation are being transformed through the adoption and utilization of AI and Digital Twins to accelerate research and tackle unsolved challenges and NVIDIA and Mark III are at the forefront of supporting SMU’s research community through this time of incredible change and opportunity.

At the core of this transformation is SMU’s [NVIDIA DGX SuperPOD](#), which is a powerful AI supercomputer and HPC cluster designed specifically for researchers looking to employ Machine Learning, Deep Learning, and Generative AI research techniques to their work at massive scale, across all research disciplines.

As only one of two SuperPODs at Higher Education institutions across the US, DGX SuperPOD serves as a true advantage for the SMU research community and will for years to come. This shared resource machine consists of 20 NVIDIA DGX A100 nodes, each with 8 advanced and powerful graphics processing units (GPUs) to accelerate calculations and train AI models. The SMU [Office of Information Technology](#) (OIT) and the [Center for Research Computing](#) (CRC) jointly manage and provide both access and support for this top of the line machine.

If you have interest in an account on the NVIDIA DGX SuperPOD at SMU, please submit a request [HERE](#).

- 14 Md Mamun**, “Enhancing Lake Water Quality Monitoring through the Synergy of Hyperspectral Remote Sensing and Machine Learning: Insights from the GLORIA Dataset,” *Co-author(s): Xiao Yang*
- 15 Mateus Quintano**, “Complete and Non-redundant Local Mode Sets: A Topological Approach,” *Co-author(s): Renaldo T. Moura Jr.; Elfi Kraka*
- 16 Jaime Silva**, “Photonic Doppler Velocimeter based on Self-Referencing Resonator”
- 17 Zhi Li**, “A Unified Multi-Criteria Equity Metric for Data-driven Decision Making: Case Study on Tract-level EV Policy,” *Co-author(s): Zhi “Owen” Li, Janille Smith-Colin, Jianhui Wang*
- 18 Soroush Korivand**, “Reconstructing Human Gaze Behavior from EEG Using Inverse Reinforcement Learning,” *Co-author(s): Dr. Gong*
- 19 Shikha Kumari**, “Sex-based Differences in Cognitive Response to Early Onset of Epilepsy in an Acquired Pilocarpine Model,” *Co-author(s): Shikha Kumari, Yibo Li, Amy L. Brewster*
- 20 Venkata Rao Gundapuneni**, “Impact of Soil Moisture and Texture on Natural Gas Leak Detection Probability,” *Co-author(s): Richard S. Kolodziej IV; Joelle Uribe; Daniel J. Zimmerle*
- 21 Yanjun Pan**, “In-service teachers’ contributions in designing an educational game for enhancing students’ computational thinking,” *Co-author(s): Adams, E. L., Tseng, C., Foster, P., Klinkert, L. J., Ketterlin-Geller, L. R., Larson, E. C., & Clark, C.*
- 22 Yuvraj Dangat**, “Mechanistic Insights into S-Depalmitoylase Activity of Cln5 Protein Linked to Neurodegeneration and Batten Disease: A QM/MM Study,” *Co-author(s): Marek Freindorf*
- 23 Yuanyuan Dong**, “Multi-Vehicle Backhaul Profit Maximization Problem”
- 79 Teng Zhang**, “Following Killing Orders Re-examining the Roles of the Perpetrators in the Anti-Communist Purge of 1965-66 in Indonesia with Evidence from Disaggregated Geographic Analysis”
- 80 Maximilian Sherard**, “Negotiating Spatial Congruence While Performing Rigid Transformations in Virtual Reality Mathematics Classrooms,” *Co-author(s): Candace Walkington; Prajakt Pande; LeaAnne Daugherty; Theodora Beauchamp; Anthony Cuevas*

ENGINEERING MANAGEMENT

- 24 Adreana Julander**, “Reducing the Cost of Recidivism”
- 25 Doran Wood**, “A Comparative Analysis of How to Handle Stockout Scenarios: The Impact of Newsvendor’s Risk Attitude,” *Co-author(s): Sila Cetinkaya*
- 26 Jackson Forner**, “Scalable and Robust End-to-End Learning for Uncertain Cost and Right-Hand Side Parameters,” *Co-author(s): Miju Ahn, Harsha Gangammanavar*
- 27 Mohammad Khalafi**, “First-order Methods for Constrained Variational Inequality Problems”
- 78 Niloofar Fadavi**, “Implementing the Stochastic Dual Dynamic Programming Algorithm for Infinite Horizon Stochastic Programming Problems”

MECHANICAL ENGINEERING

- 28 Yasin Cagatay Duygu**, “Planar V-Shaped Magnetic Microswimmers: Swimming, Channel Navigation, and Surface Motion,” *Co-author(s): Gokhan Kararsiz; Austin Kai-Cheng; Liu U Kei Cheang; Alexander M Leshansky; Min Jun Kim*
- 29 Kamruzzaman Joty**, “DNA Origami Incorporated into Solid-State Nanopores Enables Enhanced Sensitivity for Precise Analysis of Protein Translocations,” *Co-author(s): Madhav L. Ghimire; Jason S. Kahn; Sangyeop Lee; George Alexandrakis*
- 30 Navod Sudirikku Jayaweera**, “Investigating the Single Molecule Interactions of Heparin and FGF-1 Proteins Using Solid State Nanopores,” *Co-author(s): Madhav L. Ghimire; Sangyoup Lee; Min Jun Kim*

EDUCATION PH.D. PROGRAM

- 31 Cheyenne Phillips**, “I’m a Parent Before Anything Else: Crisis Mothering While Homeless and Its Implication for Partnerships,” *Co-author(s): M.J. Hernandez; Shanae Neal; Shanae Neal*
- 32 Charity Lewallen**, “A Balancing Act: A Quantitative Examination of Presidents and Trustees Using Latent Profile Analysis,” *Co-author(s): Dr. Michael Harris; Dr. Sondra Barringer; Jennifer Lawler*
- 33 Charlotte Gregor**, “Student Outcomes following Intensive Literacy Instruction for Students with Intellectual and Developmental Disabilities: A Qualitative Case Study,” *Co-author(s): Stephanie Hermezc*

- 34 Ching-Yu Tseng**, “A Qualitative Look at Fostering Computational Thinking Within a Game-based Learning Environment.,” *Co-author(s)*:
- 35 Julianna Washington**, “Enacting Molecular Interactions in VR: Preliminary Relationships Between Visual Navigation and Learning Outcomes,” *Co-author(s)*: *Prajakt Pande; Praveen Ramasamy; Morten Erik Moeller; Biljana Mojsoska*
- 36 Joanne Joo**, “The Impact of Evidence-Based Intervention on Teachers’ Self-Efficacy,” *Co-author(s)*: *Jessica Mao; Leanne Ketterlin Geller Newsvendor’s Risk Attitude,* *Co-author(s)*: *Sila Cetinkay*
- 37 Jennifer Sayed**, “It is Art: Teacher Scaffolding and Student Problem Posing During Math Walks at an Art Museum,” *Co-author(s)*: *Saki Milton*
- 38 Lois Ndungu**, “Math Doesn’t Scare Me. I Scare Math.” Student Voice in Mathematics Classrooms”
- 39 Marc Sager**, “Learning Math Through a Game-Based Personal Excursion,” *Co-author(s)*: *Maximilian Sherard; Saki Milton; Candace Walkington; Anthony Petrosino*
- 40 Mai Zaru**, “Translanguaging Across Generations: Empowering Immigrant Families through Arabic Peer-Assisted Learning Strategies”
- 41 Paul Foster**, “Latent Class Analysis of Oral Passage Reading Speed and Accuracy Measures,” *Co-author(s)*: *Kara, Y.; Kamata, A.*
- 42 Theodora Beauchamp**, “Affordances and Limitations of Prisms Math VR Simulations for Students’ Mathematical Reasoning about Ratio and Slope”
- 43 Kuo Wang**, “Improving Automated Scoring of Prosody of Oral Reading Fluency with Between-Word Silence Features,” *Co-author(s)*: *Kuo Wang1, Akihito Kamata1, Yusuf Kara1, Joseph F. T. Nese2*

COMPUTER SCIENCE

- 44 Beichen Hu**, “Context-Aware API Recommendation for Mashup Composition based on Path Ranking”
- 45 Bryce Shurts**, “Neuro-symbolic Commonsense Reasoning through First-Order Logic with Sub-symbolic Embeddings,” *Co-author(s)*: *King-Ip Lin*
- 46 Clayton Harper**, “Learnable CNN Kernel Sizes Via Fourier Analysis,” *Co-author(s)*: *Luke Wood; Peter Gerstoft; Eric Larson*
- 47 Eli Laird**, “XInsight: Revealing Model Insights for GNNs with Flow-Based Explanations,” *Co-author(s)*: *Ayesh Madushanka; Elfi Kraka; Corey Clark*

- 48 Hongjin Yu**, “GA-LLM Graph-Augmented Large Language Model”
- 49 Timothy Lee**, “Blind Evaluation Framework for Fully Homomorphic Encryption and Privacy Preserving Machine Learning,” *Co-author(s)*: *Corey Clark*
- 50 Lawrence Klinkert**, “Driving Generative Agents With Their Personality,” *Co-author(s)*: *Stephanie Buongiorno*
- 51 Junhao Shen**, “Temporal Graph Neural Network-Powered Paper Recommendation on Dynamic Citation Networks,” *Co-author(s)*: *Mohammad Ausaf Ali Haqqani, Beichen Hu, Cheng Huang, Xihao Xie, Tsengdar Lee and Jia Zhang*
- 52 Matthew Lee**, “Impacts of Synthetically Generated Data on Trackformer-based Multi-Object Tracking,” *Co-author(s)*: *Clayton Harper; William Flinchbaugh; Eric C. Larson; Mitchell A. Thornton*
- 53 Hussain Rasiq**, “Modeling Personality Traits from Language in Life Narrative Interviews with Older Adults Using Transformer-Based Large Language Models,” *Co-author(s)*: *Jerry Ma*
- 54 Rishav Raj**, “Harnessing Stable Diffusion Pipeline for Advancing Facial Recognition,” *Co-author(s)*: *Kassi Bertrand*
- 55 Charles Sayre**, “Radiation Anomaly Detection in Highly Variable Background Environments”
- 56 Sydney Gibbs**, “City Scale Autonomy Learning,” *Co-author(s)*: *Mitchell Thornton; Darrell Young*

CIVIL AND ENVIRONMENTAL ENGINEERING

- 57 Alexander Brandt**, “Rocking Isolation Versus Base Isolation for the Seismic Protection of Tall, Valley Bridges,” *Co-author(s)*: *Alexander Brandt; Nicos Makris*
- 58 Ahmed Khamiss**, “Seismic Response of Wind Turbines on Monopile Foundations in Dry Granular Soil”
- 59 Idowu Itiola**, “Microscale Framework for Seismic Stability Analysis of Bridge-Pier Rocking Isolation Using Discrete Element Method”
- 60 Joelle Uribe**, “Evaluation of Subsurface Natural Gas Leak Rate Quantification Models,” *Co-author(s)*: *Venkata Rao Gundapuneni; Kathleen M. Smits*
- 61 Linda Jaramillo Urrego**, “Engaging Communities for Effective Engineering: Fast-Track Community Needs Assessment Approach for Inclusive Project Development in the Mining Sector,” *Co-author(s)*: *Kathleen Smits*

- 62** **Mehrdad Karimipetanlar**, “The Influence of Particle Shape on Crushing Pattern and Energy Dissipation within a Pressurized Sand Damper”
- 63** **Navodi Jayarathne**, “Unraveling Natural Gas Migration Rate and Extent from Leaking Underground Pipelines under Varying Environmental Conditions,” *Co-author(s): Kathleen M Smits; Daniel J Zimmerle; Stuart N Riddick; Richard S Kolodziej*
- 64** **Richard Kolodziej**, “Evaluating Mobile Survey Methods for Upstream Underground Pipeline Leak Detection: A Protocol Approach,” *Co-author(s): J. R. R. Navodi Jayarathne, Shanru Tian, Venkata Rao Gundapuneni, Kathleen M. Smits*
- 65** **Muhammad Younas**, “A Context-Aware AI Framework for Integrated Real-Time Intersection Detection and Signal Optimization”

COMBINED

- 66** **Aviraj Sinha**, “A Programmable True Random Number Generator Using Commercial Quantum Computers,” *Co-author(s): Elena R. Henderson; Jessie M. Henderson; Eric C. Larson; Mitchell A. Thornton*
- 67** **Susan Bataju**, “Search for Higgs Boson Pair Production in the Multi-lepton Final State Using Proton-Proton Collision Data at $\sqrt{s} = 13$ TeV from the ATLAS Detector”
- 68** **Rajeev Vaisakh**, “Probing the expansion of the Universe using Dark Energy Spectroscopic Instrument,” *Co-author(s): James Lasker, Robert Keho*