2018 UNIVERSITY EXPOSITION
FRIDAY, MARCH 23

FACULTY POSTERS

100 Using Shared Frailty Modeling to Study Alternative Cell Fates. Rachel Leander, Mathematics; Yeqian Liu, Mathematics
101 Graham and Zeke: A Short Documentary Film. Allie Sultan, Media Arts; Cheryl Newsome, Undergraduate student, Media Arts
102 Trends in Agricultural Production Efficiency and Their Implications for Food Security in Sub-Saharan African Countries. Bichaka Fayissa, Economics; Christian Nsiah, Economics & Finance
103 Genome-wide Identification and Characterization of Long Non-Coding RNAs in Tilapia (Oreochromis niloticus). Walaa Shaalan, Visiting scholar, Biology; Ali Ali, Non-MTSU university faculty collaborator, Biology; Sabry El-Serafy, Non-MTSU university faculty collaborator, Biology; Mohamed Salem, Staff, Biology
104 The Falling Wooden Idols. Marie Elliott, Faculty, Media Arts; Frank Barnas, Faculty, Broadcast Journalism and Documentary Production, Valdosta State University
105 Inferred Reactivation of Basement Structures within the Nashville Dome, Central Tennessee. Mark Abolins, Faculty, Geosciences
106 Milly and Roots - Animated Series. Rodrigo Gomez, Faculty, Media Arts

UNDERGRADUATE POSTERS

300 Classifying Magnetic Resonance Image Modalities with Convolutional Neural Networks. Samuel Remedios, Computer Science; Dzung Pham, Industry collaborator; John Butman, Industry collaborator; Snehashis Roy, Industry collaborator; Joshua Phillips (Faculty sponsor) Computer Science
301 Nutrition in the Media. Aubree Davis, Interior Design; Dasia Ballard, Social Work; Sandra Cavender (Faculty sponsor) English
302 Potential Health Risks of Dyes Used in Color Run Powders. Teresa Tran, Chemistry; Beng Ooi, Faculty, Chemistry; Beng Ooi (Faculty sponsor) Chemistry
303 Does the use of a 'Sonic Net' Disturb the European Starling (Sturnus vulgaris) and Deter them from the Murfreesboro Airport? Ifeanyi Onuh, Biology; Sarah Mikhail, Biology; Jarred Millard, Biology; Marisa Rust, Biology; Danielle Brown, Faculty, Biology; Danielle Brown (Faculty sponsor) Biology
304 Investigating the Immune Response to Cryptococcus neoformans. Muhammad Fariz Ali, Biology; Rebecca Seipelt (Faculty sponsor) Biology
305 Media Influences on Public Opinion of the Police. Madeline Peters, Criminal Justice Administration; Jade Johnson, Speech Pathology and Audiology; Sandra Cavender (Faculty sponsor) English
306 Searching for Macroscale Folds in the Nashville Dome, Central Tennessee. Christina Rosenberg, Geosciences; Mark Abolins (Faculty sponsor) Geosciences
307 Effects of Predation Risk on Habitat Selection by Two Cryptobenthic Blennies (Helcogrammoides spp.) in a Central Chilean Coastal Ecosystem. Brooke Fitzwater, Biology; Dennis Mullen (Faculty sponsor) Biology
308 Visual Catalog of the Fishes of the Stones River in Middle Tennessee. Brooke Fitzwater, Biology; Dennis Mullen (Faculty sponsor) Biology
309 The True Costs of Private Security Officers. Matthew Moore, Criminal Justice Administration; Ben Stickle, Faculty, Criminal Justice Administration; Ben Stickle (Faculty sponsor) Criminal Justice Administration
310 Infectivity of Novel Intracellular Bacteria for Eukaryotic Cells. Andrew Swehla, Biology; Mary Farone (Faculty sponsor) Biology
311 Orchestrating O’Carolan: Initiating a Folk Composer into a Baroque World. Sarah Wilfong Joblin, Music; Carol Nies (Faculty sponsor) Music
312 The Relationship of Intrinsic and Extrinsic Constraints to Undergraduate STEM Instructors’ Use of Research-Based Instructional Strategies. Gina Bishara, Biology; Grant Gardner (Faculty sponsor) Biology
313 WITHDRAWN
314 Assessing Type 2 Diabetes Risk Perception among College Students and Creating Health Education Tools using the Health Belief Model. Kyeesha Wilcox, Global Studies and Human Geography; Bethany Wrye (Faculty sponsor) Health and Human Performance, and Erin Anfinson (Faculty sponsor) Art
315 Determinants of Life Expectancy in MENAP and CCA Countries. Victor Sanchez, Political Science; David Carleton (Faculty sponsor) Political Science

Complete schedule of events, abstracts, and other information is available at http://www.mtsu.edu/scholarsweek/
316 Indoor Localization with Fingerprinting using Artificial Neural Networks. Delkhash Ibrahimi, Computer Science; Mubarak Mohammed, Engineering Technology; Lei Miao (Faculty sponsor) Engineering Technology

317 Factors that Cause the Leaching of Bisphenol A From Plastic Containers. Emily Jookar, Biology; Beng Guat Ooi, Faculty, Chemistry; Beng Guat Ooi (Faculty sponsor) Chemistry

318 A Tale of Two Series: Even and Odd Unsymmetrical Bispyridinium [closo-B$_2$H$_{10}$]$_2$ Derivatives. Anas Hajhussein, Chemistry; Loay Abuzaehra, Chemistry; Muhammad Ali, Chemistry; Andrienne Friedli, Faculty, Chemistry; Piotr Kaszynski, Faculty, Chemistry; Andrienne Friedli (Faculty sponsor) Chemistry

319 Synthesis of Reverse Amide Analogs of Cyclopropyl Peptidomimetics as BACE Inhibitors. Mahmuda Akter, Chemistry; Norma Dunlap, Faculty, Chemistry; Norma Dunlap (Faculty sponsor) Chemistry

320 Analyzing Student Understanding of Isomorphism. Marilin Kelley, Mathematics; Jennifer Lovett (Faculty sponsor) Mathematics

321 Fungal Endophytes in Vitis aestivalis ‘Norton/Cynthiana’ Grapes of Missouri and Tennessee are Likely Distinct. Ross Thomas, Biology; Zachary Lay, Biology; Rebecca Seipel-Thieman (Faculty sponsor) Biology

322 Factors That Explain the Variance in Corruption: A Cross-National Study. Samuel Musili, Political Science; Stephen Morris (Faculty sponsor) Political Science

323 Opposites Attract: Donor-Pi-Acceptor Dyes in the Solid State. Tegan Schafer, Chemistry; Jakub Wojciechowski, Visiting scholar, Technical University of Lodz, Poland, Chemistry; Irina Novozhilova, Staff, Chemistry; Andrienne Friedli (Faculty sponsor) Chemistry

324 A Comparative Study of the Impacts of Two Active Learning Methods in High School Biology. Dakota Demarest, Biology; Zaynah Concrete Industry Management; Grant Gardner (Faculty sponsor) Biology

325 WITHDRAWN.

326 Is There a Distinction Between Out-Loud and Silent Self-Talk? Derrick Collins, Psychology; Thomas Brinhaupt (Faculty sponsor) Psychology

327 RPN-6.2: A Protein Required for Proteasome Assembly, May be Regulated via Alternative Promoter Usage as well as Alternative Splicing in Nematodes During Salt Stress. Robert Owen, Biology; Sara Moore, Biology; Rebecca Seipel-Thieman, Faculty, Biology; Rebecca Seipel-Thieman (Faculty sponsor) Biology

328 Examining the Effects of Manipulating Chaperone-Mediated Autophagy on Stress Induced Nuclear Granules (“SINGs”) within the Nucleus of Oocytes of Caenorhabditis elegans. Robert Owen, Biology; Lynn Boyd, Faculty, Biology; Lynn Boyd (Faculty sponsor) Biology

329 Word Learning in Authentic versus Explicit Contexts. Janie Kullmar, Health and Human Performance; Kathryn Blankenship, Faculty, Health and Human Performance; Kathryn Blankenship (Faculty sponsor) Health and Human Performance

330 Observing the Solar System with Software Defined Radio. John Jackson, Physics and Astronomy; Chuck Higgins (Faculty sponsor) Physics and Astronomy

331 Effect of the Lunar Shadow in the Intake of Data from Solar Activity. Beverly Warner, Physics and Astronomy; Charles Higgins (Faculty sponsor) Physics and Astronomy

332 Identification of Fungal Endophytes in Vitis aestivalis ‘Norton/Cynthiana’ Grapes of Middle Tennessee. Rachel Bailey, Biology; Nolan Jolley, Agribusiness and Agriscience; John Dubois, Faculty, Biology; Tony Johnston, Faculty, Agribusiness and Agriscience; Rebecca Seipel-Thieman (Faculty sponsor) Biology

333 Evaluating the Role of Memory in Cell Cycle Progression. John Ford, Computer Science; Jasmin Laurel, Biology; Rachel Leander, Faculty, Mathematics; Christian Devine, Biology; Rachel Leander (Faculty sponsor) Mathematics

334 Narrative Discourse Performance in Older Adults. Natalie Fouks, Health and Human Performance; Kathryn Blankenship (Faculty sponsor) Health and Human Performance

335 Dimensional Attention Learning for Working Memory. Bishop Doktor, Computer Science; Joshua Phillips (Faculty sponsor) Computer Science

336 Synthesis and Characterization of Antifungal Peptoids against Cryptococcus by Means of Structure Activity Relationship. Madysyn Middleton, Chemistry; Kevin Bicker (Faculty sponsor) Chemistry

337 Pros & Cons of Clickbait with Social Media. Makayla Stout, English; Kayla Chu, English; Sandra Cavender (Faculty sponsor) English

338 Symmetrical Bis-(4-Alkoxypyridinium) Liquid Crystals Made from Boron Clusters. Muhammad Osama Ali, Chemistry; Andrienne Friedli (Faculty sponsor) Chemistry

339 Rigid Body Guidance in Three Dimensions. Matthew Radice, Engineering Technology; Brian Slaboch (Faculty sponsor) Engineering Technology

340 Limestone Powder: The Concrete Industry’s Answer for the Fly Ash Shortage. Lauren Cordofler, Concrete Industry Management; Jonathan Huddleston (Faculty sponsor) Concrete Industry Management

341 Making Comprehensible Health Information Accessible and Entertaining for Parents with Low Literacy Levels. Meave Bleistein, Psychology; Matthew Hackett, Psychology; Stuart Bernstein (Faculty sponsor) Psychology

342 A Freshman’s Journey: An Italian Travel Memoir. Madeleine Kurtz, English; Philip Phillips (Faculty sponsor) Honors College

343 Implicit Learning Differences Between Dyslexics and Neurotypicals. Caitlin Ketcham, Psychology; Haylie Stoltz, Psychology; Andrew Towle, Psychology; Stuart Bernstein, Faculty, Psychology; Stuart Bernstein (Faculty sponsor) Psychology

344 New Drugs for Bad Bugs: Aurones as Novel Antifungal Agents. Mario Lorenzana-DeWitt, Chemistry; Mary Farone, Faculty, Biology; Scott Handy, Faculty, Chemistry; Zachary Taylor, Graduate student, Chemistry; Arjun Kafele, Graduate student, Chemistry; Mary Farone (Faculty sponsor) Biology

345 Exploration of Antifungal Peptide, AEC5, for use as an Antimicrobial Therapeutic Against Cryptococcus neoformans. Sabrina Spicer, Chemistry; Kevin Bicker (Faculty sponsor) Chemistry, and Erin McClelland (Faculty sponsor) Biology

346 Utilizing a Live Cell Reporter of M1 Macrophage Activation to Study the Effects of Plant-Derived Immunomodulatory Polysaccharides. Devyn Hayes, Biology; J. Logan Bowling, Graduate student, Biology; Rajarshi Gosh, Graduate student, Biology; Anthony Farone, Faculty, Biology; David E. Nelson, Faculty, Biology; David Nelson (Faculty sponsor) Biology

347 Fungal Endophytes of Vitis aestivalis Variation Cynthiana/Norton Identified from Arkansas Overlap, But Are Distinct from Those Isolated from Tennessee and Missouri Grapes. Joseph Jones, Chemistry; Kayley Stallings, Chemistry and Agribusiness and Agriscience; Rebecca Seipel-Thieman (Faculty sponsor) Biology, John Dubois (Faculty sponsor) Biology, and Tony Johnston (Faculty sponsor) Agribusiness and Agriscience

348 Investigation into Timing of Cuttings for Maximum Propagation Efficiency of Vitis aestivalis ‘Norton/Cynthiana’ Grapevines. Nolan Jolley, Agribusiness and Agriscience; Tony Johnston (Faculty sponsor) Agribusiness and Agriscience

349 Thanatombiome Activity in Drug Overdose Cases. Emily Brackett, Forensic Science; Frank Bailey (Faculty sponsor) Biology

350 Characterization of Oils and Oil Mixtures using Terahertz Time-Domain Spectroscopy. Seth Floyd, Physics and Astronomy; Khem
Equine Temperament Examination Through Novel Object Exposure: Suitability for Equine-Assisted Activities and Therapies. Madeline McDonald, Agribusiness and Agriscience; Holly Spooner (Faculty sponsor) Agribusiness and Agriscience

Project ATOM: The Audio and Touch Operations Manager for Molecular Modeling Software. James Scott, Chemistry; Preston Macdougall (Faculty sponsor) Chemistry

Assessment of Anti-Herpes Activity by Cichorium intybus. Csilla Klara Szeppe, Ecology; Stephen Wright (Faculty sponsor) Biology

Using Linguistic Inquiry and Word Count to Examine Relationships between Personality and Writing Style. Cindi Brown, Psychology; Ying Jin, Faculty, Psychology; Thomas Brinhaupt, Faculty, Psychology; Thomas Brinhaupt (Faculty sponsor) Psychology

Why Are Some Countries Happier Than Others? Miura Rempis, Political Science; David Carleton (Faculty sponsor) Political Science

Inducing Somatic Embryogenesis in Grape (Vitis aestivalis 'Norton/Cynthiana') Callus. Hannah Hall, Biology; Aimee Wilson, Biology; Shannon Smith, Graduate student, Biology; John Dubois, Faculty, Biology; John Dubois (Faculty sponsor) Biology

Correlation of Bentonite Beds Throughout the Carter's Limestone. Faculty, Biology; John DuBois (Faculty sponsor) Biology

The Effects of Seed Cleaner Air Velocity and Float Tests of Varying Durations on Hemp (Cannabis sativa L.) Seed Separation. Zachary Stevens, Agribusiness and Agriscience; Clint Palmer, Biology, Graduate student, Agribusiness and Agriscience; Song Cui, Faculty, Agribusiness and Agriscience, Faculty; Nate Phillips, Faculty, Agribusiness and Agriscience; Nate Phillips (Faculty sponsor) Agribusiness and Agriscience

Fabrication of a Novel Manufacturing Mechanism. Sloan Campbell, Engineering Technology; Brian Slaboch (Faculty sponsor) Engineering Technology

Analyzing Single-Molecule Magnets with Density Functional Theory. Myranda Uselton, Chemistry; Jing Kong (Faculty sponsor) Chemistry

Assessing Freshwater Cyanobacterial Bloom Dynamics and Toxin Production in a Lentic Ecosystem. Jordan Jatko, Biology; Frank Bailey, Faculty, Biology; Frank Bailey (Faculty sponsor) Biology

Examining SNF3's Role in the Virulence of Cryptococcus neoformans. Prianka Griggs, Biology; Erin McClelland (Faculty sponsor) Biology

Intracellular Cryptococcus neoformans Infection Up-regulates the M2 Polarization Marker c-Myc in Host Macrophages. Kirsten Cunningham, Biology; Linda Sirky, Graduate student, Biology; Rebecca Seipel-Tiennem, Faculty, Biology; Erin McClelland, Faculty, Biology; David E. Nelson, Faculty, Biology; David Nelson (Faculty sponsor) Biology

Mercury in Riparian Spiders and the Potential Risk to Appalachian Mountain Birds. Andrew Todd, Biology; Gale Beaubien, Graduate student, Biology; Connor Olson, Graduate student, Biology; Ryan Otter, Faculty, Biology; Ryan Otter (Faculty sponsor) Biology

The Therapeutic Potential of Azaaurones for the Pathogenic Yeast Cryptococcus neoformans. Miranda Lane, Biology; Erin McClelland, Faculty, Biology; Erin McClelland (Faculty sponsor) Biology

How Host Gender Affects the Polysaccharide Capsule of Cryptococcus neoformans. Pel Doski, Biology; Erin McClelland (Faculty sponsor) Biology

Foreign Language in Selected Literature. Natalie Jones, English; Patricia Gaityely (Faculty sponsor) English

Novel Tripodal Ligands with Phosphorus/Nitrogen Mixed Donors and Their Base Metal Complexes. David Tyer, Chemistry; Keshav Paudel, Graduate student, Chemistry; Keying Ding (Faculty sponsor) Chemistry

Toward Microscopic Equations of State for Core-Collapse Supernovae from Chiral Effective Field Theory. Bassam Aboona, Physics and Astronomy; Henry Holt (Faculty sponsor) Physics and Astronomy

The Variety of Censorship. Ella Colbert, Sociology and Anthropology; Sean Dixon, Music; Sandra Cavender (Faculty sponsor) English

Identity Theft. Leah Patton, Psychology; Sandhya Singh, Accounting; Tanner Brown, English; Sandra Cavender (Faculty sponsor) English

Effectiveness of zinc-based football solution over industry standard copper-based solutions for the prevention and treatment of digital dermatitis in dairy cattle. Christina Davis, Agribusiness and Agriscience; Jessica Carter, Faculty, Agribusiness and Agriscience; Song Cui, Faculty, Agribusiness and Agriscience; Jessica Carter (Faculty sponsor) Agribusiness and Agriscience

Aerodynamic and Acoustic Analysis of a Barn Owl Biomimetic Airfoil. Salman Rahman, Aerospace; Nate Callender (Faculty sponsor) Aerospace

Contributions of Early MTNS Faculty in Establishing the Tennessee Academy of Science. Hunter D. Hudson, Chemistry; Martin V. Stewart, Faculty, Chemistry; Martin V. Stewart (Faculty sponsor) Chemistry

Acoustic Bandgap Structures Based on One-Dimensional Maximal-Length-Sequence Waveguide Filters. Stephanie Lough, Physics and Astronomy; William Robertson (Faculty sponsor) Physics and Astronomy

Mercury Concentrations in Terrestrial and Aquatic Primary Consumers in Tennessee’s Appalachian Mountains. Jaylen Sims, Chemistry; Gale Beaubien, Graduate student, Biology; Connor Olson, Graduate student, Biology; Andrew Todd, Biology; Ryan Otter, Faculty, Biology; Ryan Otter (Faculty sponsor) Biology

Efficacy of HPL1A Cell Culture as a Host for Influenza A Viruses. Ashley Gambrell, Biology; Stephen Wright (Faculty sponsor) Biology

Domestic Abuse in the Media. Ashleigh Yancy, Art and Design; Janice Penny, Sociology and Anthropology; Sandra Cavender (Faculty sponsor) English

Numerical Study of Phase Transitions in Quantum Materials. Kristin Barton, Physics and Astronomy; Hanna Terletska (Faculty sponsor) Physics and Astronomy

Molecular Identification of Anti-Viral Metabolite Produced by Mangifera persiciformis. Clinton Hollanday, Biology; Stephen Wright (Faculty sponsor) Biology

Callus Initiation in Cannabis Sativa via Plant Tissue Culture Methods. Xoe Thacker, Biology; Kayla Thomas, Biology; Shannon Smith, Graduate student, Biology; John Dubois, Faculty, Biology; John Dubois (Faculty sponsor) Biology

The Dibenzalacetone Roller Coaster: An X-ray and Computational Study of Conformational Isomers. Andrew Tanyous, Chemistry; Jakub Wojciechowski, Visiting scholar, Technical University of Lodz, Poland; Chemistry; Andrienne Friedli (Faculty sponsor) Chemistry

Suitability of Chicken, Broccoli, and Rice Casserole as a Menu Item for Public School Nutrition Programs. Amanda Mason, Human Sciences; Joshua McCravy, Human Sciences; Lisa Sheehan-Smith (Faculty sponsor) Human Sciences

Differentiation of Ignitable Liquids by Using Direct Analysis in Real Time Mass Spectrometer (DART-MS). Isabella Barnett, Chemistry; Mengliang Zhang (Faculty sponsor) Chemistry

Star Blaster: An Effort in Collaborative Game Development. Cory Nelson, Computer Science; Adam McInturf (Faculty sponsor) English
GRADUATE POSTERS

500 Genome-Wide Identification of Antisense IncRNAs and their Expression and Genetic Polymorphism Associated with Susceptibility to *Flavobacterium psychrophilum* in Rainbow Trout. Ali Ali, Biology; Rafet Al-Tobasei, Postdoctoral fellow, Computational Science; Mohamed Salem, Faculty, Biology; Mohamed Salem (Faculty sponsor) Biology

501 Small RNAs Involvement in *Flavobacterium psychrophilum* - Rainbow Trout Host Pathogen Interactions. Pratima Chapagain, Molecular Biosciences; Ali Ali, Molecular Biosciences; Ynv Palti, Government agency collaborator, USDA; Gregory Weins, Government agency collaborator, NCCWA; Mohamed Salem (Faculty sponsor) Molecular Biosciences

502 Development of a 50K Transcribed Gene SNP chip Identifies Major QTL Affecting Growth and Muscle Yield In Rainbow Trout Through GWAS Analysis. Ali Ali, Biology; Rafet Al-Tobasei, Postdoctoral fellow, Computational Science; Mohamed Salem, Faculty, Biology; Mohamed Salem (Faculty sponsor) Biology

503 Holographic Reduced Representations for Dimensional Attention Learning. Huizhi Wang, Computer Science; Joshua Phillips (Faculty sponsor) Computer Science

504 Energy Aware, Time and Throughput Optimization for Workflow Scheduling in Cloud Environments using Genetic Algorithm. Chandu Naga Vardhan Budati, Computer Science; Yi Gu (Faculty sponsor) Computer Science

505 Predicting Stigmatizing Attitudes Against Mental Illness Based on Mental Health Literacy. Angela Bowman, Health and Human Performance; Tara Prairie, Health and Human Performance; Norman Weatherby, Faculty, Health and Human Performance; Andrew Owusu, Faculty, Health and Human Performance; Jwa Kim, Faculty, Literacy Studies; Norman Weatherby (Faculty sponsor) Health and Human Performance

506 The Roles of Perceived Candidate Honesty and Effectiveness in Voter Choices during the 2016 U.S. Presidential Election. Kimberli Conro, Media and Communication; Ken Blake, Faculty, Journalism, Office of Communication Research; Jason Reineke, Faculty, Journalism, Media Studies; Ken Blake (Faculty sponsor) Journalism, Office of Communication Research

507 Solar Boat Team: An Alternative to Gas. Christopher Winfrey, Engineering Technology; Saeed Foroudastan (Faculty sponsor) Professional Science

508 Production of a Dual-Genre EP. Schiller Poland, Recording Industry; Daniel Pfeifer (Faculty sponsor) Recording Industry

509 Development of a Protein-Based Assay for Discovering Potential Immune Complex (IC) Inhibitors. Matthew Fuller, Molecular Biosciences; Anthony Farone, Faculty, Biology; Elliot Altman (Faculty sponsor) Biology

510 Effect of Light Photoperiod on Lipids of the Harmful Marine Dinoflagellate, *Karenia brevis*. Shelby Lowrie, Biology; Hanna Houle, Visiting scholar, Biology; Christian Devine, Undergraduate student, Biology; Jeff Leblond (Faculty sponsor) Biology

511 Synthesis and Biological Screening of Peracetylated β-D-glucopyranosyl Aurones and Aurone Glucosides. Arjun Kafle, Molecular Biosciences; Scott Handy, Faculty, Chemistry; Scott Handy (Faculty sponsor) Chemistry

512 Incremental Learning for Supervised Dimension Reduction. Ning Zhang, Computational Science; Qiang Wu, Faculty, Mathematics; Qiang Wu (Faculty sponsor) Mathematics

513 Fourier Spectral Exponential Time Differencing Methods for Multidimensional Space-Fractal Reaction-Diffusion Equations. Saham Alzahrani, Computational Science; Abdul Khalig, Faculty, Mathematics; Abdul Khalig (Faculty sponsor) Mathematics

514 “He Deserves a Face”: Rewriting the Narrative of Ascent in African American Fiction for Young Adults. Kimberly Feher, English; Laura Dubek (Faculty sponsor) English

515 Degradation of Selected Hazardous Organic Compounds by Chlorine Dioxide and Ozone. Md Abdul Hoque, Chemistry; Ngee Chong, Faculty, Chemistry; Ngee Chong (Faculty sponsor) Chemistry

516 Mercury Dynamics in Headwater Streams of Tennessee’s Appalachian Mountains. Connor Olson, Biology; Gale Beaubien, Biology; Jaylen Sims, Undergraduate student, Chemistry; Andrew Todd, Undergraduate student, Biology; Ryan Otter, Faculty, Biology; Ryan Otter (Faculty sponsor) Biology

517 Emission Profile of Biodiesel Blends with Various Oxygenated Additives. Saidi Abdulramoni, Chemistry; Ngee Chong, Faculty, Chemistry; Beng Ooi, Faculty, Chemistry; Ngee Chong (Faculty sponsor) Chemistry

518 Huffman Encoded T9 Based Electromyographic Text Input System. Daniel Lewis, Computer Science; Suk Seo (Faculty sponsor) Computer Science

519 Race and (Mis)Representation: The Cosby Show and the "Perfect" Black American Family. Michael Curtis, Communication Studies and Organizational Communication; Laura Dubek (Faculty sponsor) English

520 A Continuous Label-Free Cell Separation Device Combining Microfluidics and Dielectrophoresis. Courtney Riley, Professional Science; Charles Perry (Faculty sponsor) Engineering Technology; Tae Hyun Kim (Faculty sponsor), Electrical engineering, University of Michigan

521 Predicting the Receipt of a Physician’s Recommendation for a Lifestyle Change. Sarah Murfree, Health and Human Performance; Garvita Thareja, Health and Human Performance; Norman Weatherby (Faculty sponsor) Health and Human Performance

522 The Pathogenic Yeast, *Cryptococcus neoformans*, Promotes M2 Polarization of Host Macrophages by Down-regulating p53 Signaling. Linda Sirry, Biology; Kirsten Cunningham, Undergraduate student, Biology; Rebecca Seipel-Thiennam, Faculty, Biology; Erin McClelland, Faculty, Biology; David E. Nelson, Faculty, Biology; David Nelson (Faculty sponsor) Biology

523 An Evaluation of GPU Implementations of SSSP and APSP Algorithms. Charles Johnson, Computer Science; Suk Seo (Faculty sponsor) Computer Science

524 From Cure-alls to Calcium Tablets: a Comparative Semantic Analysis of Advertisements for 19th-20th Century Patent Medicines and Contemporary Dietary Supplements. Karin Albrecht, Media and Communication; Jane Marcellus (Faculty sponsor) Journalism

525 “Ships At a Distance”: Spike Lee’s Intersectional Treatment of Female Sexuality. Elizabeth Carpenter, English; Laura Dubek (Faculty sponsor) English

526 The Evolution of Jazz Recording Techniques. Tevin Turner, Recording Industry; Michael Hanson (Faculty sponsor) Recording Industry

527 Genetic Variation of *Cryptococcus neoformans* Dependent upon Host Environment. John Shahan, MSPS-Biotechnology; Erin McClelland (Faculty sponsor) Biology
528 Personalized Web Search Based on User Interaction with Browser. Vishwajith Shivanandaih Matad, Computational Science; Suk Jai Seo (Faculty sponsor) Computer Science

529 An Examination of the Relationship Between Diabetes and Risk Factors Including Diet, Physical Activity and Body Weight Among US Adults. Willie Rajvong, Health and Human Performance; Tandra Gause, Health and Human Performance; Andrew Owusu, Faculty, Health and Human Performance; Angela Bowman, Health and Human Performance; Chandra Story, Faculty, Health and Human Performance; Bethany Wrye, Faculty, Health and Human Performance; Andrew Owusu (Faculty sponsor) Health and Human Performance

530 Expression of a Novel Protein(HVA1) that Affects the Virulence of Cryptococcus neoformans. Aarthi Subramani, Molecular Biosciences; Erin McClelland (Faculty sponsor) Molecular Biosciences

531 The Impact of the Affordable Care Act on Breast Cancer Mortality among African-American Women. Glory Owolor, Health and Human Performance; Norman L. Weatherby, Faculty, Health and Human Performance; Andrew Owusu, Faculty, Health and Human Performance; Norman L. Weatherby (Faculty sponsor) Health and Human Performance

532 Supporting Biology Lab Instructors to Engage Students in Disciplinary Talk through Professional Development and Curriculum Materials. Zhigang Jia, Mathematics and Science Education; Angela Google, Mathematics and Science Education; Tina Carter, Biology; Anna Grinath, Biology; Anna Grinath (Faculty sponsor) Biology

533 Searching for New Game Mechanics Missing from Contemporary Games Aiding Computer Science Education. Jesse Humphries, Computer Science; Suk Seo (Faculty sponsor) Computer Science

534 Innovation and Unemployment: Paths of Causality. Bronwyn Graves, Economics and Finance; Anthon Eff (Faculty sponsor) Economics and Finance

535 Cinema’s Native Son: The Literary Impact of Oscar Micheaux’s Novels and Films. Jess Bennett, English; Shane Levan, English; Laura Dubek (Faculty sponsor) English

536 The Impact of the Solar Tree with Nanowire Technology. Tasneem AlSalem, Engineering Technology; Charles Perry (Faculty sponsor) Engineering Technology

537 The Effect of Different Fish Predators on Riparian Spider Mercury Concentrations. Gale Beaubien, Biology; Connor Olson, Biology; Ryan Otter, Faculty, Biology; Ryan Otter (Faculty sponsor) Biology

538 The Ergonomic Impact on Women Working in Construction. Brianna Smith, Engineering Technology; Charles Perry (Faculty sponsor) Engineering Technology

539 The Relationship Between Age of Initiation of Alcohol/Tobacco/Marijuana Use and Prescription Drug Abuse Among High School Students in the US. Tandra Gause, Health and Human Performance; Willie Rajvong, Health and Human Performance; Andrew Owusu, Faculty, Health and Human Performance; Chandra Story, Faculty, Health and Human Performance; Bethany Wrye, Faculty, Health and Human Performance; Andrew Owusu (Faculty sponsor) Health and Human Performance

540 Broad band Maximum Length Sequence (MLS) Multilayer Dielectric Reflector. Khem Poudel, Computational Science; William Robertson, Faculty, Physics and Astronomy; William Robertson (Faculty sponsor) Physics and Astronomy

541 Analysis of Clinical and Passaged Strains of Cryptococcus neoformans Reveals Alternative Splicing in Virulence Genes. Mitch Merrymon, Biology; Rebecca Seipelt-Thiemann (Faculty sponsor) Biology

542 Development of an Expert System as a Diagnostic Tool for Diseases. Mohammed Mercy, Computer Science; Dr. Suk Jai Seo (Faculty sponsor) Computer Science

543 Wild-Simulated Production Guide for Ginseng Farmers in Tennessee. Shannon Smith, Molecular Biosciences; John DuBois, Faculty, Biology; Nathan Phillips, Faculty, Agribusiness and Agrisience; John DuBois (Faculty sponsor) Biology

544 Voting Versus Average. Honglan Xu, Mathematics; Qiang Wu (Faculty sponsor) Mathematics

545 Describing Physical Activity Breaks During the School Day: A Preliminary Analysis. Monica Hill, Elementary and Special Education; Kathleen Burriss, Faculty, Elementary and Special Education; Larry Burriss, Faculty, Journalism; Donald Snead, Faculty, Educational Leadership; Kathleen Burriss (Faculty sponsor) Elementary and Special Education

546 Misconceptions of Mutations and Pedigree Analysis Reveal Lack of Depth in and Reliance on Misplaced Intuition on Understanding. Zachary Grimes, Mathematics and Science Education; Rebecca Seipelt-Thiemann (Faculty sponsor) Biology

547 Detecting Domain-Fronted Traffic using Neural Networks. Steven Sheffey, Computer Science; Suk Seo (Faculty sponsor) Computer Science

548 Electrochemical Detection of Acetaminophen with Silicon Nanowires. Raja R. Pandey, Chemistry; Hussain S. Alshahrani, Chemistry; Elissa Williams, Non-MTSU university faculty collaborator ; Sergiy Krylyuk, Non-MTSU university faculty collaborator; ; Albert V. Davydov, Non-MTSU university faculty collaborator; Charles C. Chusuei, Faculty, Chemistry; Charles Chusuei (Faculty sponsor) Chemistry

549 The Subversive Masculinity of Helen Arnold, Avatar: The Last Airbender and The Loud House. Kristen Sales, Communication Studies and Organizational Communication; Jane Marcellus (Faculty sponsor) Journalism

550 Applied Ambisonics: Capturing Three-Dimensional Sound in a Live Setting. Adrienne Howard, Recording Industry; John Merchant (Faculty sponsor) Recording Industry

551 A Pilot Study: A Survey of Beginning Band Directors with Regard to Instrument Selection. Ke Ding, Music; Jamila McWhirter (Faculty sponsor) Music

552 Workflow Scheduling and Optimization for Big Data Sciences in Distributed Network Environments. Huda Alrammah, Computational Science; Yi Gu (Faculty sponsor) Computer Science

553 An Adaptive Metropolis-Hastings Algorithm with Rejection-Based Gaussian Proposal Scaling for Fast Convergence in Multimodal Parameter Spaces. Graham West, Computational Science; John Wallin (Faculty sponsor) Computational Science

554 Build Reliable Robotic Systems Through Model Checking. Yuxin Zhang, Computer Science; Suk Seo (Faculty sponsor) Computer Science

555 Differences in the Male and Female Immune Response to Cryptococcus neoformans Infections. Tiffany Guess, Biology; Erin McClelland, Faculty, Biology; Erin McClelland (Faculty sponsor) Biology

556 Narrative of the Life of Alexander Hamilton, an American Immigrant: Hamilton as an Immigrant’s Narrative of Ascent. Micah Hallman, English; Laura Dubek (Faculty sponsor) English

557 The Visual Album: Exploring the Creative Process from the Artist Perspective. Brian Seay, Recording Industry; Matt Foglia (Faculty sponsor) Recording Industry

558 A Survey of Two Task-Scheduling Algorithms for Optimizing Efficiency on Cloud Computing Systems. Fred Nelson, Computer Science; Yi Gu (Faculty sponsor) Computer Science

559 Teaching String Intonation: Literature and Practice. Mahsa Marjorie Way-Kiani, Music; Jamila McWhirter (Faculty sponsor) Music
560 Granger Causality Test and Cointegration of Interest Rate, Exchange Rate, and Stock Volatility at Chicago Options Market. Abul Hasnat Salimullah, Economics and Finance; Anthon Eff (Faculty sponsor) Economics and Finance

561 Piezoelectric Microphones: Creative Applications of Lo-Fi Transducers. Ana Cristina Ochoa, Recording Industry; Michael Fleming (Faculty sponsor) Recording Industry

562 A Survey of Post-Secondary School Music Participation. Dakota Dooley, Music; Jamila McWhirter (Faculty sponsor) Music

563 Molecular Basis of pH-dependent HIV gp120 Differences Revealed Using BESI. Scott Morton, Computational Science; Joshua Phillips, Faculty, Computer Science; Joshua Phillips (Faculty sponsor) Computer Science

564 A Benchmarking Study of NoSQL and SQL Databases. Nathaniel Boyer, Computer Science; Suk Jai Seo (Faculty sponsor) Computer Science

565 Recording Classical Guitar from Start to Finish: The Recording and Dissemination of a Classical Album in Today's Market. Garri George, Recording Industry; John Hill (Faculty sponsor) Recording Industry

566 The Role of Testosterone in the Melanization of Cryptococcus neoformans. Jamila Tucker, Biology; Erin McClelland (Faculty sponsor) Biology

567 How to Design, Produce, and Disseminate an Effective Online Pro Audio Educational Series. Kyle Holland, Recording Industry; Cosette Collier (Faculty sponsor) Recording Industry

568 Encoding and Generating Musical Patterns with Markov Chains. Joseph Volmer, Computer Science; Suk Jai Seo (Faculty sponsor) Computer Science

569 A Human-Following Robot for Household Fall Detection. Simeon Adebola, Engineering Technology; Lei Miao (Faculty sponsor) Engineering Technology

570 Hellcats, Bitches and Succubi: Afro-Futurism and Black Female Selfhood in Lilith's Brood. OlaOmi Amoloku, English; Laura Dubek (Faculty sponsor) English

571 Linearly Implicit Predictor-corrector Schemes for Space Fractional Reaction Diffusion Equations. Toheeb Biala, Mathematics; Khaliq Abdul, Faculty, Mathematics; Saham Alzharani, Mathematics; Furati Khaled, Non-MTSU university faculty collaborator, Mathematics; Abdul Khaliq (Faculty sponsor) Mathematics

572 Modeling Cybersecurity Threats Using GPU Computing. Harold Lay, Mathematics; Abdul Khaliq (Faculty sponsor) Mathematics

573 Modification of Multi-Walled Carbon Nanotubes with Cobalt Oxide Nanoparticles for Dopamine Sensing. Mohammad Salauddin Kader, Chemistry; Charles Chusuei, Faculty, Chemistry; Charles Chusuei (Faculty sponsor) Chemistry

574 Cobalt Complexes of Tripodal Phosphorus/Nitrogen Mixed Donor Ligands: Applications for Catalytic Dehydrogenative Coupling Reactions. Keshav Paudel, Molecular Biosciences; Bedraj Pandey, Chemistry; Keying Ding (Faculty sponsor) Chemistry

575 Multi-Cultural Music Experiences of Collegiate Music Majors. Shan Zheng, Music; Jamila McWhirter (Faculty sponsor) Music

576 Surface Chemistry and Spectroscopy Study of α-Synuclein and the NAC Part. Sunday Olaluwoye, Chemistry; Chengshan Wang, Faculty, Chemistry; Chengshan Wang (Faculty sponsor) Chemistry

577 WITHDRAWN.

578 Laser Applications to Enhance Combat Efficiency. Damian Parker, Engineering Technology; Charles Perry (Faculty sponsor) Engineering Technology

579 Prioritizing Test Cases for Regression Testing. Vishwa Patel, Computer Science; Suk Seo (Faculty sponsor) Computer Science

580 Temporal Integration of Mitochondrial Stress Signals by the PINK1:Parkin Pathway. Mary Catherine Skoffield, Biology; Wesley Riley, Biology; Logan Bowling, Biology; David Nelson, Faculty, Biology; David Nelson (Faculty sponsor) Biology

March 26-April 12
First-place posters on exhibition in the atrium of the Walker Library.

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