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Faculty Mentors

Aliya Sultan and Aggy Barnowski	Perceptions of Heroes, Leaders, and Gender	Dr. Scott Allison and Dr. Crystal Hoyt
Wallace He, Tianchang Yang, Jessica Li, Ruoqing Jia, and Lillie Mucha	Convolution Neural Network Application by Keras	Dr. Lewis Barnett
Michael Francis Del Casino	A Scientific Investigation of Optimal Liver Allocation Algorithms	Dr. Prateek Bhakta
Hannah Small	Investigating the Modulation of Action Potentials Using Excitable Oocytes	Dr. Linda M. Boland
Kelly Ann Ocasio	Metagenomic Analysis of Central Virginia Ticks's Microbiome	Dr. Jory Brinkerhoff
Saket Karki	Analysis of Polarized CMB Power Spectra Using Gibbs Sampling	Dr. Emory F Bunn
Anh Bui	Development of Laboratory Experiments	Dr. Ryan H. Copping
Robert Sjovold and Noah Walker	Fluxional Behavior in Transition Metal Half-Sandwich Complexes of the Phenalenyl Radical	Dr. Kelling Donald
Supreeth Prasad	Coordination vs. Insertion: Competitive Channels for the Bonding of Monovalent Boron	Dr. Kelling Donald
Gabriel Stewart and Ziad Shafi	The Nature of Bonding of Group 5 Oxyhalides: Sigma-hole Interactions and Charge Transfer	Dr. Kelling Donald
Ziad Shafi	Mercury(II)Fluoride Clusters: A Search for the Cause and Location of a Novel Transition in the Mode of Bonding	Dr. Kelling Donald
Minghui Cai, Shaquille Christmas, Rohan Jaini, and Janak Jaini	Influence of the Chemical Environment on Halogen Bonding	Dr. Kelling Donald
John Cavaliere and Maria Florentin	Reactions of Benzyne with Ortho-lithiated Aromatic Amides	Dr. Emma Goldman
Jeffrey Noble and Carlos Perez-Mandry	Flow Chemistry of Vinylogous Amides	Dr. Emma Goldman and Dr. Raymond Dominey

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Brittney D'Oleo, Meghan Scharnagl, and Chris Fryer	Properties of Electrospun Fibers	Dr. Christine Helms
Gabrielle Gentile, Sara Camilli, Henry Dwaah, Maddie Delbeau, Bobby Croxon, and Stephanie Elmaleh	Development of a Model System to Study Sponge: Algal Symbiosis	Dr. April Hill
Aheema Gazi	Molecular Basis of Neonatal Epileptic Encephalopathy Caused by Pathogenic R225H and R225C Mutations in PNPO	Dr. April Hill and Dr. Martin Safo
Marina Winkler, Emily Marshall (Alum), Brittany West (Alum)	Pigmented Heterotrophic Bacteria	Dr. Malcolm Hill
Melanie Lippert	Following a Bleaching Event in Sponges	Dr. Malcolm Hill
Haley Lawrence	The Sponge Loop Hypothesis: Are Sponges the Foundation of the Marine Ecosystem?	Dr. Malcolm Hill
Stanford Lee and Gershon Ejoni	Search of Mega Chlorella Virus Using ArcGIS Collector and Plaque Assays	Dr. Malcolm Hill
Anthony Isenhour, Hannah Fulop (presenting) Hema Pingali (not presenting, alum)	Investigating Conditional Mutations in MTR4, an RNA Helicase Associated with the Nuclear Exosome	Dr. Angie Hilliker
Jennifer Piciw, Aidan Winters (not presenting, alum), and Tatiana Drewes Tartarotti (not presenting, alum)	Identification of Ded1 Suppressors using Genomic Sequencing	Dr. Angie Hilliker
Brent DeShields	Class-based Biases in Leader Perceptions: How Subtle Cues to Class can Affect Candidate Evaluations	Dr. Crystal Hoyt
Adrian Matthews and Hilary Djomnang Fokwa	Synthesis of Pyrrole-Based Ligands for Main Group and Transition Metals	Dr. Miles Johnson
Kiiko Kotera, Gregory Gravalis, and Isaiah Duplessis	Synthesis of Late Transition Metal Azaphosphatrane Complexes for Catalytic Applications	Dr. Miles Johnson

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Hassan Naveed, Finnegan Hu, Devin Chen, Ran Yan, and Yang Yang	Diffusion of Innovations: New Technology Adoptions in Network Structures	Dr. Michael Kerckhove
Ran Yan, Devin Chen, Zihan Hu, Hassan Naveed, and Yang Yang	Buyer-Seller Networks: Second-Price Auctions, Games and Social Efficiency	Dr. Michael Kerckhove
Finnegan Hu and Ran Yan	How to Bargain: Comparing Models	Dr. Michael Kerckhove
Emily Wu	Mathematical Modeling of a Stochastic Genetic Switch in Heat Shock Response	Dr. Ovidiu Lipan
Davina Adderley, Lauren McRae, and Cooper A. Taylor	Characterization of the PrP106-126 Human Prion Protein Mutant Fragments: A Computational Approach	Dr. Bill R. Miller III and Dr. Carol Parish
Melissa Gu and Lindsey Paul	Design of New Metal Complexes with Ligand-Centered Reactivity for the Reduction of CO ₂	Dr. Michael Norris
Lauren McRae	Investigating the Apo-Dynamics and Structure of JIP1	Dr. Carol Parish
Salmika Gathoni Wairegi and Adam Luxon	Spin-Flip Characterization of the Bergman Cyclization of the 5, 7, 8 - Member Systems	Dr. Carol Parish
Kevin John Ulep	Characterization of 3,5-didehydropyridine	Dr. Carol Parish
Quincy McKoy	Nature's Solution to Cancer: Eneidyne - Understanding Eneidyne-DNA Complexes from Binding to Apoptosis	Dr. Carol Parish
Michael Kitimet, Thais Scott, and Adam Luxon	Multireference Study of Diradical Pyridines	Dr. Carol Parish
Mikaela Rosen and Cooper A. Taylor (alum)	Apo Dynamics and the Functionally Relevant Clustering of the Arsenate Reductase (ArsC) Superfamily	Dr. Carol Parish
Arjun Jaini, Lillian Hughes, and Tess Munoz	Explosive Detection Via Halogen Bonding	Dr. Carol Parish, Dr. Michael Leopold, and Dr. Mulugeta Wayu

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Hunter Evans and Cooper Taylor	Molecular Dynamics of MEMO1: Apo Dynamics, Peptide and Ligand Binding	Dr. Carol Parish and Dr. Julie Pollock
Ana Shimeall	Do Phenolic Compounds Bind to Rhizobium Radiobacter's VirA Protein?	Dr. Daniel Pierce
Courtney Labrecque and Jessica Kim	MEMO1	Dr. Julie Pollock
Ritwika Bose, Patrick TomHon, Malik Bell, and Shannon Laughlin	Modification of Virus-Like Particles	Dr. Julie Pollock and Dr. Kristine Nolin
Eric Chang and Chris Cotter (abroad)	Identifying Muscle-like Contractile Machinery Sponges	Dr. Omar Quintero and Dr. Malcolm Hill
Justin Airas, Erica Modeste, and Yasmin Ali	Exploring the Mechanics of Myosin 19	Dr. Omar Quintero and Dr. Carol Parish
Alex Kiiru, Jamar Washington, and Barbara Fujita	Using Image Approaches to Identify Mitochondria Related Phenotypes in Myo19 Knockdown Cells	Dr Omar Quintero
Tongzhou Wang and Raymone Cao	The French Prisoner	Dr. William Ross
Annabelle Pham and Francy Cabrera-Paz	Adrenergic Receptors and M2 Macrophages	Dr. Krista Stenger
Rachel Culpepper	Protecting Data with Mandatory Retention Requirements using Dragchute Encryption	Dr. Doug Szajda
Alec Justice, Tanner Bina, and Joseph Mugisha	An Approximation Algorithm for a Variation to the Traveling Salesman Problem	Dr. Doug Szajda
Nicholas Wan and Rishabh Jain	A Side Channel Attack on ATM PIN Numbers	Dr. Doug Szajda
Christopher Bowles, Matt James, and John Seo	Grain Boundary Migration in Diblock Copolymers	Dr. Matthew Trawick
Abigail Watterson	Altered HAT Tip60 Expression Influences Degeneration in Drosophila Model of Machado-Joseph Disease	Dr. John Warrick

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Yibo Wang and Maggie McConnell	Do Reactive Oxygen Species Contribute to Neurodegeneration in Drosophila Model in Machado Joseph Disease	Dr. John Warrick
Justina Choo	Expression of Mutated Ataxin-3 in Glial Cells and Impact on Neurodegeneration	Dr. John Warrick
Henna Ragoowansi	The Effects of SOD2 Antioxidant on Autophagy in a Drosophila Model of Machado-Joseph Disease	Dr. John Warrick
Ethan Fenton	Up and Down Regulation of the IIR to Rescue Machado Joseph Disease Neurodegeneration in Drosophila	Dr. John Warrick
Yibo Wang	Do Reactive Oxygen Species Contribute to Neurodegeneration in Drosophila Model of Machado Joseph Disease	Dr. John Warrick