

ACS Local Section
Georgia

2020 Herty Medalist Undergraduate Research Symposium (HMURS) Programme

LIST OF POSTER SUBMISSIONS & ABSTRACTS (by Category)

ANALYTICAL CHEMISTRY (Posters 23 & 43)

Poster #23

Construction and application of a cost-effective portable LIBS system in *in situ* chemical analysis

Sayka Islam, Ying Guo, Seungjin Lee, Tae Song Lee and Clark Michel

Co-PIs: Ying Guo and Seungjin Lee

Georgia Gwinnett College

Poster #43

Determining Antioxidant Properties of Organic Blueberries Against Reactive Oxygen Species

Breen Riley

Co-PIs: Adrienne Cottrell-Yongye, Rashad Simmons, Jennifer Hurst-Kennedy and Cindy Achat-Mendes

Georgia Gwinnett College

BIOCHEMISTRY (Posters 2, 3, 4, 19, 20, 24, 25, 26, 31, 32, 37, 39, 44, 48, 49 & 55)

Poster #2

Approaches towards prevention and treatment for COVID-19: How far are we in the race?

Sujoy Menon, Latha Nair, Amit Geeniga, Archana Pradeep, Charis Gao, Harshini Ganesh, Meera Nair, Megha Asha Nath, Nandana Vinod, Niranjan Deepak

PI: Latha Nair

Middlesex County Academy for Science, Mathematics and Engineering Technologies (MCASMET)

Poster #3

The Effect of Various Salts on the Interactions between Polycyclic Aromatic Hydrocarbons and DNA upon Exposure to Ultraviolet Light

Victoria Michel, Kathryn Grant and Mohammad S. Safiarian

Co-PIs: Dr. Kathryn Grant

Georgia State University

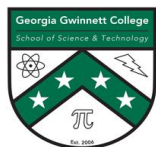
Poster #4

A Study of Near Infrared DNA Damage and Photo-Cytotoxicity by a Brominated 4-Quinolinium Dicarboxyanine Dye (ESS2-2-4)

Yewouemoe Lynda Waku Koumou, Kathryn B. Grant, Effibe Ahoulou, Anna St. Lorenz, Oleh Taratula, and Maged Henary

PI: Kathryn B. Grant

Georgia State University



ACS Local Section
Georgia

2020 Herty Medalist Undergraduate Research Symposium (HMURS) Programme

Poster #19

Developing Protein-Polymer Nanoconstructs as Reusable Biocatalysts

Thomas Falkenhausen, Gopeekrishnan Sreenilayam, Yakov Woldman

PI: Gopeekrishnan Sreenilayam

Valdosta State University

Poster #20

Reactivity and Recyclability of Immobilized Engineered Sperm Whale Myoglobin Containing *E. Coli* Cell Beads in Aqueous and Deep Eutectic Solvents

Nathan Hart, Gopeekrishnan Sreenilayam Yakov Woldman and Brandy Sreenilayam

PI: Gopeekrishnan Sreenilayam

Valdosta State University

Poster #24

Discussing Inhaled Ethanol as a Treatment for COVID-19

Jenu Thomas-Richardson, Thomas Manning, Govind Thomas-Richardson and Mathew Cowan

PI: Thomas Manning

Valdosta State University

Poster #25

Exploring Novel Reactivity for Engineered Myoglobin Biocatalyst: [2,3] Sigmatropic Rearrangement of Allylic Acetals

Wali Haamid and Gopeekrishnan Sreenilayam

PI: Gopeekrishnan Sreenilayam

Valdosta State University

Poster #26

Inhalation Therapy to Treat Drug Resistant TB (DR-TB) in the Lungs

Govind Thomas-Richardson, Thomas Manning, Courtney Johnson, Jenu Thomas-Richardson, Yatri Thaker, Krupesh Patel and Dennis Phillips

PI: Thomas Manning

Valdosta State University

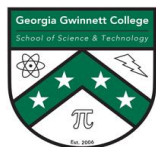
Poster #31

Efforts Toward the Synthesis of 2-oxopiperidine-3-carboxylic acid Derivatives

Taylor L. Dover and Frank E. McDonald

PI: Frank E. McDonald

Emory University



ACS Local Section
Georgia

2020 Herty Medalist Undergraduate Research Symposium (HMURS) Programme

Poster #32

Synthesis of Novel Penamethine Cyanine Dyes for Bioimaging

Tuyen Tran and Maged Henary

PI: Maged Henary

Georgia State University

Poster #37

Investigating Osteoarthritis in the Lymphatic System

Josephine Rudd, J. Brandon Dixon and Eleftheria Michalaki

PI: J. Brandon Dixon

Georgia Institute of Technology

Poster #39

Determination of Aflatoxin B1 and Its Metabolite in Human Body Fluids

Jeanne Cooper

PI: Sharon Guan

Georgia Gwinnett College

Poster #44

Use of Tryptamine in a “Trojan Horse” Method to Deliver Small Molecules Across the Blood and Brain Barrier

Dominique Lyons

PI: Iryna Lebedyeva

Augusta University

Poster #48

Achieving production of designed MRI protein contrast agents for SARS-CoV-2 imaging

Ballanah Torbett, Jenny Yang, Oluwatosin Ibhagui and Zongxiang Gui

PI: Jenny Yang

Georgia State University

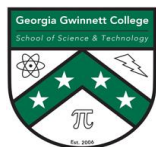
Poster #49

Polypeptide Materials in the Flow of Cellular Information

Regina Luu, David Lynn and Christella K. Gordon

PI: David Lynn

Emory University



ACS Local Section
Georgia

2020 Herty Medalist Undergraduate Research Symposium (HMURS) Programme

Poster #55

Neflamapimod stimulates vasodilation of resistance mesenteric arteries

Ajay Pandey, Raquibul Hasan and Farzana Zerín

PI: Raquibul Hasan

Mercer University

ENVIRONMENTAL CHEMISTRY (Posters 7, 10, 11, & 41)

Poster #7

Art Restoration at the Pasaquan Outdoor Art Site

Shyrisse Ramos

PI: Kerri Taylor

Columbus State University

Poster #10

Drinking Water Disinfection Chamber's Mixing Performance Enhancement by Utilizing the Nappe Flow Characteristics

Andrea Green, Andrew Kim and Michelle Martinez

PI: Andrew Kim

Georgia State University

Poster #11

Green Method for Synthesizing and Harvesting Bryostatin, the King of Marine Natural Products

Amber Holley, Samuel Scruggs and Thomas Manning

PI: Thomas Manning

Valdosta State University

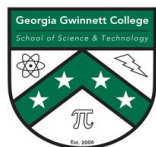
Poster #41

Investigating the degradation of PHA biopolymers and their derivatives

Charles Coleman, Juana Mendenhall, Suzanne Lee, Nevin Gupta, Kwan-Soo Lee, Carl Iverson and Joseph H. Dumont

PI: Juana Mendenhall

Morehouse College



ACS Local Section
Georgia

2020 Herty Medalist Undergraduate Research Symposium (HMURS) Programme
INORGANIC CHEMISTRY (Posters 14, 33, 34, 35, 36, 38, 40 & 53)

Poster #14

Equilibrium Considerations for the Use of Iron and Copper Complexes of Paclitaxel
Teighlor Livingston, Thomas Manning, Pavan Patel, Dennis Phillips and Greg Wylie
PI: Thomas Manning

Poster #33

Phosphites as a Source of Organophosphates on Prebiotic Earth
Fatma Aldihri, Heather Abbott-Lyon, Katerina Slavicinska, Sarah Khweis and Matthew Pasek
PI: Heather Abbott-Lyon
Kennesaw State University

Poster #34

Synthesis, critical micellar concentration, and molecular gelation studies of metal deoxycholates
Lamar Bonsu, Ajay Mallia, Simon Mwongela and Juan-Pablo Armes
Co-PIs: Simon Mwongela and Ajay Mallia
Georgia Gwinnett College

Poster #35

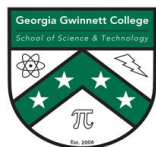
Synthesis of Mixed-Metal Polyoxometalate with Manganese(II) and Nickel(II) in the Central Belt
Ambika Natarajan, Craig L. Hill, Natálie Uhlíková, Qiushi, Yin and John Bacsá
PI: Craig L. Hill
Emory University

Poster #36

Metal Phosphites
Kerrigan Greene and Heather Abbott-Lyon
PI: Heather Abbott-Lyon
Kennesaw State University

Poster #38

Optimization of Rh₂(S-TPPTTL)₄ Through Ligand Functionalization
Randall “Parker” Kirby, Huw Davies and Jack Sharland
PI: Huw Davies
Emory University



ACS Local Section
Georgia

2020 Herty Medalist Undergraduate Research Symposium (HMURS) Programme

Poster #40

An entrapping and catalytically decontaminating multifunctional polymer

Rawan Alshehri, Craig L. Hill and Victoria Snider

PI: Craig L. Hill

Emory University

Poster #53

Variable Ethylene-Bridged bis(amidines) and bis(amidates) as Hydrogen-Bonding Supramolecular and Photoluminescent Light Switches upon Deprotonation

Sujit Patel, Michael Stollenz and Alvaro Calderón-Díaz

PI: Michael Stollenz

Kennesaw State University

ORGANIC CHEMISTRY (Posters 5, 8, 9, 13, 28 & 29)

Poster #5

No Sprout Left Behind: The Diverted Total Synthesis of Peniciculin A and its Derivatives

Alexander Kim, William Wuest, Ingrid Wilt and Adrian Demeritte

PI: William Wuest

Emory University

Poster #8

Building a Library of Thiocarbonyl and Thioamide Radical Ring-Opening Monomers

Yasmin Ajirniar

PI: Will Gutekunst

Georgia Institute of Technology

Poster #9

Preparation and thermal properties of chiral deep eutectic solvents based on naturally occurring amino acids

Joel Suazo

PI: Ajay Mallia

Georgia Gwinnett College

Poster #13

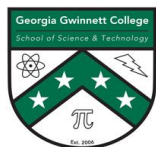
Using Multi-Step Synthesis for the Production of Hydrogels with Adhesive Properties

Sophia Bonser and Catrena Higginbotham-Lisse

PI: Catrena Higginbotham-Lisse

Georgia College

Poster #28



ACS Local Section
Georgia

2020 Herty Medalist Undergraduate Research Symposium (HMURS) Programme

Reactions of ninhydrin with fluorinated anilines using conventional and microwave assisted techniques and characterization of the products

Nohora P. Manovacia Moreno, Ajay Mallia and Joseph Sloop

Co-PIs: Joseph Sloop and Ajay Mallia

Georgia Gwinnett College

Poster #29

Synthesis, characterization, gelation, and DNA binding molecular docking studies of 9-aminoacridine derivatives

Arinzechukwu Aniekwe, Sokhna Ndiaye, Tyler Sawyer and Chelsea Campbell

Co-PIs: Neville Forlemu and Ajay Mallia

Georgia Gwinnett College

PHYSICAL CHEMISTRY (Posters 15, 18, 21, 27, 30, 42, 45, 46, 50 & 54)

Poster #15

Elucidating the Vibrational Spectrum of $C_2O_4H^-$ with Driven Molecular Dynamics

Dalton Boutwell and Martina Kaledin

PI: Martina Kaledin

Kennesaw State University

Poster #18

Visible Light Uncaging of Proline

Stephanie Daniell

PI: Jeremy Olson

University of North Georgia – Dahlonega

Poster #21

Green Synthesis of Silver Nanoparticles: Synthesizing Silver Nanoparticles with L-Theanine

Sarah Stogner

PI: Peter Rosado-Flores

Georgia College and State University

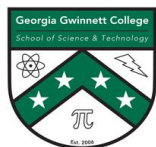
Poster #27

Computational Analysis for Determining Medication Potential for Amino Acids

Stacie Stringer, Thomas Manning, Bethany Guinn

PI: Thomas Manning

Valdosta State University



ACS Local Section
Georgia

2020 Herty Medalist Undergraduate Research Symposium (HMURS) Programme

Poster #30

Preparation, self-assembly and gelation studies of tyramine based alkanamides and N-(4-hydroxyphenyl)alkanamides as low molecular mass gelators

Jacob Miller, Ajay Mallia and Sandra Farre

PI: Ajay Mallia

Georgia Gwinnett College

Poster #42

Using BristleBots as a Platform for Studying Active Matter in Confined Geometries

Khamla Thavone

Co-PIs: Skanda Vivek and Sairam Tangirala

Georgia Gwinnett College

Poster #45

Developing Code in R to Determine Onset Temperatures of Transitions in Thermomechanical Analysis of Materials

Destani Jackson, Eric A. Mintz and Asya Tucker

PI: Eric A. Mintz

Clark Atlanta University

Poster #46

Variations in Extensiveness of Intramolecular Orbital Alignments in

Chymotrypsin/Protein Inhibitor Complexes

Yoo Jung Kim

PI: John Haseltine

Kennesaw State University

Poster #50

Development and Application of Code Utilizing R Studio to Determine the Temperature at Desired Percent Weight Loss from Thermogravimetric Data Collected with Multiple Heating Rates

Po'et Muhammad, Eric A. Mintz and Karen Blue

PI: Eric A. Mintz

Clark Atlanta University

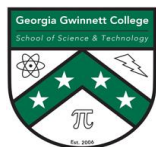
Poster #54

Modeling of Cobalt Bonding to Molecular Imprinted Polymers for Nuclear Remediation

Ira Moore, Juana Mendenhall, Elmon Merriman and Neil Henson

PI: Juana Mendenhall

Morehouse College



ACS Local Section
Georgia

2020 Herty Medalist Undergraduate Research Symposium (HMURS) Programme

SCIENCE EDUCATION (Posters 16, 17, 22 & 47)

Poster #16

Abbreviation Puzzle as a Method to Familiarize Students with Infectious Diseases

Matthew Cowan

PI: Thomas Manning

Valdosta State University

Poster #17

From Ocean Viruses to Math Riddles; Stimulating STEM Activity

Laura Ramirez, Thomas Manning, Magnolia Rodriguez Mendoza

PI: Thomas Manning

Valdosta State University

Poster #22

The Hunt of COVID-19's Twenty-Nine Proteins: An academic lab exercise to learn about our pandemic

Kayla Mills, Thomas Manning, Anna Beth Boyette and Sarah Kate Boyette

PI: Thomas Manning

Valdosta State University

Poster #47

Synthesis and Characterization of Thiosemicarbazones and Its Inhibition of Topoisomerase II α in an undergraduate lab setting

Allison Spent, Wathsala Medawala, Ed Lisic and Peter Rosado

PI: Wathsala Medawala

Georgia College & State University

INSTITUTIONS SUBMITTING POSTERS

1. Augusta University
2. Clark Atlanta University
3. Columbus State University
4. Emory University
5. Georgia College and State University
6. Georgia Gwinnett College
7. Georgia Institute of Technology
8. Georgia State University
9. Kennesaw State University
10. MCVTS Academy for S.M.E.T. (Edison, NJ)
11. Mercer University
12. Morehouse College
13. University of North Georgia (Dahlonega)
14. Valdosta State University