The Rowan University Student Scholars Symposium would like to thank

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Each year, the University community gathers to celebrate the achievements of its students who have been engaged in research, creative activity, and entrepreneurship. While the Symposium lasts only for a few hours on a couple of days out of the entire year, all of this year’s displays represent months of dedication and hard work. On behalf of the University, I extend my congratulations to all of the students giving presentations today and gratitude to all of their faculty mentors. My colleagues and I are proud to be at an institution that has such dedicated people.

RUSSS 2019 is possible only because of the help and broad-based participation from across the University. No support means no Symposium, so it is important to point out that today's event arises from the efforts of many people. At the risk of accidentally leaving somebody out (and if I have done so, I apologize!), I would like to thank all of the following:

• With our expansion from the STEM Symposium to the all-discipline Student Scholars Symposium, our group of Student Coordinators also expanded. This year’s RUSSS Student Coordinators are listed on the inside back cover of our booklet. The Student Coordinators brought a lot of ideas and shouldered important responsibilities. They deserve the credit for everything that goes right at the Symposium because they have done the bulk of the preparatory work. When you are at the Symposium today, please look for them and congratulate each of them!

• The Symposium Coordinators would like to thank Kenneth Lacovara, Eric Milou, and especially Brigid Milone for all of the assistance that they have provided. Without the unwavering support of the STEM Center, this Symposium would not be possible. We would also like to thank all of members of the RUSSS Steering Committee (listed on the back cover of this booklet) who served during the current academic year. In addition to the Steering Committee, Anthony Hostetter was helpful in guiding our discussions in deciding how to present student performances in Sessions 4 and 6.

• A special thank you to Jim Newell, Provost and Senior Vice President for Academic Affairs, for supporting the purchase of our new display boards. These boards represent a substantial capital investment in the future of the Student Scholars Symposium. Others who helped to facilitate the purchase and storage of the new boards include Patricia Conte (Provost’s Office), Brian Ewan (Facilities Administration), James George (Facilities Trades), and Peter Schultz (Facilities Campus Services).

• Many people from the University Advancement Office have worked very hard in support of our initiatives and activities this year, including Deanne Farrell, Amie Marshall, Martha Nealer, and Marc Robb. We are immensely grateful for the hard work that Rose Dickmann ’20 invested as Chair of our RowanGIVES campaign this year. Thank you also to the student organizations that helped us out with our very successful RowanGIVES campaign: American Production & Inventory Control Society (APICS); Engineers Without Borders; and IEEE Women In Engineering.

• A number of folks devoted substantial time on Thursday morning to setting up our display boards into the Ballroom and will do so again when we break down the Symposium at the end of the day Friday. At the time this goes to press, a final list of people who helped out with this was not available. We would especially like to thank Peter Schultz and the University’s movers for helping us with transporting and storing the display boards.

• As always, we send our thanks to Susan Chard, Kim Granger, Matthew Hird, Megan McHugh, McKenzie Suber-Robinson, Ash Uribe, and Student Center Event Staff for giving the Symposium a great venue! We would also like to thank Nicole Bowen from Gourmet Dining Services for help in organizing the refreshments for the Symposium presenters and attendees.

• Abdusamed Özdemir ’15 and Dillon Buck ’15 built our Submission System. Without it, we would not have been able to accomplish half of what we needed to do for this year’s event! We also thank William Amaechi, Matthew Gravener, and Justus Fee, all working under the guidance of Jack Myers (Computer Science Dept.), for updating the branding on our Submission System this year.

• The RUSSS logo, booklet cover, and display signs were created by Kayla Rodriguez (University Publications). Thanks also to Fort Nassau Graphic for printing up the booklet.

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WHERE ARE ALL OF THE ABSTRACTS?

We continue to support the University’s efforts to “go green.” Students have expressed the desire to have a printed keepsake for this day, and so we have produced this booklet containing the abstract titles and authors. Full text abstracts are presently available for download by University students and faculty at:

http://go.rowan.edu/russ

Click on “Downloads”
POSTER LOCATIONS – SESSION 3 (FRI. 4/26 10:00-11:30am)

PERFORMANCES:

SESSION 4 (FRI. 4/26 11:30AM-12:00pm)
PERFORMANCE #401: TRIGGER WARNING: A MELANCHOLY MUSICAL
ROOM 221

SESSION 6 (FRI. 4/26 1:30pm-2:00pm)
PERFORMANCE #601: THE KEENING WOMEN
ROOM 221
POSTER LOCATIONS – SESSION 5 (FRI. 4/26 12:00-1:30pm)

SESSION 1 (4/25 5:00 – 6:30pm) Posters #101-152
SESSION 4 (4/26 11:30am – 12:00pm) Performance #401
SESSION 2 (4/26 8:00 – 9:30am) Posters #201-252
SESSION 5 (4/26 12:00 – 1:30pm) Posters #501-552
SESSION 3 (4/26 10:00 – 11:30am) Posters #301-352
SESSION 6 (4/26 1:30 – 2:00pm) Performance #601
SESSION 7 (4/26 2:00 – 3:30pm) Posters #701-752
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ANTHROPOLOGY

**Poster #549**
**Dental paleopathology of an adult female of the El Molle culture, Chile’s semiarid north**
KRISTINE A. KORTONICK¹, RENZO GOICOCHEA², MEGAN M. ZALINKA³, and Maria A. Rosado⁴
Liberal Studies (Humanities/Social Sciences)¹ Law & Justice Studies² History³ Sociology & Anthropology⁴

**Poster #211**
Development of small molecule inhibitors to Lysine-specific histone demethylase 1 (LSD1), a potential molecular target for tumor therapy, using high throughput virtual screening
JOSHUA FREYER¹, and Chun Wu²
Chemistry & Biochemistry¹ Biomedical & Translational Sciences²

ASTRONOMY

**Poster #247**
**Mapping Kaolinite using Mars Spectral Images**
CHARLES D. HUGHES, TYLER E. HANOVER, and David R. Klassen
Physics & Astronomy

**Poster #346**
**Improving Radiative Transfer Fitting for MRO-CRISM Multispectral Data**
BENJAMIN D. WEST, and David R. Klassen
Physics & Astronomy

BIOCHEMISTRY

**Poster #115**
**Encapsulation of azurin and nitrite reductase by imidazolium chloride ionic liquids in aqueous solution**
FRANCIS N. DESALVO, MAYRA A. FLORES, KATHARINE TARNAWSKY, Gregory A. Caputo, and Timothy D. Vaden
Chemistry & Biochemistry

**Poster #127**
**Peptide assisted supramolecular polymerization of the anionic porphyrin meso-tetra(4-sulfonatophenyl)porphine**
ERIC M. KOHN, Gregory A. Caputo, and DAVID J. SHIRLEY
Chemistry & Biochemistry

**Poster #143**
**Antimicrobial Activity and Biofilm Inhibition of Staphylococcus aureus and Pseudomonas aeruginosa Through Titanium Nitride Metal-Coatings**
JOSHUA Y. LEE¹, CEDRICK J. GARCIA¹, LINDSEY POWERS¹, ANDREW G. HANNA², CAMRON W. KLOTZ², EMILY A. KOPCHICK¹, Jeffrey D. Hettinger¹, and Gregory A. Caputo¹
Chemistry & Biochemistry¹ Biological Sciences² Physics & Astronomy³

**Poster #216**
Neuronal calcium sensor proteins NCAld and HPCA are also redox sensors
NATASHA HESKETH, Anuradha Krishnan, and Venkat Venkataraman
Cell Biology (Rowan SOM)

**Poster #236**
**Antimicrobial Properties of L1 Peptide**
ALEXANDRIA SENETRA, and Gregory A. Caputo
Chemistry & Biochemistry

**Poster #313**
**Studying the Dynamic Motions of Water Surrounding the Ice-Binding Face of m1.1 Antifreeze Protein**
JOSEPH IOVINE¹, PAMELA N. GALLO², KAYLA A. CALLAWAY³, and Nathaniel V. Nucci⁴
Chemistry & Biochemistry¹ Biomedical & Translational Sciences² Biophysics Program³ Physics & Astronomy⁴

**Poster #324**
**Glycoprotein D of herpes simplex virus probed by all-atom molecular dynamics simulations**
SIMRANJIT KAUR¹, GRIFFIN M. FOUNTAIN², Chun Wu³, and Claude Krummenacher¹
Biological Sciences¹ Chemistry & Biochemistry² Biomedical & Translational Sciences³

**Poster #335**
**Investigation of Serotonin Receptor Allelic Variations In Modulating Efficacy of Selective Serotonin Reuptake Inhibitors Using Homology Modeling And Molecular Docking**
DEIRDRA G. MCNEIL¹, and Chun Wu²
Bioinformatics Program¹ Biomedical & Translational Sciences²

**Poster #341**
**Characterization of Antimicrobial Peptide, buCATHL4B**
MATTHEW R. NECELIS¹, LUIS E. SANTIAGO ORTIZ², MORGAN A. HITCHNER³, and Gregory A. Caputo¹
Chemistry & Biochemistry¹ Biological Sciences²
Poster #528
In-Silico Docking of Rx7, a novel ROR1-inhibitor that represses Triple Negative Breast Cancer survival, to ROR-1 using Homology Modeling and Active Site Mapping
BRIAN CHEN¹, Subash C. Jonnalagadda², and Chun Wu³
Bioinformatics Program¹Chemistry & Biochemistry³Biomedical & Translational Sciences³

Poster #543
High Yield Production of HIF Prolyl Hydroxylase Domain Proteins from Inclusion Body Expression in E. Coli
THOMAS J. FASANO¹, JACOB T. ZANGARO², NAKOA K. WEBBER¹, PAMELA N. GALLO³, MICHELLE CURRIE³, and KAYLA A. SCHRARDIEN³, Nathaniel V. Nucci³
Biomedical & Translational Sciences¹Chemistry & Biochemistry³Biomedical & Translational Sciences³

Poster #711
Determining Confinement Effects on Protein Stability Using Reverse Micelle Encapsulation
JOSEPH IOVINE¹, NAKOA K. WEBBER¹, PAMELA N. GALLO³, KAYLA A. SCHRARDIEN³, MIHAELA A. VASILE³, SAMANTHA N. WEISS¹, and Nathaniel V. Nucci³
Chemistry & Biochemistry¹Biomedical & Translational Sciences³Physics & Astronomy³

Poster #716
Localization of NCALD and HPCA in mouse hippocampus
NATASHA HESKETH¹, HANA CHOI¹, NIMISH K. ACHARYA², and Venkat Venkataraman¹
Cell Biology (Rowan SOM)¹ New Jersey Institute for Successful Aging²

Poster #725
Hetero-oligomeric Amyloid Assembly and Mechanism: Prion Fragment PrP(106-126) Catalyzes the Islet Amyloid Polypeptide β-Hairpin
CARINA C. OLIVAS², and Chun Wu²
Chemistry & Biochemistry¹Biomedical & Translational Sciences³

Poster #129
Evaluating the permeability and lethality of reverse micelles on S. cerevisiae and HeLa cells
ELIZABETH A. RICHARDS¹, GABRIELA V. BAKER², and Benjamin R. Carone¹
Molecular & Cellular Biosciences¹Biological Sciences²

Poster #130
Creating CRE-Activatable Green Fluorescent Protein Reporter Lines
WILLIAM F. SPREVEN¹, and Benjamin R. Carone²
Biological Sciences¹Molecular & Cellular Biosciences²

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Zooplankton biodiversity patterns in a novel flooded cranberry bog complex
CARLY STRICKLAND, PRANAV N. PATEL, ALEXIS V. PIEPSZOWSKI, and Nathan Ruhl Biological Sciences

Poster #140
A Tale of Two Tails: Do Thai Betta splendens Exhibit A Pre-existing Sensory Bias for Elaborate Tail Fins?
RACHEL E. FAY, MACY A. ELWELL, and Matthew T. Bealor Biological Sciences

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Increased interactions and wrapping of dendrites by microglia precede Purkinje cell degeneration in a mouse model of Niemann Pick Type-C
LARISA KAVETSKY¹, BRIDGET R. BOYLE², FAWAD A. YOUSUFZAI², ZACHARY M. PADRON², SIERRA E. MELLI¹, and Ileana Soto Biomedical & Translational Sciences¹Molecular & Cellular Biosciences²Biological Sciences³

Poster #214
Chromatin digestion by the chemotherapeutic agent Bleomycin produces nucleosome and TF footprinting patterns similar to micrococcal nuclease
JOSHUA M. STOLZ², and Benjamin R. Carone²
Bioinformatics Program¹Molecular & Cellular Biosciences²

Poster #224
Analysis of Motif Distributions in Endocytic Proteins
CHANTE BETHELL¹, and Stephanie J. Spielman²
Bioinformatics Program¹Biological Sciences²

Poster #226
Effects of Aging on Hippocampal Density in Homing Pigeons
KATHRYN MARKEY¹, ALEA J. LEMANOWICZ², KYLIE A. GORSKY³, SEAN E. ROVINS¹, BENJAMIN P. DUNHAM², and HESHAM A. NASSAR²
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Differences in zooplankton biodiversity between reservoirs in Southern New Jersey
TAYLOR J. DOBSON, BRIAN S. ALFARO, ASHLEY ZELINSKI, JOHN ALVIAR, Michael Grove, Courtney E. Richmond, and Nathan Ruhl
Biological Sciences

Poster #234
Unusual Phenotype Conferred by a LysR Frameshift Mutation in Caulobacter crescentus
BUSRA GOCMEZ, PAIGE G. DUNFEE, and Gregory B. Hecht
Biological Sciences

Poster #240
Application of ionic liquids in the efficacy of antibiotics with yeast and bacterial cells
JONATHAN S. EISNER1, ALEXANDRIA SENETRA2, ALANA J. SWINTON1, and DANIEL D. YANG1
Biological Sciences1 Chemistry & Biochemistry2

Poster #243
Niemann-Pick Type C: Density AND Colocalization of Dendritic Lysosomes and Mitochondria in NPC1nmf164 Mouse Model During Postnatal Development
ZACHARY M. PADRON, FAWAD A. YOUSUFZAI, and Ileana Soto
Molecular & Cellular Biosciences

Poster #309
Effects of Npc1nmf164 mutation on the postnatal development of cerebellar blood vessels
FAWAD A. YOUSUFZAI, ZACHARY M. PADRON, and Ileana Soto
Molecular & Cellular Biosciences

Poster #311
Behavioral Consistency of Honey Bee Nurses
MATHEW S. PEKORA1, OLIVIA K. SMITHSON1, SIMONA LOSHI1, KIMBERLY OJEDA-CELAYA1, SONNIE SHEAHAN1, TYRELL L. HARRIS1, TIMOTHY LINKSVAYER2, DANIEL CHARBONNEAU2, and Lana Vojvodic1
Biological Sciences1 University of Pennsylvania2

Poster #317
Sequence comparisons and phylogenetic relationships in the Nectin family of cell adhesion molecules and viral receptors
DOWD NAIK1, and Claude Krummenacher2
Bioinformatics Program1 Biological Sciences2

Poster #318
Bioprecipitation of Lead by C. crescentus: An Analysis of Cysteine Synthase Activity and Expression
CONNOR M. MOTT1, GEORGE A. WOODWARD2, KIMBERLY V. ZULLO2, JENNIFER M. HOPKINS1, JAMES C. CRAIG1, JADE ALVAREZ1, and Gregory B. Hecht1
Biological Sciences1 Chemistry & Biochemistry2

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Poster #333
Characterization of Caulobacter crescentus Bacteriophages in Two Lake Ecosystems in Cumberland County, New Jersey
ANA K. CRUZ, CYNTHIA LASCAREZ, KEVIN C. RIEDMULLER, NATALIE A. RIVERA, SHEMAIAH S. SOTRAH, MARIELLA D. VASQUEZ, and Mark A. Randa
Biological Sciences of Cumberland County College

Poster #334
Effects of Monensin-based drugs on Herpes Simplex Virus (HSV-1)
TSION A. ABAY1, CHRISTINA A. PANCO2, Subash C. Jonnalagadda1, and Claude Krummenacher2
Chemistry & Biochemistry1 Biological Sciences2

Poster #511
Evaluating the Anticancer Properties of the Novel Drug MAD28 and its Constitutive Enantiomers
ANDREW T. MILCAREK1, KEVIN J. DAUS1, and Mary L. Alpaugh1
Biomedical & Translational Sciences1 Molecular & Cellular Biosciences2

Poster #519
Successional Trajectory of Tree Community Differs by Landform Position in a Secondary Urban Subtropical Forest Following a Major Hurricane
ROBERT L. SPICER, and Nathan Ruhl
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Using fluorescent nectin-1 proteins in model cell lines to investigate how herpes simplex virus affects its recognition by the Natural Killer cell receptor CD96.
PAIGE T. RICHARDS, JESSENI A ROLDAN, and Claude Krummenacher
Biological Sciences
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SYDNEE T. GOULD1, and Claude Krummenacher2
Biomedical & Translational Sciences1 Biological Sciences2

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Nurse Honey Bee Social Networks and Task Behavior
SIMONA LOSHI1, OLIVIA K. SMITHSON3, MATHEW S. PEKORA1, TYRELL L. HARRIS1, SONNIE SHEAHAN3, KIMBERLY OJEDA-CELAYA1, DANIEL CHARBONNEAU2, TIMOTHY LINKSVAYER3, and Lana Vojvodic1
Biological Sciences1 University Of Pennsylvania2

Poster #733
Task Cycling in Honey Bee Nurses
OLIVIA K. SMITHSON1, MATHEW S. PEKORA1, SIMONA LOSHI1, TYRELL L. HARRIS1, SONNIE SHEAHAN3, KIMBERLY OJEDA-CELAYA1, TIMOTHY LINKSVAYER3, and Lana Vojvodic1
Biological Sciences1 University Of Pennsylvania2

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MATTHEW J. HEISLER, ALEJANDRO LEON HERNANDEZ, and Gregory B. Hecht
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Development of a Cell-Based High Throughput Screen (HTS) Assay for Stimulator of Interferon Genes (STING)
MICHAEL J. INGLING, and Michael S. McQueney
Mol. Pathology & Immunology (Rowan SOM)

Poster #738
Modeling Epilimnetic Cyanobacterial Indicators Along the Lotic-Lentic Gradient using In-Situ Fluorometry
AARON KRIVCHENIA1, Nathan Ruhl1, and Charalampos Papachristour
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Poster #742
Genetically modifying S. cerevisiae to synthesize capsaicin through Golden Gate cloning
RYAN P. CALHOUN1, James P. Grinias2, and Benjamin R. Carone3
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BIOMEDICAL ENGINEERING

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VERONICA M. LAMASTRO, and Erik Brewer
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Development and Clinical Testing of an Application for the Improvement of Severe Sepsis Treatment and SEP-1 Compliance
ROBERT E. DEPERSIA III
Biomedical Engineering

Poster #316
Detection of DNA Cytosine Methylation with Biological Nanopore Sensor
JOANNA SOYRING1, CHRISTOPHER J. MORAN3, MELISSA D’ALIA1, ELIJAH A. JORDAN2, TRANG A. VU1, Hieu Nguyen1, and Jiwook Shim1
Biomedical Engineering1 Computer Science2 Mathematics3

Poster #331
Cap Designed for Decontamination of Multi-Dose Vials to Prevent Nosocomial Infections
HALEY M. SCHAPPELL, REBECCA L. CHARBONEAU, SHANNON M. STORMS, KRISTINE A. A. KOZACHYN, and Erik Brewer
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Poster #340
Developmental Delays and Neurotoxicological Effects of Bisphenol A and its Analogs on Schmidtea mediterranea Planaria
ELIZABETH J. BEALER1, JOHNATHAN J. MORRIS1, MORGAN A. MILLER2, HANNAH M. BONELLI1, CONOR P. KELLY1, and Mary M. Staehle3
Biomedical Engineering1 Biological Sciences2

Poster #530
Microenvironmental Factors Regulate Mesenchymal Stem Cell Notch and YAP
SARAH L. FURMAN, SEBASTIAN NARANJO, KIRSTENE A. GULTIAN, and Sebastian L. Vega
Biomedical Engineering

Poster #540
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Classification of Lung Tumor Grade in CT Images Using Convolutional Neural Networks
JASON T. WILKOWSKI, ANTONIO ABBONDANDOLO, KIRAN KORAH, NICK SETARO, BRENDA M. NUIGENT, and Erik Brewer
Biomedical Engineering

Poster #732
Detection of Local Methylation Sites on Short DNA Strands with Solid-State Nanopores and Methyl-Binding Proteins
JULIAN BELLO, CHRISTOPHER J. MORAN, JOANNA SOYRING, NICHOLAS R. TROISE, and Jiwook Shim
Biomedical Engineering

Poster #751
Early Detection of Implant Loosening to Prevent Total Implant Failure
HANNA DIETRICH, ANN M. DIGUGLIELMO, JERIC R. MELLET, Erik Brewer, and Mary M. Staeble
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Systematic Process Synthesis and Optimization for Efficient Wastewater Treatment Networks
ROHAN ZIA
Chemical Engineering

Poster #741
Prediction of Optimal Chemotherapy Dosing: Balancing Tumor Degradation and Toxicity Effects
ALEX D’ALOIA, MATTHEW S. RAZZE, and ERIC W. PURCELL
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Poster #112
Framework for Solvent Recovery, Reuse, and Recycling in Industries
VANESSA A. PIERCE, AMANDA L. CHRISTON, MAXIM P. RUSS, JAKE P. STENGEL, and Kirti M. Yenkie
Chemical Engineering

Poster #132
Optimizing Irritable Bowel Syndrome Diagnosis and Treatment
ANTHONY PACE, and HANNAH M. WORK
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Direct 3D printing of perfusable hydrogel with antifouling properties for implantable tissue regeneration
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Poster #238
Probing the Binding of a Quadruple-DNA to EpCAM using Docking and Molecular Dynamics Simulation
SIYAN LIAO, HIMANI D. BHAKTA, and Chun Wu
Chemistry & Biochemistry, Biomedical & Translational Sciences

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Binding of selective antagonist Istradefylline to human adenosine A2A receptor probed by molecular dynamics simulations
LUCAS F. BENNETT and Chun Wu
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Aza-Claisen Rearrangements for the Synthesis of Substituted Azepines
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HUSAM A. ALFERGANI¹, Rouzbeh Nazari², and Francis M. Haas³
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BENJAMIN J. CHIERICI
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Physics & Astronomy¹ Civil & Environmental Engineering²

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Civil & Environmental Engineering¹ Electrical & Computer Engineering²

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CHRISTOPHER HAUGLAND, and IAN N. BURGESS-LINDEN
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Visualizing Large Scale Hydrodynamic Flood Modeling
RYAN P. DONOVAN¹, NICHOLAS W. VANDORICK¹, PATRICK O. FRITZ¹, MD GOLAM RABBANI FAHAD¹, GARRETT JACOB², ZACHARY D. LUBELSKI¹, PATRICK A. GOODE¹, NICHOLAS J. SCHLAGETER¹, ANDREW D. SILVER¹, and Rouzbeh Nazari¹
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Algae Grows the Future
ERIN E. PEPE1, ZACHERY D. MILLER2, ADAM A. CAVALLARO1, JEFF E. DOBKOWSKI1, ASHLEY R. FERRANTE1, SAMANTHA K. PRICE1, and Kauser Jahan1
Civil & Environmental Engineering1 Chemical Engineering2

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KATHERINE V. VILLACIS1, BRANDON KREUSCH2, JOSEPH E. JACKSON2, KAREN J. TAYAR1, SAMANTHA A. STRUBLE2, ROBERT F. SCHABLIK1, JESSIE C. BUNDZ1, BERNARD P. BOGUS1, and Jagadish Torlapati1
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BRENDAN MULVYHILL, MICHAEL S. MOSLEY, and CHRISTOPHER R. CAMPBELL
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LUKE E. VENSKUS, ABBIE HUGHES, and Tiago Forin
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BRIAN M. GROOT1, BRIAN D. JACKSON1, JONATHAN M. D'AMICO1, and Abdelkader Souissi2
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KOURTNEY ARENA1, BRETT S. PALMER1, NATHANIEL R. MAUTE1, JACOB DICKS1, ANDREW R. BIGLIN1, KENNETH M. REISER2, PAUL KOWALESKI1, and Amirhossein Iranmanesh1
 Civil & Environmental Engineering1 Medicine (CMSRU)2

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GABRIELLE HOWELL, ABIGAIL R. GOGER, MARK VAIL, Cheng Zhu, and Danilo G. Zeppilli
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JOSHUA PRATT, JOSHUA T. BRYK, and SABRIN
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MICHAEL D. NAPLES, WILLIAM H. JACOBS, ALEXANDER V. BOYLE, DEEP DESAI, and VINCENT J. PEDATA
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TAPAN SONI, JOHN A. STRANAHAN, JACOB E. CARPENTER, and Vahid Heydari
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JOSIAH M. BELL
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Mathematics1 Computer Science2

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Electrical & Computer Engineering

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BRIANNA L. ARNOLD, JOSEPH B. VEASY, and KELSEY GAZZARA
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Placing Value on Environmental Literacy: A Case Study of Biology Faculty Experiences
ILENE S. EBERLY1, and Issam Abi-El-Mona2
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FELICIA CROCKETT, STEPHANIE M. LEZOTTE, and Marybeth Walpole
Educational Services and Leadership

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Poster #218
Development of ISS Compliant Battery Testing Platform for Small Satellite Missions
TOMAS URIBE, CHRISTOPHER A. IAPICCO, and JOSHUA D. GOULD
Electrical & Computer Engineering

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Robust Deep Learning Systems Integrated with Confidence Evaluation
DIMAH DERA, and Ghulam Rasool
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HIKMAT KHAN, Ghulam Rasool, and Nidhal Bouaynaya
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Landmark-less Head Pose Tracking for Pilots using Recurrent Neural Networks, a Multi-Loss Approach
CHRISTOPHER ANGELINI
Electrical & Computer Engineering

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ALEXANDRA DUTCH1, NICOLETTE A. MADONNA2, ANTHONY PEREZ2, MEGHIN E. ROLLINS3, LAUREN E. WILLEY3, COURTNEY S. RYBAK3, and Patrick W. Crumrine4
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CHEYENNE L. RICKABAUGH1, and Luke D. Trusel2
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LEANNE T. CIOFFI1, and Luke D. Trusel2
Geography, Planning & Sustainability1 Geology2

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AYSENNE BARTLEBAUGH, LEANDRA BELLO, SAMANTHA L. BOICH, Michael Grove, Courtney E. Richmond, and Nathan Ruhl
Biological Sciences
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MARIA F. WINTER1, KRISTA CONTINO2, Nikhita Dharbhamulla3, John P. Gaughan4, Christopher W. Deitch3, and Sangita U. Phadtare5
Biomedical Sciences (CMSRU)1 Internal Medicine (Cooper) of Cooper University Hospital2 CMSRU/CHC3 Cooper Research Institute4 Cooper Medical School of Rowan University5

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JOSEPH V. SALVO1, Stuti Jha1, and Zachary J. Christman2
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ALEXANDER R. MARINO, RAJINDER S. PARHAR, and DAVID A. SHEPPARD
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Predicting Damage Caused by Earthquakes
TREVOR GREIG, and BRIAN M. KUHN
Mathematics

Poster #752
Methodological Challenges Confronting Researchers Engaged in the Study of Children of Incarcerated Parents
MIKENZIE N. LORD1, SUNOVIA S. SCUDDER1, and Sandra Joy2
Law & Justice Studies1 Sociology & Anthropology2
MECHANICAL ENGINEERING

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Wearable and Flexible Technology: Tactile Sensor
ANWAR A. NOEL
Electrical & Computer Engineering

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Developing a Modular Fabrication System
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ELIZABETH HENNING, HUNTER CUNDIFF, MERVE SADAK, TYLER ZIEGENBEIN, RYAN ANDERSON, KUNI PARMAR, ERIC BLATZ, JESSE BRINSKELLE, TRAVIS BERNER, AARON GENOVA, MATTHEW RINDERER, JOE CHRISTOPHER, NICK CHAMBERLIN, BRIAN FOLEY, DEVAN MULL, NICK MUNIER, COREY ORLOVSKY, JOHN GARVEY, CAMERON KORZENIOWSKI, Anu Osta, and Nourouddin Sharifi
Mechanical Engineering

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ALEXANDER N. BRUMAN1, SIMONAS BUBLIS2, MATTHEW D. FONTANEZ1, and Anu Osta1
Mechanical Engineering1 Electrical & Computer Engineering2

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GREGORY F. MURRAY1, SAMUEL W. FOSTER2, James P. Grimas2, and Wei Xue1
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SEAN P. DUGAN1, GEORGE J. BAALS1, PATRICK WILK2, and Anu Osta1
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Identifying Factors Influencing Female Recruitment and Retention in Undergraduate Engineering Programs
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Mechanical Engineering1 Chemical Engineering2

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Development of a Low-Cost, Portable Mechanical Tester
QUINN P. MCHUGH, TYLER J. BURSA, GEORGE J. BAALS, and Anu Osta
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GEORGE J. LENTINI
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Thermal Management for Microcombustion-Powered Thermoelectric Generator
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ALLAN M. RIOS, Nourouddin Sharifi, and Smith Bakrania
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BENJAMIN S. DELGADO, and Jan Conradi
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ORTHOL CREATION: WORKS OF THEATRE & DANCE

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Trigger Warning: A Melancholy Musical
MATTHEW VESELY, and KERRY JULES
Theatre and Dance

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The Keening Women
LAURA FOLEY, and MARISA S. CONSIDINE
Theatre and Dance

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**Relating rare earth element uptake to original soft tissue preservation in Cretaceous and Miocene fossil bones**

KYLE MACAULEY, and Paul V. Ullmann

Geology

**PHARMACEUTICAL SCIENCE**

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**Optimization and characterization of novel formulations for hydrophilic biological drug delivery using biocompatible surfactants and high viscosity solvents**

HANNAH M. WORK1, ALYSSA B. SANDERS2, TIFFANY LAZAM3, SAMUEL L. RICCI4, SIERRA B. DUTKO4, JACOB T. ZANGARO4, THOMAS J. FASANO5, JOSEPH IOVINE5, NAKOA K. WEBBER6, RYAN P. CALHOUN6, GABRIELA V. BAKER7, ELIZABETH A. RICHARDS7, DANIEL D. YANG8, Benjamin R. Carone9, and Nathaniel V. Nucci9

Chemical Engineering1 Biomedical & Translational Sciences1 Physics & Astronomy1 Biophysics Program2 Chemistry & Biochemistry3 Biological Sciences4 Molecular & Cellular Biosciences3

**Poster #119**

**Optimization and characterization of novel formulations for hydrophilic biological drug delivery using biocompatible surfactants and low viscosity solvents**

SAMUEL L. RICCI4, SIERRA B. DUTKO4, HANNAH M. WORK1, ALYSSA B. SANDERS2, JACOB T. ZANGARO4, THOMAS J. FASANO5, JOSEPH IOVINE5, NAKOA K. WEBBER6, RYAN P. CALHOUN6, GABRIELA V. BAKER7, ELIZABETH A. RICHARDS7, DANIEL D. YANG8, Benjamin R. Carone9, and Nathaniel V. Nucci2

Biophysics Program1 Physics & Astronomy1 Chemical Engineering2 Biomedical & Translational Sciences2 Chemistry & Biochemistry2 Biological Sciences2 Molecular & Cellular Biosciences2

**Poster #126**

**Approaches for High-Throughput Analysis of Over-the-Counter Analgesics**

GLENN A. KRESGE, and James P. Grinias

Chemistry & Biochemistry

**Poster #136**

**Haloaziridines for the Selective Synthesis of Complex Pyrrolidines and Azepines**

JILLIAN E. DEFRANK, ALEXANDRA N. RUMBOS, JUSTIN D. HORGAN, and Gustavo Moura-Letts

Chemistry & Biochemistry

**Poster #227**

**Binding of a Disubstituted Benzofuran Derivative (DBD) to C-MYC promoter G-quadruplex using free ligand molecular dynamics simulations**

GRiffin M. FOUNTAIN1, and Chun Wu2

Chemistry & Biochemistry1 Biomedical & Translational Sciences2

**Poster #230**

**Discriminative Stimulus Effects of IBNtxA**

MOHAMMAD A. RAHMAN, HARLEY M. BUECHLER, MOUSUMI A. SUMI, and Thomas M. Keck

Chemistry & Biochemistry

**Poster #231**

**Vinyloxaziridines for the Selective Synthesis of Complex Oxazepines and Benzooxazepines**

ALLISON N. SPECHT, SYDNEY COCHRANE, and Gustavo Moura-Letts

Chemistry & Biochemistry

**Poster #235**

**Unprecedented Synthesis of NH2NR Nonsymmetrical Azocompounds from Simple Phenyl Ketones**

PHILLIP D. TRIEU

Chemistry & Biochemistry

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**Comparison of antagonist and agonist molecular dynamics simulations of the δ-opioid receptor to verify conformational change from inactive to active states**

AMY F. ERHARD1, and Chun Wu2

Molecular & Cellular Biosciences1 Biomedical & Translational Sciences2

**Poster #312**

**Analyzing Alcohol Use Disorder Through Conditioned Place Preference Testing**

MOUSUMI A. SUMI1, KATELYN B. GOOD1, FRANK DIGIORGIO1, MEGAN BRENNER2, SONNIE SHEAHAN3, STEPHANIE M. CALDERON3, SARAH URBIE3, SHAWNA CEPHAS4, VINCENT Q. NGUYEN3, MOHAMMAD A. RAHMAN1, HARLEY M. BUECHLER1, and Thomas M. Keck1

Chemistry & Biochemistry1 Biological Sciences2 Biomedical Sciences (CMSRU)3

**Poster #314**

**Medications to Reduce Ethanol Self-Administration**

HARLEY M. BUECHLER, and Thomas M. Keck

Chemistry & Biochemistry
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Binding of CX-5461 to human telomeric, c-KIT1 and c-Myc promoter G-quadruplexes, and a DNA duplex using free ligand molecular dynamics simulations
HOLLI-JOI SULLIVAN1, and Chun Wu2
Pharmaceutical Sciences Program1 Biomedical & Translational Sciences2

Poster #325
Identification of Effective Ligands for Trace Amine-Associated Receptor 1 (TAAR1)
RYAN D. FAY1, STEPHANIE BOHN2, and Thomas M. Keck1
Chemistry & Biochemistry1 Biomedical & Translational Sciences2

Poster #327
High throughput virtual screening of ZINC drug-like ligand database against the second binding site Glycoprotein D (gD) of herpes simplex virus 1 toward a more potent inhibitor
GRANDIN M. FOUNTAIN1, Subash C. Jonnalagadda1, Claude Krummenacher2, and Chun Wu3
Chemistry & Biochemistry1 Biological Sciences2 Biomedical & Translational Sciences3

Poster #329
GLP-1 Receptor in Complex with a Full Agonist and a Biased Agonist Probed by Molecular Dynamics Simulations
NICOLAS A. SCORESE1, and Chun Wu2
Bioinformatics Program1 Biomedical & Translational Sciences2

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Searching for new medications for schizophrenia and Parkinson's disease by targeting the dopamine D2 receptor
CHARLES R. COOPER1, and Thomas M. Keck2
Pharmaceutical Sciences Program1 Chemistry & Biochemistry2

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High Through-Put Virtual Screening on inhibitors binding PD-L1 or/and PD-L2 for cancer immuno-therapy
SIYAN LIAO1, EMILY DEAN2, and Chun Wu3
Chemistry & Biochemistry1 Pharmaceutical Sciences Program1 Biomedical & Translational Sciences2

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HOLLI-JOI SULLIVAN1, and Chun Wu2
Pharmaceutical Sciences Program1 Biomedical & Translational Sciences2

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Novel Synthesis of Aziridines from Alkenes and Sulfonamides
LILIANA MEJIA, and Gustavo Moura-Lets2
Chemistry & Biochemistry

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NICOLAS A. SCORESE1, and Chun Wu2
Bioinformatics Program1 Biomedical & Translational Sciences2

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The Opioid Epidemic: Systematic Synthesis of Hasubanan Alkaloids
MAYA P. SARAFOVA, and Gustavo Moura-Lets2
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Synthesis of Imidazoles in Ionic Liquids from Simple Carbonyls and Amines
HAYLIE E. HENNIGAN, and Gustavo Moura-Lets2
Chemistry & Biochemistry

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DANE M. SPOLTORE
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JOSEPH P. RATH III, and Samuel E. Lofland
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ERIC J. SHAW, CRAIG R. ROBERTS, and RYAN J. MABREY
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Design and Fabrication of Tunable 27 MHz Alternating Magnetic Field Hyperthermia Device
ROBERT J. NITZKY, and Nicholas Whiting
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Physics & Astronomy

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AUBRIE A. WEYHMILLER1, COURTNEY L. JOHNSON2, ALEX CALABRESE1, TAYLOR V. DOUGLAS2, AUGUSTINO V. SCORZO2, GASPAR CAROLLO1, KAYLA A. CALLAWAY1, and Nathaniel V. Nucci2
Biophysics Program1 Physics & Astronomy2 Biomedical Engineering3

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KYLIE A. GORBSKY¹, KATHRYN MARKEY², HESHAM A. NASSAR¹, ALEA J. LEMANOWICZ², SEAN E. ROVINS³, BENJAMIN P. DUNHAM¹, and Gerald E. Hough²
Psychology¹ Biological Sciences²

RELIGION

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KARLEE D. ROGERS
Biomedical Art & Visualization Program

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Biomedical Art & Visualization Program
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WE LOOK FORWARD TO
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