About the College

The College of Science & Mathematics and School of Health Professions aspire to be leaders in student-centered science and math higher education, recognized nationwide as one of the best among its peers. We promote a student-centered approach to learning in a research-rich environment both inside and outside of the classroom. We are committed to providing our students with outstanding degree programs in basic, applied, and health sciences and mathematics and preparing them to function in a multi-cultural and economically interdependent world. Our students will prosper in the global community through our international partnerships and global engagement. We aim to provide model preparation for continuing scholarship in the students’ chosen careers in industry, research, education, health care, and public service.

CSM/SHP also plays an essential role in educating non-science majors. For these majors, we provide a sound grounding in the essentials of science and mathematics that will enable them to better understand the world in which they live and the role of science and scientific thinking in their society.

College of Science & Mathematics and School of Health Professions Core Values
• Dedication to quality undergraduate and graduate education with student-centered curriculum
• High quality research and scholarship that includes close interaction between faculty and students
• Assist students in establishing and refining their career or professional perspectives through individualized advising
• Create and support new opportunities for STEM education in the region
• Develop a technically skilled and scientifically literate population in the Delaware Valley
• Commitment to diversity
• Serve the science and math needs of the Delaware Valley
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Biological Sciences
Gregory Hecht
Associate Professor
Biological Sciences
hecht@rowan.edu

Education:
BS (Molecular Genetics), University of Rochester
MA (Molecular Biology), Princeton University
PhD (Molecular Biology), Princeton University

Research Expertise:
Microbial genetics | Applied microbiology | Biology education

My laboratory research interests focus on the use of both modern and “classical” genetic methods to address questions in applied microbiology. The primary project is the development and analysis of bacterial strains with the ability to immobilize soluble lead. We are using the freshwater oligotroph Caulobacter crescentus as a model organism to identify the genes and cellular components that are responsible for the biosorption of lead via a biologically mediated precipitation. We are using so-called classical genetic techniques coupled with whole genome sequence analysis. Our work has demonstrated that cysteine metabolism and enzymatic phosphatase activity are two of the key players in the biosorption of lead.

We also conduct biofuels research. To make biofuel fermentations economical, the biocatalyst must have significant tolerance to the biofuel product. We have isolated ethanol-tolerant mutants of Escherichia coli FBR5 and carried out physiological and genomic analyses of these strains, demonstrating that the iron import gene fecA is important in determining the ethanol tolerance of the organism. Other previous applied microbiology projects in my laboratory have included industrial partnerships to study the enhancement of microbial activity in commercial grease traps and an analysis of microbial contamination of rice flour.

Recent Academic Projects: My other area of interest is in the retention and education outcomes of students in the biology curriculum. I am currently involved in the Cumberland College Bridges to Rowan University, which focuses on improving the degree completion success rate of minority and disadvantaged students from Cumberland County College who transfer to Rowan University. In particular, I am developing primary research activities for students at Cumberland County College that focus on the discovery and analysis of novel Caulobacter bacteriophages in a project modeled after the SEA-PHAGES initiative (https://seaphages.org).

Honors and Awards:
Rowan University Faculty Center Wall of Fame Award (1999, 2001, 2003, 2017)

Member of:
American Society for Microbiology (http://www.asm.org)
American Association for the Advancement of Sciences (http://aaas.org)
New Jersey Water Environment Association (http://www.njwea.org)

Recent Publications:

Luke Holbrook  
Professor  
Biological Sciences  

holbrook@rowan.edu  
http://users.rowan.edu/~holbrook

Education:  
BS (Biology), Fordham University  
MS (Biology), University of Massachusetts  
PhD (Biology), University of Massachusetts  
Postdoctoral (Anatomy), New York College of Osteopathic Medicine

Research Expertise:  
Phylogeny and evolution of mammals | Vertebrate morphology | Vertebrate paleontology

I study the phylogeny and diversification of mammals. I use data from fossils, morphology, and DNA sequences to determine relationships among different mammal lineages, and to estimate the timing of when different groups split from one another.

Member of:  
Society of Vertebrate Paleontology  
Paleontological Society  
Society of Systematic Biologists  
Society for the Study of Mammalian Evolution  
Willi Hennig Society  
Society of Integrative and Comparative Biology

Recent Publications:  


Alison Krufka
Associate Professor
Biological Sciences
kruka@rowan.edu

Education:
BS (Biology), College of William and Mary
PhD (Developmental Biology), University of Wisconsin-Madison
Postdoctoral (Genetics, Cell, and Developmental Biology), University of Minnesota-Twin Cities

Research Expertise:
Discipline Based Education Research | Evolution and development of the lateral line system |
Urea cycle function and evolution

My research focuses on effective ways to integrate scientific skills, authentic inquiry, and an understanding science into undergraduate curricula. I am working on three projects that incorporate scientific skills and inquiry into the classroom: 1) integration of biology and engineering through development of inquiry based cell culture technology and biomaterials lab modules, 2) study of the effective implementation of the CREATE approach to teaching the process of scientific inquiry through directed analysis of primary literature, and 3) the development/assessment of a scientific skills based transfer student course.

I am investigating the evolution and embryonic development of lateral line system using threespine stickleback. We seek to understand how adult variation in the number and size of neuromast sensory organs are generated during embryonic development. I also am interested in the evolutionary conservation of urea cycle genes. We hypothesize the urea cycle genes function in embryos prior to the formation of ammonia excretion pathways and protect the developing brain from the breakdown of yolk proteins. The conservation of urea cycle genes from fish to mammals allows us to study urea cycle disorders and the toxicity of hyperammonemia on brain development using the zebrafish model.

Member of:
American Association for the Advancement of Science
American Society for Cell Biology
Society for Developmental Biology

Recent Academic Projects:
I serve as the Program Director of the Cumberland County College Bridge to Rowan University NIH-sponsored Bridges to the Baccalaureate Program.

Recent Publications:
Claude F. Krummenacher
Assistant Professor
Biological Sciences/Molecular & Cellular Biosciences

krummenacher@rowan.edu
http://users.rowan.edu/~krummenacher/

Education:
BS (Biology), University of Lausanne
PhD (Biology), University of Lausanne
Postdoctoral (Virology), Wistar Institute
Postdoctoral (Virology), University of Pennsylvania

Research Expertise:
Virology | Cell biology | Molecular and structural biology

My lab focuses on the interactions between herpes simplex virus (HSV) and its human host. To identify new therapeutic targets, we use molecular and cellular approaches to understand host-virus interactions and responses to infection. We study the mechanism by which HSV binds to cellular receptors in order to design inhibitors of virus entry. We also characterize cellular responses to identify factors involved in susceptibility to HSV infection. Finally, we also are interested in the effects of human saliva on the susceptibility to infection by HSV. This combination of approaches aims at identifying new biomarkers for HSV susceptibility and discovering novel targets for innovative antiviral targets for innovative therapies. We recently interested in identifying and developing new compounds that can inhibit HSV infection and spread.

Honors and Awards:
Joseph and Josephine Rabinowitz Award for Scientific Excellence at the PENN Dental School (2007)
Stephen L Sacks Investigator Award from the American Herpes Foundation (2005)
Frances R Lax Award for Faculty Development at Rowan University (2015)

Member of:
American Society for Microbiology (http://www.asm.org/)
American Association for the Advancement of Science (http://www.aaas.org/)
American Society for Virology (http://www.asv.org)

Recent Publications:


Terry J. O’Brien
Associate Professor
Biological Sciences

obrien@rowan.edu

Education:
BS (Botany), University of Iowa
MS (Botany), University of Iowa
PhD (Integrative Biology), University of California at Berkeley

Research Expertise:
Plant Cell Culture | Plant Anatomy and Morphology | Plant Diversity and Evolution

My research interests are in three major areas: plant cell culture, anatomy and morphology of nonvascular and vascular plants, and evolutionary biology of plants.

My current research focuses on the production of useful plant metabolites from plant cell cultures derived from vascular cambial cells. These metabolites are diverse in chemical structure, vary with taxonomic groups of plants, and are used in applications ranging from medicine to cosmetology to agriculture. My work especially seeks to improve the cost efficiency and reliability of production of metabolites from plant cell cultures.

I also am interested in and have prior research projects in the use of anatomy, morphology, and nucleic acids to reconstruct patterns of evolution in plants, in particular, the mosses. This research helped to establish our current knowledge of broad relationships and trait evolution within mosses, an ancient lineage of plants. Related to this work, I also have research interests in the population biology of vascular plants, especially the pteridophytes (ferns and allies) and lycophytes (club mosses).

Honors and Awards:
Hattori Prize for Best Publication in Bryology, with NE Bell, D Quandt, AE Newton. 2009.

Member of:
American Society of Plant Biologists (aspb.org)
Botanical Society of America (www.botany.org)

Recent Publications:

Courtney Richmond
Professor
Biological Sciences

richmond@rowan.edu
http://www.rowan.edu/colleges/csm/departments/biologicalSci/facultyStaff/CourtneyRichmondWelcomePage.htm

Education:
BA (Biology), Swarthmore College
PhD (Marine Science), University of South Carolina
Postdoctoral (Ecological Modelling), National Research Council & Environmental Protection Agency
Postdoctoral (Ecological Modelling), Academy of Natural Sciences Estuarine Research Center

Research Expertise:
Ecological modeling | Individual to community responses to environmental stressors |
Life history strategies of marine invertebrates | Biocontrol of crop pests

My research interests focus on how stressful environmental conditions affect individual organisms, and how those individual-level effects scale up to population- and community-level effects in space and through time. I study both natural and anthropogenic (human-induced) stressors as the drivers of these ecological changes. The techniques I use include empirical, manipulative studies as well as the construction of ecological models to project short-term and/or individual-level effects to larger scales.

I’ve studied many marine invertebrate taxa, including copepods, ctenophores, and the larvae of snails and marine polychaetes. Despite my background in invertebrates, I’ve also collaborated with others who work on Florida seagrasses and wasps that infect and damage wheat crops in the Northern Plains of the United States and Canada.

Member of:
American Association for the Advancement of Science (www.aaas.org)
Ecological Society of America (www.esa.org)
Society for Integrative and Comparative Biology (www.sicb.org)
Union of Concerned Scientists (www.ucusa.org)

Recent Academic Projects:
Ecological modelling of biocontrol of the wheat stem sawfly, Cephus cinctus
Zooplankton population studies in South Jersey reservoirs (includes undergraduates in field and laboratory studies)

Recent Publications:


Maria V. Tahamont
Professor
Biological Sciences
tahamont@rowan.edu

Education:
BA (Health and Physical Education), Glassboro State College
MSeD (Exercise Physiology), Southern Illinois University
PhD (Exercise Physiology), Southern Illinois University
Postdoctoral (Pulmonary Physiology), Albany Medical College

Research Expertise:
Exercise Physiology | Pulmonary Physiology | Science Education

My research interests include histological changes that occur as a result of lung injury and associated trauma including GI disorders like pancreatitis. My interests in science research revolve around increasing access for women and minority students in STEM fields.

Honors and Awards:
The Lindback Distinguished Teaching Award, Rowan University
Parker B. Francis Postdoctoral Fellowship, Albany Medical College
Elmer and Grace Clark Doctoral Scholar Award, Southern Illinois University
Dissertation Fellowship, Southern Illinois University

Member of:
Faculty 21, Project Kaleidoscope
American Association for the Advancement of Science
National Science Teachers Association
Association of Women in Science
Association of American Colleges and Universities
Who’s Who Among America’s Teachers
Svjetlana (Lana) Vojvodic
Assistant Professor
Biological Sciences

vojvodic@rowan.edu
http://users.rowan.edu/~vojvodic/

Education:
BS (Biology), University of South Alabama
MS (Biology), University of South Alabama
PhD (Biology), University of Copenhagen
Postdoctoral (Biology), University of Arizona

Research Expertise:
Host-parasite interactions | Gut microbiome | Social insects

I am interested in understanding a range of symbiotic interactions, from pathogens to beneficial gut microbes. I integrate approaches from microbiology, epidemiology, functional genomics, and behavior in social insect model systems to study these interactions. Social insects live in large societies, much like human society, in which thousands of highly genetically related individuals interact in close proximity, putting them at high risk for disease outbreaks. Consequently, honey bees and most ants have evolved different mechanisms of disease resistance such as: individual innate immune responses; collective colony-level immune response known as social immunity; and immune response generated by beneficial symbionts (e.g., mutualistic microbes) found in/on individuals. I am investigating the honey bee diversity and function of gut microbiome; co-evolution and interactions of mutualistic bacteria and pathogenic fungi and the effect they have on bee immunity and behavior. By using social insect networks I am investigating pathogen spread and social immunity within the ant Temnothorax curvispinosus.

Member of:
Entomological Society of America (http://www.entsoc.org)
International Union for the Study of Social Insects (http://www.iussi.org)
Society for Invertebrate Pathology (http://www.sipweb.org)
Society for the Study of Evolution (http://www.evolutionsociety.org)

Recent Publications:


Chemistry & Biochemistry
Gregory A. Caputo
Professor & Department Head
Chemistry & Biochemistry/Molecular & Cellular Biosciences

caputo@rowan.edu
http://users.rowan.edu/~caputo/

Education:
BS (Chemical Biology), Stevens Institute of Technology
PhD (Molecular & Cell Biology), Stony Brook University
Postdoctoral (Molecular Medicine), Texas A&M Health Science Center
Postdoctoral (Biochemistry & Biophysics), University of Pennsylvania School of Medicine

Research Expertise:
Biophysical Chemistry | Antimicrobials | Peptide-lipid interactions

My research interests are in two major areas: designing/characterizing peptides with specific functions and antimicrobial surfaces.

The majority of the research focuses on the development and characterization of antimicrobial peptides. These are short, cationic sequences that are highly effective, broad spectrum antimicrobials with low toxicity profiles. I study the chemical and amino-acid composition of these peptides and the role different amino acids play in the functional properties of these peptides. My lab also has a project focused on the design of peptides to interact with optically active porphyrins toward the development of novel materials for application in photovoltaic devices.

I also am interested in antimicrobial thin film coatings. In collaboration with the Departments of Physics & Astronomy and Electrical & Computer Engineering, my team has developed a series of coatings (patent pending) with a variety of antimicrobial and physical properties. The group focuses on the efficacy and mechanism of the antimicrobial coatings.

Member of:
American Chemical Society (www.acs.org)
Biophysical Society (www.biophysics.org)

Recent Publications:


James Grinias
Assistant Professor
Chemistry & Biochemistry
grinias@rowan.edu

Education:
BS (Chemistry), Eastern Michigan University
PhD (Analytical Chemistry), University of North Carolina at Chapel Hill
Post-doctoral affiliation (Analytical Chemistry), University of Michigan

Research Expertise:
Analytical Chemistry | Liquid Chromatography | Microfluidics

My research background focuses on the fundamental development of liquid chromatography (LC) columns in capillaries and microfluidic devices. LC columns are at the heart of many analytical separation techniques across pharmaceutical, environmental, and biomedical research projects. Early work focused on the physical structure of the packed chromatographic bed inside a fused silica capillary and led to strategies that could be used to pack more efficient columns in capillaries and also miniaturized microfluidic devices. Other interests have included understanding the physical processes beyond bed structure that impact column performance (included extra-column effects and frictional heating) and applying LC and mass spectrometry (MS) instrumentation to solve analytical problems in neuroscience and molecular physiology.

Honors and Awards:
2017 Eastern Michigan University Young Alumnus Award
NIH NRSA Individual Postdoctoral Fellowship Award (F32- EB019800)
HPLC 2013 Csaba Horváth Top Young Scientist Award

Member of:
American Chemical Society (www.acs.org)
California Separation Science Society (casss.org)
Chromatography Forum of Delaware Valley (www.cfdv.org)

Recent Publications:


Subash Jonnalagadda
Associate Professor
Chemistry & Biochemistry/Molecular & Cellular Biosciences

jonnalagadda@rowan.edu
http://users.rowan.edu/~jonnalagadda

Education:
BS (Chemistry), Pondicherry University, India
MS (Chemistry), University of Hyderabad, India
PhD (Organic Chemistry), Purdue University
Postdoctoral (Organic Chemistry), University of Pennsylvania
Postdoctoral (Medicinal Chemistry), University of Minnesota

Research Expertise:
Organic & Medicinal Chemistry | Organoboron Chemistry | Alternate Energy Materials

Medicinal Chemistry: We have been developing novel aza- and bora-heterocyclic compounds and betulin-based natural product derivatives as anti-cancer agents. In collaboration with Rowan School of Osteopathic Medicine, we have also identified few Withaferin-serotonin conjugates as potential therapeutic options for the treatment of Alzheimer’s Disease.

Value Added Chemicals from Biomass: Recent efforts in this area have included the development of new protocols for the effective conversion of biomass derived cellulosic materials into chemicals such as hydroxymethyl furfural and furan dicarboxylic acid for applications as bio-based polymers.

Honors and Awards:
Rowan University Wall of Fame Teaching Award, 2013, 2016
Eli Lilly International Graduate Scholar, 2000-2005, Purdue University

Member of:
American Chemical Society (www.acs.org)

Recent Publications:


Thomas M. Keck
Assistant Professor
Chemistry & Biochemistry/Molecular & Cellular Biosciences
keckt@rowan.edu

Education:
BS (Biomedical-Biochemical Engineering), University of Southern California
PhD (Physiology & Pharmacology), Oregon Health & Science University
Postdoctoral (Medication development for drug addiction),
National Institute on Drug Abuse-Intramural Research Program (NIDA-IRP)

Research Expertise:
Pharmacology | Neuroscience | Biochemistry

I am interested in developing new medications for neuropsychiatric disorders, including Alzheimer’s disease, schizophrenia, ADHD, pain, anxiety, and a particular interest in drug addiction. My lab works closely with medicinal chemists to design and test new drug-like molecules, combining molecular and behavioral pharmacology methods to evaluate the preclinical potential of new compounds designed to target the dopamine D4 receptor, the μ opioid receptor, and the trace amine-associated receptor 1, among others.

Honors and Awards:
2017 Maharaj Ticku Memorial Travel Fellowship for New Investigators Award, Behavior, Biology and Chemistry Conf.
2015 Frances R. Lax Faculty Development Award, Rowan University
2013 Mentoring Award for Fellows, NIDA-IRP, NIH
2013 Postdoctoral Mentor Award, NIH
2012 & 2013 Fellows’ Award for Research Excellence, NIH

Member of:
American Society for Pharmacology and Experimental Therapeutics https://www.aspet.org/
Pharmacology Society (Councilor) https://www.aspet.org/MAPS/
Philadelphia Chapter of the Society for Neuroscience http://pcsfn.com/

Recent Publications:


**Gustavo Moura-Letts**  
Assistant Professor  
Chemistry & Biochemistry  
moura-letts@rowan.edu  
http://www.gmlresearchgroup.com/

**Education:**  
BS (Chemistry), Universidad Peruana Cayetano Heredia, Peru  
MS (Chemistry), University of Massachusetts  
PhD (Organic Chemistry), University of Pittsburgh  
Postdoctoral Fellow (Organic Chemistry), The Ohio State University  
Postdoctoral Fellow (Medicinal Chemistry), Memorial Sloan-Kettering Cancer Center

**Research Expertise:**  
Drug Discovery | Reaction Invention | Organic Synthesis

My background is in synthetic organic chemistry with an emphasis in methods development and library synthesis. My research group is focused on developing novel reactions for the synthesis of biologically relevant molecular scaffolds. Our central hypothesis is to invent organic reactions to access biologically relevant molecular targets. Thus, I have a number of projects dedicated to the synthesis of small molecule libraries with a diverse array of biological properties and to the discovery of novel reaction pathways for the synthesis of complex molecular scaffolds.

**Projects:**  

**Member of:**  
American Chemical Society  
Division of Organic Chemistry (ACS)

**Recent Academic Projects:**  
Developing workshop-like certificate program for returning veterans in chemistry instrumentation.

**Recent Publications:**  


Amos Mugweru
Professor
Chemistry & Biochemistry
mugweru@rowan.edu

Education:
BS (Chemistry), Kenyatta University
MS (Analytical Chemistry), University of Nairobi
PhD (Analytical/Electrochemistry), University of Connecticut
Postdoctoral (Glucose sensor array), Pennsylvania State University

Research Expertise:
Analytical Chemistry | Electrochemistry | Chromatography

My research interest is in two major areas: Fabrication, modification and characterization of electrode with nanoscale materials for use in electrochemical sensors/biosensors and biomedical sensing including heavy metals and other toxins from the environment.

I also am interested in synthesis, electrochemical characterization of new materials for hydrogen generation for future hydrogen economy.

Recent Publications:


Lark Perez  
Associate Professor  
Chemistry & Biochemistry  

perezla@rowan.edu  
http://users.rowan.edu/~perezla/home.html  

Education:  
BS (Chemistry), Long Island University  
PhD (Organic Chemistry), Yale University  
Postdoctoral (Medicinal Chemistry and Microbiology), Princeton University  

Research Expertise:  
Chemical Biology | Organic Synthesis | Medicinal Chemistry  

The goal of my research is to apply synthetic organic chemistry to enhance the understanding of biological processes, especially cellular signaling. Applications of this general research focus include the study of bacterial quorum sensing, a process in which bacteria regulate gene expression, including virulence factors, through the synthesis and detection of small molecule signals and a major research focus of my group. The group’s research in this area has led to the identification of several highly potent and drug-like inhibitors of bacterial virulence in gram-negative bacteria and has illuminated aspects of the biological regulatory circuits involved. We are fully equipped and experienced in chemical synthesis, medicinal chemistry and microbiology.  

Member of:  
American Chemical Society (ACS)  
American Society of Microbiology (ASM)  

Recent Publications:  


Kandalam V. Ramanujachary  
Professor  
Chemistry & Biochemistry
chary@rowan.edu

Education:
MS (Chemistry), Andhra University, India  
PhD (Chemistry), Indian Institute of Technology, Madras, India  
Postdoctoral (Materials Science), Rutgers University

Research Expertise:
Inorganic Chemistry | Materials Chemistry | Medicinal Chemistry

Efficient means of producing Hydrogen gas  
Bio-mass conversion to value added chemicals  
Design, synthesis, and development of nano-pharmaceuticals and nano-sized nutritional supplements  
Development of small molecule chemotherapeutics  
Synthesis, structure and electronic properties of various binary and ternary oxides, sulfides, selenides, fluorides, nitrides, phosphides featuring transition metal ions  
Development of novel catalytic materials

Honors and Awards:
Rowan University Research Award 2009

Member of:
American Chemical Society  
Materials Research Society of Singapore  
Luminescence Society of India

Recent Publications:


Research Expertise:
Physical Chemistry | Biophysical Chemistry | Spectroscopy

My research utilizes tools of experimental physical chemistry to investigate metal ion-molecule interactions, characterize the proton solvation and conduction mechanisms in ionic liquid solutions, and protein stability in aqueous ionic liquids.

My lab has four main research projects underway:
Characterizing the solvation of protons in ionic liquids and the proton transportation mechanisms in acidic ionic liquid solutions.
Understanding the behavior of proteins and antibiotics in aqueous ionic liquid solutions.
Evaluating competitive metal ion chelation by small molecules in the presence of peptides.
Synthesizing and evaluating different hydrogen-generating electrocatalysts.

Member of:
American Chemical Society (www.acs.org)

Recent Academic Projects:
Investigations of TMG-biomolecule ILs for stabilizing proteins, investigations of ILs for enhancing antibiotic activities

Recent Publications:


Chun Wu
Assistant Professor
Chemistry & Biochemistry/Molecular & Cellular Biosciences

wuc@rowan.edu
http://users.rowan.edu/~wuc/

Education:
BS (Chemistry), Xiamen University
MS (Analytical Chemistry), Xiamen University
MS (Computer Science), University of Delaware
PhD (Chemistry), University of Delaware

Research Expertise:
Computer-aided Drug Design | Molecular Dynamics Simulation | Molecular Modeling

The long-term goal of my research program is to gain mechanic insights into the structure, dynamics and function of pharmacologically important biomolecules. The insights enable rational drug design using a hierarchical virtual screening protocol including docking, molecular dynamics simulation, and free energy perturbation methods. My current research aims to: 1) develop novel cancer drugs that target DNA/RNA-quadruples, transporter (ABCB1) and kinase (MLK); 2) develop novel analgesic and anti-drug-addiction agents that target G-protein coupled receptors (GPCR) (Dopamine, TAAR1, Opioid) membrane receptors; 3) develop novel anti-virus drugs against herpes virus entry (gD); 4) develop diabetes drug that simultaneously targets inflammation (PPAR).

Honors and Awards:
2010, Travel Award, the IBBI (Isolated Biomolecules and Biomolecular Interactions) conference, Berlin, Germany
2004, Named to the Dean's list in recognition of Scholastic Excellence, University of Delaware
1999, Excellent Thesis, Xiamen University

Member of:
American Chemical Society (www.acs.org)

Recent Publications:


Catherine Yang
Professor
Chemistry & Biochemistry/Molecular & Cellular Biosciences
yang@rowan.edu
http://www.rowan.edu/colleges/csm/departments/chembio/facultyStaff/yang_002.html

Education:
BS (Chemistry), Zhejiang University, China
MS (Photochemistry), Tufts University
PhD (Biochemistry), Tufts University
Postdoctoral (Molecular Pharmacology), Harvard Medical School

Research Expertise:
Cancer Biochemistry | Protease Regulations | Pharmaceutical Sciences

De Novo Synthesis of Pyridine Drug Analogs
Regulatory Role of Prostate Specific Antigen in Prostate Cancer Progression
Rational Drug Design for Anti-Prostate Cancer
Molecular Recognition in Mutated DNA Targeted by Antitumor Drug
Allergy Vaccine Development
Anti-Diabetes Drug Development
Detoxifying Organo-nitrile Industry Toxin Using Enzyme Matrix

Honors and Awards:
Wall of Fame Teaching Award, Rowan University
Pioneer/Innovation Award, Rowan University

Member of:
American Chemical Society (ACS)
American Association for Cancer Research, Inc.
Biochemical Society
Medical Monitor Society

Recent Publications:
Goldberg KH, Yin AC, Mupparapu A, Retzbach E, Goldberg G, Yang CF (2016) Components in aquesou Hibiscus rosa-
sinensis flower extract inhibit in vitro melanoma cell growth, J Trad Comp Medicine. 1-5.

as Prostate-Specific Antigen Antagonists, J Chem Information and Modeling. 54:2967-2979.

Methods. 5:5839-6248.

Lei Yu  
Associate Professor  
Chemistry & Biochemistry  

yu@rowan.edu  
http://users.rowan.edu/~yu/  

Education:  
BS (Chemistry), Jilin University  
PhD (Chemistry), Changchun Institute of Applied Chemistry, Chinese Academy of Sciences  
Postdoctoral (Analytical Chemistry), Oakland University  
Postdoctoral (Analytical Chemistry), Clemson University  

Research Expertise:  
Electrochemistry | Electrochemical energy storage and conversion devices | Spectroscopy | Surface Characterization | Nanomaterials Characterization | Conductive polymers  

My three major research projects are: (1) ionic liquids solutions of lithium ion and acids as advanced electrolyte solutions of lithium ion batteries and fuel cells; (2) electrochemical preparation of carbide-derived carbon and its application in supercapacitors, sensors, and biomedical devices; (3) quantities measurement and characterization of nanoparticles in complicated systems. Other projects include the development of biosensors and synthesis of soluble conducting polymers.  

Member of:  
American Chemical Society (www.acs.org)  
The Electrochemical Society (www.electrochem.org)  

Recent Academic Projects:  
(1) Ionic liquid solutions’ properties and applications as electrolytes; (2) electrochemical oxidation of metal carbides; (3) effects of nanoparticles on human and cancer cells.  

Recent Publications:  


Computer Science
Ganesh Baliga
Professor
Computer Science

baliga@rowan.edu
http://elvis.rowan.edu/~baliga/research.pdf

Education:
B. Tech. (Computer Science and Engineering), Indian Institute of Technology, Bombay
M. Tech. (Computer Science and Engineering), Indian Institute of Technology, Bombay
MS (Computer and Information Sciences), University of Delaware
PhD (Computer and Information Sciences), University of Delaware

Research Expertise:
Data Analytics | Machine Learning | Algorithm Design and Analysis | Cloud Computing

My research focus is on the design of algorithms and software systems for machine learning and data analytics. I have published over 15 papers in machine learning in international conferences and journals. Presently, I am the Technical Lead and co-PI of the Perka First Data-Rowan CS Lab, an innovative industry academia collaboration where Perka engineers work closely with faculty and students to develop active production software. At present I am establishing a lab with a focus on data analytics using deep neural networks. I am the co-PI of a grant from the National Science Foundation to develop materials for an undergraduate curriculum for algorithms design and NP-Completeness. Over the past four years, I have served as co-PI in projects funded by Bristol-Myers Squibb and Mission Solutions Engineering and have been involved in nine external grants and contracts.

Member of:
ACM

Recent Academic Projects:

Recent Publications:


Lobo AF, Baliga GR (2014) Teaching algorithm design and and intractability with a project-based curriculum centered on a single intractable problem: Three domains to choose from. SIGCSE Workshop, Atlanta, GA March 2014.
Research Expertise:
Compilers | Algorithms | Data Locality | Formal Languages | CS Education

I have conducted research in the following areas:
Data locality in internal sorting algorithms
Simplification of Regular Expressions
Public Key Cryptography
Open Source Textbooks

I have published a textbook on Compiler Design (Wm. C. Brown, publishers). That book has been converted to open source, and is now available on my web site. I am in the process of developing other open source textbooks, in collaboration with other authors.

Honors and Awards:
Visiting Professor at Oberlin College while on sabbatical leave, 1986
Visiting Professor at The University of Auckland while on sabbatical leave, 1987

Member of:
Association for Computing Machines (ACM)
ACM Special Interest Group on Programming Languages (SIGPLAN)
ACM Special Interest Group on Computers and Security (SIGSAC)
ACM Special Interest Group on Computer Science Education (SIGCSE)

Recent Publications:

Anthony F. Breitzman Sr.
Assistant Professor
Computer Science

Breitzman@rowan.edu
https://scholar.google.com/citations?user=Gi-GOxEAAAAJ&hl=en

Education:
BS (Mathematics), Stockton University
MA (Mathematics), Temple University
MS (Computer Science), Drexel University
PhD (Computer Science), Drexel University

Research Expertise:
Data Mining | Web and Text Mining | Computation Linguistics | Sentiment Analysis | Intellectual Property | Science Policy

My research interests are broadly in the area of Data Mining, which is an inter-disciplinary field that combines Statistics and Computer Science in an effort to identify patterns in large quantities of data. A subfield of interest is in Text Mining, which is essentially data mining with text. I am currently collaborating with the School of Medicine to develop a text mining tool related to literature based discovery of treatments for rare diseases that are not well studied.

I am also interested in the study of innovation and emerging technologies through the mining of large patent databases.

Member of:
Institute of Electrical and Electronic Engineers (IEEE.org)
Upsilon Pi Epsilon - The Honor Society of Computer Science

Recent Publications:


Vahid Heydari
Assistant Professor
Computer Science
heydari@rowan.edu
https://www.researchgate.net/profile/Vahid_Heydari3

Education:
BS (Computer Engineering), University of Science & Culture
MS (Computer Engineering), Payame Noor University
MS (Cybersecurity), University of Alabama at Huntsville
PhD (Computer Engineering), University of Alabama at Huntsville

Research Expertise:
Moving Target Defenses | Networks Security | Networks Analysis and Simulation

Dr. Heydari’s research interests lie within Wireless Ad Hoc Networks Security and Moving Target Defenses (MTDs) to prevent remote cyber-attacks. He has worked on detecting different attacks against Mobile Ad Hoc Networks (MANETs) and reliability of data collection in Wireless Sensor Networks (WSNs). He also proposed a queuing analysis for delay calculation in Wireless Ad Hoc Networks.

Honors and Awards:
2016 Best Student Poster Award (ICCWS)
2016 Best Poster Award (CISSE)
2016-2017 Four NSF Funded Student Travel Awards
2016-2017 Real World Cryptography and IEEE Student Travel Awards

Member of:

Recent Publications:


Vasil Hnatyshin  
Professor & Department Head  
Computer Science  

hnatyshin@rowan.edu  
http://users.rowan.edu/~hnatyshin

Education:  
BS (Computer Science), Widener University (Summa Cum Laude)  
MS (Computer and Information Sciences), University of Delaware  
PhD (Computer and Information Sciences), University of Delaware

Research Expertise:  
Simulation and Modeling of Computer Networks using OPNET | Network Security | Statistical Data Mining and Data Analytics

I am currently working on the following projects: application of similarity functions together with partition around medoids and k-modes algorithms to network security, implementation and development of software for analyzing pharmaceutical data, study of Random Forests algorithm effectiveness for analyzing metaboloids data produced by mass spectrometer, study of location-aided routing protocols for wireless networks through simulation and modeling techniques using OPNET software.

Member of:  
Institute of Electrical and Electronics Engineers (IEEE)

Recent Academic Projects:  
Created and deployed new co-op/internship program for Computer Science students together with the Rowan’s Career Management Center, CSM Dean’s office, and such industrial partners as Lockheed Martin, ASRC Federal, Keystone Industries, and others.

Recent Publications:  
Shen-Shyang Ho
Assistant Professor
Computer Science

hos@rowan.edu
https://sites.google.com/site/shenshyang/

Education:
BS (Mathematics with Computational Science), National University of Singapore
PhD (Computer Science), George Mason University
Postdoctoral, California Institute of Technology and NASA Jet Propulsion Laboratory

Research Expertise:
Data Mining | Artificial Intelligence | Machine Learning | Pattern Recognition

My current research interests are: transfer learning, one-shot learning, computational creativity, spatiotemporal data mining, privacy issues in data mining, machine learning on network/graph data. My projects and investigations are both research-driven and application-driven. The application-driven investigations utilize real-world data such as mobile data from smartphones, crowdsourced sensor data collected using smartphone, factory sensor data, text data (from internet), audio data, image data, and satellite data.

Member of:
Association for Computing Machinery (www.acm.org)
Institute of Electrical and Electronics Engineers (www.ieee.org)

Honors and Awards:

Recent Academic Projects:
2017 SURP projects: "Histogram-based Conformal Set Predictor with Application to Trajectory-based Object Similarity Search" and "A Knowledge Transfer Framework for Computational Creativity with Application to Music Generation"

Recent Publications:


Research Expertise:
Data Mining | Machine Learning/Artificial Intelligence | Bioinformatics/Computational Biology | Databases | Parallel and Distributed Computing

My research focuses on developing computational models, simulation, and visualization of cellular protein import through nuclear pores; developing software tools for knowledge extraction from large DNA microarray databases, data mining of gene expression databases, using machine learning approaches to analyze health data.

Member of:
Association for Computing Machinery (www.acm.org)
Institute of Electrical and Electronics Engineers (www.ieee.org)
UPE International Honor Society for the Computing and Information Disciplines (upe.acm.org)

Recent Publications:
Jennifer S. Kay  
Professor  
Computer Science  

kay@rowan.edu  
http://www.rowan.edu/~kay/  

Education:  
BSE (Computer Science and Engineering), University of Pennsylvania  
BA (Mathematics), University of Pennsylvania  
MS (Computer Science), Carnegie Mellon University  
PhD (Computer Science), Carnegie Mellon University  

Research Expertise:  
Educational Robotics | Computer Science Education | Effective Systems for Learning at Scale (MOOCs) | Artificial Intelligence | Robotics | Human-Computer Interaction | Intelligent Software Agents  

My most recent work is in two areas: the development and evaluation of methods to introduce novices to Computer Science & Computational Thinking using Robotics and Effective Systems for Learning at Scale (MOOCs). I have received grants to pursue this work from a wide variety of sources including Google, iRobot, the National Science Foundation, and the Institute for Personal Robots in Education.  

Honors and Awards:  
Rowan University Academic Advising Wall of Fame 2016  
Lindback Award for Distinguished Teaching, Rowan University 2013  
Best Paper Award, CCSCE 2009  

Member of:  
ACM (Senior Member)  
IEEE (Senior Member)  
UPE CS Honor Society  

Recent Publications:  


Andrea F. Lobo  
Professor  
Computer Science  
lobo@rowan.edu  
http://www.rowan.edu/~lobo

Education:  
BS (Computer and Information Sciences), Universidad de Costa Rica  
MS (Computer and Information Sciences), University of Delaware  
PhD (Computer and Information Sciences), University of Delaware

Research Expertise:  
Computer Networks | Simulation and Modeling | Algorithm Design and Analysis | Mobile Computing | Internet of Things

My research focuses on the design and evaluation of algorithms, software, networks and systems. I have secured external funding from industry and government in excess of $750,000 over the past 5 years. Presently, I am the PI and co-Technical Lead of the Perka First Data-Rowan CS Lab, an innovative industry-academia collaboration where Rowan-CS students do paid on-campus internships developing production software with active engagement from faculty members and Perka engineers. I am also founder and CEO of SimAcumen, a Rowan Innovations Company. SimAcumen provides cloud-based business analytics for service supply chains, and our clients include Fortune 500 and Fortune Global 500 companies.

Honors and Awards:  
Best Faculty Poster Presentation Award,  
Best Paper Award, with Ganesh Baliga,  
University of Delaware Bloc Fellowship, 1991

Member of:  
ACM  
IEEE

Recent Publications:  


Bo (Beth) Sun
Associate Professor
Computer Science

sunb@rowan.edu
http://users.rowan.edu/~sunb

Education:
BS (Computer Science), Wuhan University
MS (Computer Science), Lamar University
PhD (Modeling and Simulation), Old Dominion University

Research Expertise:
Data Visualization | Serious Game | VR/AR-based Simulation

For the past ten years, I have committed my research to develop visualizations, particularly simulation using Immersive Technologies and Computer Vision. My current research interests also include Data Visualization, Image Processing and Natural Language Animation.

Awards and honors:
Euro SIWzie award, 2005 European Simulation Interoperability Workshop
SIWzie award, 2005 Spring Simulation Interoperability Workshop

Member of:
IEEE (https://www.ieee.org/index.html)
NCWIT(https://www.ncwit.org/)

Recent Academic Projects:
Developed a visual tracking method to monitor eye movement in cognitive neuroscience using computer vision techniques.

Conducted visual analysis to find out possible reasons of a popular local bird in a wildlife preserve based on two large scale and multi-dimensional datasets on chemical release and meteorological information.

Developed serious game prototype to assess learning outcomes of higher education particularly for minority students.

Recent Publications:


Nancy Lynn Tinkham
Assistant Professor
Computer Science

nlt@rowan.edu
http://elvis.rowan.edu/~nlt/

Education:
BS (Mathematics), Wheaton College (Illinois)
PhD (Computer Science), Duke University

Research Expertise:
Artificial Intelligence | Logic Programming | Inductive Inference | Natural Language Processing |
Computer Science Education

My current research involves artificially intelligent game-playing algorithms and pattern detection in the strategy game Arimaa.

I also have worked on innovative approaches to computer science education, including the development of a tutorial software system for students learning symbolic logic.

Member of:
Association for Computing Machinery (www.acm.org)
Association for the Advancement of Artificial Intelligence (www.aaai.org)
IEEE Computer Society (www.ieee.org)

Recent Publications:

Research Expertise:
Image Processing | Computer Vision

My research interests include Mathematical Morphology and shape analysis, representation, and recognition.

Morphological shape analysis has been the focus of my research efforts in recent years. I have developed and published several new morphological shape representation algorithms. In these algorithms, a 2-D shape can be represented as a collection of rectangular shape components, or a collection of convex polygons, or a collection of overlapping disks. Morphological operations are used to derive the shape components used in the representations in these algorithms. The advantages of these new algorithms include that the shape components have simple and well-defined mathematical characterizations; the representations are compact and efficient for computers to manipulate; and the algorithms are simple and efficient to implement. Shape matching algorithms based on these shape representation algorithms have also been developed and published.

Recent Publications:


Health & Exercise Science
Gregory Blake Biren  
Associate Professor  
Health & Exercise Science  
biren@rowan.edu  

Education:  
BA (Psychology), Shippensburg University  
MEd (Exercise Physiology), Temple University  
PhD (Exercise Physiology), Temple University  

Research Expertise:  
Strength and Conditioning  

My early research interests focused on exercise conditioning, nutrition, and fatigue. While these areas will remain a primary focus, I currently am directing my efforts to improving the knowledge and skills of K-12 students in the areas of Science, Technology, Engineering, Art, and Mathematics (STEAM) as it relates to Exercise Science. The goal is to improve youth’s desire to learn, understand, and apply STEAM related topics by experiencing the science behind human movement.

Supported by a grant received in 2015, we are creating a program entitled Sport Science K-20. The purpose is to develop partnerships with K-12 school systems to expose students to the science behind human movement. Our vision is for all youth to be inspired to care for the body through understanding the science behind physical activity, nutrition, and health. It will include interactive workshops both in the K-12 setting along with those performed at Rowan University. In addition, a Sport Science K-20 website will provide video lessons on a variety of exercise science related topics that can be utilized to apply STEAM and health related concepts into the K-12 setting.

Member of:  
National Strength and Conditioning Association  
American College of Sports Medicine  
New Jersey American Alliance for Health, Physical Education, Recreation, and Dance  

Recent Publications:  
Edward C. Chaloupka
Professor
Health & Exercise Science
chaloupka@rowan.edu

Education:
BS (Health and Physical Education), Queens College, City University of New York
MS (Education), Queens College, City University of New York
Graduate Certificate of Proficiency (Physical Therapy),
Hahnemann Medical College and Hospital
PhD (Exercise Physiology/Human Gross Anatomy/Human Physiology),
The Ohio State University
Postdoctoral Fellowship, Naval Aerospace Medical Research Center-Pensacola FL

Research Expertise:
Exercise physiology | Physical rehabilitation | Sports medicine

My research interests are primarily metabolic, cardiovascular, and muscle responses to exercise.

The majority of my research has investigated the metabolic responses (primarily maximal oxygen uptake) during exercise bouts of different durations and intensities. This research has involved pediatric and adult populations of subjects including subjects considered to be either well or not well endurance trained. Other areas of focus have been muscular strength and power responses to exercise and nutritional supplementation and perceived exertion responses to long duration exercise.

My current research interest focuses on childhood obesity and the role of exercise in combating this international problem.

Member of:
American College of Sports Medicine—Elected Fellow (FACSM)

Recent Publications:


Research Interests:
Nutrition | Metabolism | Low Carbohydrate Diets | Athletic Performance | Metabolic Disease | Immune Function

I have two areas of research interest which include: 1) the study of low carbohydrate diets on athletic performance and metabolic disease such as overweight/obesity and metabolic syndrome 2) the effects of exercise on the innate immune system and how immune cells and the muscle communicate to coordinate recovery from exercise. There are several opportunities to merge my two fields of interest by studying how a low carbohydrate diet in either athletic, healthy or metabolically diseased populations alters immune cell function.

Member of:
International Society for Exercise and Immunology (ISEI) (http://www.isei.dk/)
National Strength and Conditioning Association (NSCA) (https://www.nsca.com/)
American College of Sports Medicine (ACSM) (http://www.acsm.org/)
International Society for Advancement of Cytometry (ISAC) (http://isac-net.org/)

Recent Publications:


Douglas Mann
Associate Professor
Health & Exercise Science
mannd@rowan.edu

Education:
BA (Psychology) University of Miami (Fla)
MS (Education, Athletic Training) Old Dominion University
DPE (Physical Education) Springfield College

Research Interests:
Athletic Injury Prevention

My area of interest is in athletic injury prevention, particularly flexibility programs and injury prevention, life stress and injury prevention, and cognitive reserve and neuroplasticity.

Honors and Awards:
2016 Rowan University Athletic Training Hall of Fame
2008 Joe Blankowitsch Eastern Athletic Trainers Association Presidential Award

Member of:
Eastern Athletic Trainers Association
Athletic Trainers Society of New Jersey
National Athletic Trainers Association
USA Swimming Coach

Recent Academic Projects:

Presentation (2015 and 2016) Philadelphia Marathon. Stress and Anxiety and Running

Presentation (2016) Broad Street Run. Stress and Anxiety and Running

Exhibitor and Organizer (2015 and 2016). Organized “Psyching Team” Philadelphia Marathon. Spoke with runners individually who were nervous about upcoming race.
Erin Pletcher
Assistant Professor
Health & Exercise Science
pletcher@rowan.edu

Education:
BS (Rehabilitation Science), University of Pittsburgh
MS (Sport & Recreation Administration, James Madison University
PhD (Rehabilitation Science), University of Pittsburgh

Research Expertise:
Injury Prevention | Performance Optimization

Research interests include understanding the processes involved and formulating approaches for improved injury prevention, performance optimization and rehabilitation in an athletic and military population. Previous work has included assessment of modifiable musculoskeletal risk factors for injury in an athletic and military population and coordination patterns and variability in the softball windmill pitch.

Member of:
National Strength and Conditioning Association
National Athletic Trainers’ Association

Recent Publications

Peter Rattigan
Associate Dean, College of Science & Mathematics
Professor, Health & Exercise Science
rattigan@rowan.edu
http://users.rowan.edu/~rattigan/new

Education:
BEd (Physical Education), Avery Hill College, London, UK
MA (Physical Education), University of Minnesota, Minneapolis
PhD (Kinesiology), University of Minnesota, Minneapolis

Research Expertise:
Cooperative Learning/Goal Structure | Skill and Fitness Development | Teen Driver Safety | Video Modeling

My research interests all involve pedagogical best practices, primarily in Physical Education.

I have studied goal structures (cooperative, competitive and individual learning) with David and Roger Johnson at the University of Minnesota. They are internationally renowned experts in the area. My focus has been improving learning in physical education through effective use of goal structures. I am also interested in skill and fitness development in Physical Education, including using exercise physiology and kinesiology as a STEM area in K-12 schools. I work with two colleagues on presenting teen driver safety programs in NJ schools, and study the data from pre- and post surveys to gauge its effectiveness.

I have recently begun to look into the effectiveness of video modeling as a teaching and learning tool for diverse learners, both for K-12 students (to improve physical skills) and for teacher candidates (to improve pedagogical skills).

Honors and Awards:
New Jersey Association for Health, Physical Education, Recreation & Dance (NJAHPERD) Outstanding Teacher of Higher Education, 2010

Member of:
Society of Health & Physical Educators (SHAPE) (www.shapeamrica.org)
New Jersey Association For Health, Physical Education, Recreation & Dance (www.njahperd.org)

Recent Academic Projects:
Development of www.sportscienceK20 with Greg Biren and Jim McCall. This website will provide resources including unit and lesson plans, study guides, quizzes, videos and links that help teachers incorporate STEM/STEAM in Health and Physical Education classes, and help college students in understanding exercise science & kinesiology concepts.

Recent Publications:

Leslie Spencer
Professor
Health & Exercise Science
spencer@rowan.edu

Education:
BBA (Computer Information Systems), James Madison University
MS (Health Promotion and Wellness Management), Springfield College
PhD (Health Education), Temple University

Research Expertise:
Wellness Coaching and Behavior Change | Intellectual and Developmental Disabilities

My research interests are in two major areas: 1) wellness coaching/motivational interviewing and 2) designing fitness and nutrition programs for people with intellectual and developmental disabilities.

I began my behavior change research with an extensive review of the Transtheoretical Model (TTM), which culminated in a series of published systematic literature reviews, in which I evaluated the TTM as applied to the following areas: tobacco use, cancer screening behavior, dietary behavior and exercise behavior. More recently, I and my colleagues developed a program for medical residents in which they were trained to use Motivational Interviewing strategies with patients. My next goal is to develop and study a wellness coaching intervention using Motivational Interviewing strategies with special populations.

My research in the area of creating fitness and nutrition programs for people with intellectual and developmental disabilities (IDD) is ongoing and is unique in that it also involves the caregiver as a recipient of the programs. My colleagues and I have created a model for both fitness programming that is appropriate for people with IDD and a model for family-based nutrition counseling which uses a Motivational Interviewing strategy.

Honors and Awards:
Distinguished Undergraduate Program Award, National Wellness Institute

Member of:
National Wellness Institute (nationalwellness.org)

Recent Academic Projects:
Creation of a Master of Arts in Wellness and Lifestyle Management

Recent Publications:

Robert Sterner
Associate Professor & Department Chair
Health & Exercise Sciences
sterner@rowan.edu

Education:
BS (Physical Education), East Stroudsburg University
MS (Health, Physical, and Recreational Education), University of Pittsburgh
PhD (Applied Biomechanics), The University of Toledo

Research Expertise:
Fatigue and Neuromuscular Control

My research interests are to assess how fatigue affects the neuromuscular system during physical activity.

Member of:
National Athletic Trainers’ Association, Member
Eastern Athletic Trainers’ Association, Member
Athletic Trainers’ Society of New Jersey

Recent Publications:

Mehmet Uygur
Assistant Professor
Health & Exercise Science
uygurm@rowan.edu
http://www.rowan.edu/colleges/sbshp/facultystaff/profiles/uygur.html

Education:
BS (Physics), Middle East Technical University, Turkey
MS (Exercise Physiology), Middle East Technical University, Turkey
MS (Biomechanics), University of Delaware
PhD (Motor Control), University of Delaware
Postdoctoral (Neurophysiology), University of Delaware

Research Expertise:
Force coordination through object manipulation | Neuromuscular quickness | Effects of exercise on the cognitive and motor functions in clinical populations

My research interests include the assessment of hand function and neuromuscular quickness through object manipulation in healthy and neurological populations. I am developing a non-invasive measurement technique that quantifies both neuromuscular quickness and force coordination simultaneously. I also am interested in the effects of high speed, low resistance exercise on different aspects of cognitive and motor functions in neurological populations including people with schizophrenia and multiple sclerosis.

Honors and Awards:
Young investigator award, European College of Sports Science
Graduate fellow competitive award, University of Delaware

Member of:
Society for Neuroscience (http://www.sfn.org)
Gerontological Society of America (https://www.geron.org)
European College of Sports Science (http://www.sport-science.org)

Recent Publications:


Nicole A. Vaughn  
Assistant Professor  
Health & Exercise Science  
vaughnn@rowan.edu

Education:
BS (Psychology), Morgan State University  
MS (Medical Psychology), Uniformed Services University of the Health Sciences  
PhD (Medical Psychology), Uniformed Services University of the Health Sciences  
Post-doctoral (Cardiovascular Behavioral Medicine & Health Disparities),  
Uniformed Services University of the Health Sciences

Research Expertise:
Chronic Disease Prevention | Community-based Participatory Research | Health Disparities | Trauma-Informed Programs

My research interests include using community based participatory research methods to address chronic disease prevention (diabetes, overweight, obesity) as well as trauma informed programs that enhance resilience in underserved and urban settings with ethnic minority adults and youth (i.e., African American). Additionally, I am focused on identifying evidence-based and evidence-informed practices to disseminate and implement in these settings.

My research includes working with community partners to implement evidence-based and evidence informed strategies in their local settings (i.e., churches, after school settings, community centers) to promote healthy lifestyles. Additionally, I have training in health behavior strategies and trauma-informed practices for youth and families. My dissemination and implementation research projects are at the intersection of public health, health promotion, health education and community/industry partnerships.

Honors and Awards:
2016-2018 Fellow for National Cancer Institute’s Mentored Training for Dissemination and Implementation Research in Cancer (MT-DIRC)

Member of:
Society of Behavioral Medicine (http://www.sbm.org/)  
American Public Health Association (http://www.apha.org/)

Recent Academic Projects:
Getting People In Sync: Working with Communities to Implement an Evidence-Based Prediabetes Prevention Program  
Understanding the Health Profile of First Generation College Students

Recent Publications


Robert R. Weaver  
Professor  
Health & Exercise Science  
weaverr@rowan.edu

**Education:**  
BA (Sociology), SUNY Cortland  
MA (Sociology), University of Connecticut  
PhD (Sociology), University of Connecticut

**Research Expertise:**  
Sociology of Health & Illness | Social determinants of health | Qualitative methods

My research examines various social conditions shape our health and healthcare. This includes characterizing how economic, social, cultural, and technological resources influence health, wellness, and the management of health conditions for various populations (most recently, for students). I also examine how myriad the uses of information tools to inform people about their health, while shaping how health and clinical decisions are made.

**Member of:**  
American Sociological Association ([www.asanet.org](http://www.asanet.org))

**Recent Academic Projects:**  
Currently, I am a PI on four projects related to health and health practices of university students: (1) student hunger on campus, (2) health and acculturation of first-generation university students, (3) nutrition information and dietary choices, and (4) disordered eating behaviors among students. I also am co-Investigator on a study that examines the prevalence and correlates of anxiety, stress, and depressive symptomatology among university students (in Ontario, Canada).

**Recent Publications:**  


Shari Willis  
Associate Professor  
Health & Exercise Science  

williss@rowan.edu

Education:  
BS (Exercise Science), Northeast Missouri State  
MS (School and College Health & Safety Education), Indiana University  
PhD (Health Promotion and Education), University of Utah

Research Expertise:  
Driver Education

My recent research has been in Driver Education. Along with other faculty members we are considering the parental influence on driving. We have brought parents and teens together to discuss the Graduated Drivers License and benefits of working with their teen during the driving process. The project is currently funded by State Farm Insurance.

Currently, I am working as the technical advisor with a team of other driving professionals on standards for driver education that should be implemented within the next two years in the State of New Jersey. The document is titled New Jersey Driver Education Curriculum Guide.

This past year I taught a research methodology course to undergraduates. The students and I completed a class research project on food insecurity and college students as did another professor and his class. We were very interested in the results from our classes that a study on a larger scale was initiated. Along with other Rowan University faculty and personnel the research at the college level has been approved and will begin this school year. College students across the country are being impacted by the food they choose and the food they can afford. The research investigates the choices students make and possible solutions.

Member of:  
American Driver Training Safety Education Association
Hypergeometric Frobenius-Bernoulli Polynomials and Numbers

Rowan University

Savanna Duarte, Dr. Abdul Hansen
Departments of Mathematics, Rowan University

Theorem 2

Lesson 3

Lesson 4
Mathematics
Nasrine Bendjilali
Assistant Professor
Mathematics
bendjilali@rowan.edu
https://academics.rowan.edu/csm/departments/math/facultystaff/faculty/Bendjilali/bendjilali-nasrine.html

Education:
BS (Applied Mathematics), University of Petra, Amman, Jordan
MS (Mathematics), Lehigh University
PhD (Applied Mathematics), Lehigh University
Postdoctoral (Center for Cerebrovascular Research), University of California, San Francisco

Research Expertise:
Multiple testing procedures and their applications in biomedical research | Statistical methods for genetic mapping of human traits | Genetic risk factors contributing to development of complex human diseases

My research focuses on identifying genetic risk factors contributing to complex human diseases including cardiovascular and cerebrovascular diseases, in addition to designing and analyzing high-throughput genomic data. I am also interested in developing statistical procedures motivated by questions arising in biological research; in particular, developing multiple testing procedures to address the problem of multiplicity in high-dimensional data analysis.

Member of:
American Statistical Association; Mathematical Association of America; American Society of Human Genetics; European Society of Human Genetics.

Recent Academic Projects:
Gene-diet interaction and risk of cardiovascular diseases.

Recent Publications:


Abdul Hassen
Professor
Mathematics

hassen@rowan.edu
http://users.rowan.edu/~hassen

Education:
BS (Mathematics), Addis Ababa University, Ethiopia
MS (Mathematics), Addis Ababa University, Ethiopia
PhD (Mathematics), Temple University, Philadelphia, PA

Research Expertise:
Analytic and Elementary Number Theory | Generalized Bernoulli and Euler Numbers and Polynomials

My research interests are in the area of Analytic and Analytic Number Theory. I am interested in characterization of Automorphic integral associated with Hecke groups.

Currently, I am working on the determination of those automorphic integrals with prescribed poles of any order and any number of poles. I also am working on problems related to generalized Euler numbers and polynomials. Related to these polynomials are the Hypergeometric Bernoulli polynomials, which generalize the classical Bernoulli numbers via their generating function. These new polynomials have many similar properties as the classical ones as well as some properties unique to them. For example, their complex zeros seem to converge to a curve in the complex plane but the exact curves are not known.

I also work with graduate and undergraduate students on research projects from Euler’s papers as well as partition functions.

Recent Publications:


Research Expertise:
Mathematics Education | Teacher Development

My scholarly work is in two major domains: directing grant-funded projects that provide professional development to mathematics teachers and researching teacher development.

The purpose of my grant-funded projects has been to provide professional development to teachers in grades K to 12 to help them develop their understandings of mathematics content, mathematics learning, mathematics teaching, and mathematics state standards. My research focuses on teachers’ mathematical conceptions and how those conceptions develop.

Honors and Awards:
Distinguished Research in Teacher Education Award, Association of Teacher Educators (2000)

Member of:
Association of Mathematics Teachers of New Jersey (www.amtnj.org)
National Council of Teachers of Mathematics (www.nctm.org)

Recent Publications:


Marlena Herman
Professor
Mathematics
herman@rowan.edu

Education:
BS (Secondary Mathematics Education), Indiana University of Pennsylvania
MEd (Teaching and Curriculum), Pennsylvania State University
PhD (Mathematics Education), The Ohio State University

Research Expertise:
Mathematics Education

Teaching and learning mathematics with technology
Use of graphing calculators and data collection devices in the mathematics or science classroom
Application of mathematics concepts, especially physics (e.g., mathematical modeling, parametrics)
Mathematical topics: golden numbers, home primes, conic sections

Member of:
National Council of Teachers of Mathematics (http://www.nctm.org/)
The Association of Mathematics Teachers of New Jersey (http://amtnj.org/)

Recent Publications:


Christopher Lacke
Associate Professor
Mathematics
lacke@rowan.edu
https://www.researchgate.net/profile/Chris_Lacke

Education:
BA (Mathematics and Economics), Bowdoin College
MS (Statistics), University of Southern Maine
PhD (Operations Research), North Carolina State University

Research Expertise:
Medical Decision Making | Statistics in Medicine & Health | Statistical Education

My primary research involves the applications of decision analysis, operations research, and applied statistics, primarily in medicine, health, and exercise science. I am currently involved in projects with members of the Rowan School of Osteopathic Medicine (SOM), the Rowan University Department of Health & Exercise Science, and students at SOM.

Member of:
Institute of Operations Research and the Management Sciences (INFORMS)

Recent Publications:

Paul J. Laumakis
Professor
Mathematics
laumakis@rowan.edu

Education:
BS (Mechanical Engineering), Drexel University
MA (Mathematics), Villanova University
PhD (Applied Mathematics), Lehigh University
Post-doctoral (Mathematics), United States Military Academy

Research Expertise:
Data Analysis | Mathematics Education | Applied Mathematics

My current research involves comparing and assessing the effectiveness of different calculator technologies in the teaching and learning of college level mathematics. Additionally, my scholarship interests focus on the creation of real-world application projects for use in both the secondary and college level mathematics classroom.

Honors and Awards:
Davies Fellow, Department of Mathematical Sciences, United States Military Academy, 1993-1996.

Recent Publications:


Eric Milou
Professor
Mathematics
milou@rowan.edu
http://ericmilou.net

Education:
EdD (Mathematics Education), Temple University
MA (Mathematics), West Chester University
BA (Mathematics), Franklin & Marshall College

Research Expertise:
K-12 Mathematics Education Curriculum & Instruction

I am interested in curriculum and instruction development in mathematics education. Special interests include the use of technology and mathematical modeling in curriculum and instruction in grades 6-12. Recently published K-12 textbooks include Pearson’s EnVisions Math Grades 6-8, EnVisions Algebra, Geometry and Algebra II, and Pearson’s digits; all comprehensive middle school or high school mathematics programs.

Honors and Awards:
2009 Max Sobel Outstanding Mathematics Educator Award
2015 Rowan University Joseph Barnes Outstanding Service Award

Member of:
National Council of Teachers of Mathematics (NCTM)
National Council of Supervisors of Mathematics (NCSM)
Association of Mathematics Teachers of NJ (AMTNJ)
California Math Council (CMC)
TODOS: Mathematics for ALL
Research Expertise:
Experimental Mathematics | Coding Theory | Frames

My research interests lie broadly in experimental mathematics with a current focus on coding theory and frames.

My work on coding theory consists of two projects. The first is to construct good error-correcting codes capable of correcting insertion, deletion, and substitution errors and apply them to the design of barcodes for DNA multiplex sequencing and data storage. The second is the develop codes for two-party interactive communication that are resistant to the same types of errors.

My work on frames seeks to construct efficient algorithms to partition frames with low coherence, called tight equiangular frames (ETFs), into sets with uniform small spectral norms, and to develop applications in communications and signal processing that utilize such partitions. Current work focuses on two special types of frames: Steiner and maximal ETFs.

Member of:
Mathematical Association of America (www.maa.org)

Recent Publications:


Thanh Nguyen
Assistant Professor
Mathematics

nguyent@rowan.edu
http://users.rowan.edu/~nguyent/

Education:
BS & MS (Mathematics) Vietnam National University, Hanoi
PhD (Engineering Mathematics) Vrije Universiteit Brussel, Belgium
Post-doctoral: Austrian Academy of Sciences, UNC Charlotte, Iowa State University

Research Expertise:
Inverse Problems & Optimization | Modeling & Simulation | Numerical Analysis

My areas of research are in computational, applied mathematics, and engineering applications. In particular, my research interests include inverse problems for partial differential equations, optimization, numerical analysis, mathematical modeling, and applications in nondestructive testing, subsurface imaging, and medical imaging. I have published more than 30 papers in the following areas: (1) Modeling and inverse problems for the heat equations and their application in the detection and characterization of buried objects from infrared images; (2) Coefficient and shape reconstruction problems in time-domain and frequency-domain inverse scattering theory of wave and their application in the detection of airborne, through-wall and buried objects using radar measurements; (3) Evaluation of the electrical conductivity and magnetic permeability of metals from alternating current potential drop measurements. My current research projects include globally convergent inverse methods for coefficient identification problems for partial differential equations.

Member of:

Recent Publications:


Thomas J. Osler
Professor
Mathematics

osler@rowan.edu
http://www.rowan.edu/open/colleges/csm/departments/math/facultystaff/osler/index.htm

Education:
BS (Physics), Drexel University
PhD (Mathematics), Courant Institute, New York University

Research Expertise:
Fractional derivatives | Complex variables | Special functions

My early work on fractional derivatives included 16 papers that are still being cited today. In the past 20 years I have published over 136 papers in mathematics and physics. Most of these are expository papers, and include topics of historical interest on Euler, the zeta function, number theory, partitions, geometry and other subjects. Over 30 were joint-authored with Rowan students.

Honors and Awards:
The Gary Hunter Mentoring Award presented by the American Federation of Teachers, 2008
The Editorial Excellence Award from the journal “Mathematics and Computer Education”, 2009
The Mathematical Association of America, New Jersey Section, Distinguished Teacher of Mathematics Award, 2009.
Oslerfest: (In honor of my 70th birthday) A two day National Mathematical Conference at Rowan University, 2010.

Member of:
American Mathematical Society
Mathematical Association of America

Recent Publications:


Charalampos (Babis) Papachristou
Associate Professor
Mathematics
papachristou@rowan.edu

Education:
BS (Mathematics), Aristotle University of Thessaloniki, Greece
PhD (Statistics), The Ohio State University
Postdoctoral (Human Genetics), University of Chicago

Research Expertise:
Statistical Genetics | Biostatistics | Genetic Epidemiology

My research interests are in the areas of statistical genetics, epidemiology, and applications to biological and medical studies. I primarily develop novel methodologies for analyzing data from genetic studies to identify disease susceptibility genes. I am currently involved in a variety of projects some of which aim at uncovering factors affecting asthma susceptibility, reducing drug wastage in VA hospitals, building mouse models of response to leukemia treatments, and identifying genetic markers that predict drug response to cancer treatment.

Honors and Awards:
Christian R. and Mary F. Lindback Award for Distinguished Teaching - 2013

Member of:
American Statistical Association (ASA)
International Genetic Epidemiology Society (IGES)

Recent Academic Projects:
Unlocking the Heritability of Methylation in Human DNA via the Use of Pedigree Data
Haplotype-based Tests for Detecting Gene-Environment Interactions
Exploring Factors Affecting Eating Habits of College Students
Identifying Factors Contributing to Benign Brain Tumors (Meningiomas)

Recent Publications:


Christopher S. Simons  
Associate Professor  
Mathematics  

simons@rowan.edu  
http://users.rowan.edu/~simons/  

Education:  
BSc (Mathematics), McGill University  
MA (Mathematics), Princeton University  
PhD (Mathematics), Princeton University  

Research Expertise:  
Finite group theory | Computational number theory  

I am interested in extended Coxeter presentations leading to finite groups and sporadic groups including the Monster and Bimonster. This work involves both machine-aided investigation as well as more theoretical and geometric explorations. These presentations have connections to modular functions through the monstrous moonshine phenomenon.  

I am also interested in aspects of computational number theory relating to integer sequences such as the chirality of integer triples and its resulting recursive properties.  

Recent Publications:  


Thayasivam Umashanger
Associate Professor
Mathematics
thayasivam@rowan.edu
http://users.rowan.edu/~thayasivam/

Education:
BSc (Statistics), University of Colombo
MS (Statistics), University of Georgia
PhD (Statistics), University of Georgia

Research Expertise:
Data Mining and Statistical Learning | Robust Estimation | Bayesian Statistics

We are pursuing several lines of research to identify and validate the use of statistical learning/data mining methods with multidisciplinary data.

Projects include:
Biomarker discovery for neurogenerative diseases
Peak detection with maximum entropy principal
Clustering mix attributes – network security
Spoof detection and Speaker identification/verification in biometrics
Assessing robust methods for analyzing multivariate data Telemedicine/Telehealth statistical learning

Member of:
American Statistical Association (www.asa.org)
Institute of Mathematical Statistics (www.imstat.org)
Institute of Applied Statistics Sri Lanka (www.iappstat.lk)
Data Science Association

Recent Publications


Min Wang
Assistant Professor
Mathematics

wangmin@rowan.edu
http://users.rowan.edu/~wangmin/

Education:
BS (Mathematics and Applied Mathematics), Ocean University of China
MS (Applied Mathematics), Ocean University of China
MS (Mathematical Sciences), Northern Illinois University
PhD (Mathematical Sciences), Northern Illinois University

Research Expertise:
Mathematical Modeling | Mathematical Finance | Data Analytics

I am a mathematician with both academic and industrial experience. As a result, my research interests are split into two categories: applied mathematics and data sciences.

As a mathematician, my research interests are in applied mathematics, which include deterministic and stochastic differential equations, mathematical modeling, numerical analysis, and their applications. Currently, I am working on several problems from biomathematics and mathematical finance.

Due to my industrial data analytic experience, I am also interested in the areas of data analytics such as risk modeling, machine learning, data visualization, and model validation. I am familiar with US consumer credit data and the predictive modeling techniques widely used in credit industry. I look forward to combining my industrial data analytic experience and math knowledge to solve problems.

Recent Academic Projects:

Recent Publications:


Dexter C. Whittinghill III  
Associate Professor & Department Head  
Mathematics  
whittinghill@rowan.edu

Education:
BA (Mathematics), Middlebury College  
MS (Mathematics), University of Wisconsin-Milwaukee  
MS (Statistics), Purdue University  
PhD (Statistics), Purdue University

Research Expertise:
Statistics Education | Design of Experiments

My current interests include co-author-consulting with Rowan faculty in other disciplines regarding statistical education.

Honors and Awards:

Member of:
American Statistical Association (ASA, www.amstat.org)  
Institute of Mathematical Statistics (IMS, www.imstat.org)  
Mathematical Association of America (MAA, www.maa.org)

Recent Publications:


Research Interests:
Complex Analytic Differential Geometry | Iteration of Rational Functions | Deformations of Complex Manifolds

My research interests are in the study of the function theory and analytic invariants of complex manifolds using intrinsic metrics and infinitesimal metrics, such as the Kobayashi metric, and Riemannian curvature, and how these characteristics of a manifold vary with deformation of complex structure.

I also am interested in the dynamics of iteration of rational functions, especially those related to numerical root finding methods, and the effects of deformation on such dynamical systems.

Recent Publications:

Mary L. Alpaugh  
Associate Professor & Department Chair  
Molecular & Cellular Biosciences  
alpaugh@rowan.edu

**Education:**  
BS (Biology & Philosophy), King’s College  
PhD (Biochemical & Biophysical Sciences), University of Houston  
Postdoctoral (Pathology), University of California, Los Angeles

**Research Expertise:**  
Cancer Biology | Tumor Progression | Metastasis | Intravasation

My research focuses predominantly on the molecular mechanisms of intravasation, the rate-limiting step of metastasis, and resistance/susceptibility of lymphovascular emboli to therapeutics.

Metastasis poses the single most difficult clinical challenge in the attempt to manage and treat cancer. In this effort, I have established patient-derived xenografts, significantly the first (and only) human transplantable inflammatory breast cancer xenograft, called MARY-X. Inflammatory breast cancer (IBC) is one of the most aggressive types of breast cancer; nearly 100% of all women with IBC have lymph node involvement and 25% have distant metastases upon diagnosis. The signature phenotype of IBC is florid lymphovascular invasion of cancer emboli. Whereas most human xenografts grow as a subcutaneous confluent cellular mass, MARY-X grows exclusively in the murine lymphatic and blood vessels, recapitulating the phenotype displayed in human IBC and in essence providing both a preclinical IBC model and a relevant model of metastasis. MARY-X, in vitro, is a primary cellular derivative from tumor explants. These tumor cells spontaneously form tight, compact aggregates of cells termed “MARY-X spheroids”. Comparable to human IBC emboli, a persistent, over-expression of an intact E-cadherin/α, β-catenin axis mediates the compaction of both in vitro and in vivo MARY-X spheroids and tumor emboli, respectively. The in vitro MARY-X spheroid has comparative 3-dimensional (3-D) architectural/pathophysiological features to the lymphovascular embolus. Therefore MARY-X provides a relevant 3D in vitro analysis platform for drug design and development of IBC and metastatic disease i.e. the lymphovascular embolus.

**Member of:**  
American Association for Cancer Research

**Recent Publications:**  


Benjamin R. Carone
Assistant Professor
Molecular & Cellular Biosciences

carone@rowan.edu

Education:
BS (Molecular & Cellular Biology, Philosophy), University of Connecticut
PhD (Genetics and Genomics), University of Connecticut
Postdoctoral (Transgenerational Inheritance/Epigenetics),
University of Massachusetts Medical School
Visiting Assistant Professor (Histone Modifications), Williams College

Research Expertise:
Epigenetics | Genomics | Histone modifications

My research interests are in the field of Epigenetics, which I approach by working to identify the epigenetic marks and molecular mechanisms responsible for causing and maintaining the inheritance of acquired states.

Investigating the capacity of conserved protein catalytic domains to establish and maintain epigenetic modifications in S. cerevisiae with the ultimate goal establishing the causal role of histone packaging in regulating gene expression. Specifically, my laboratory has created a suite of fusion proteins using CRISPR technology to target H3K9me to eGFP tagged endogenous S. cerevisiae genes which we interrogate expression levels using qRT-PCR as flow cytometry.

Testing the hypothesis that mammalian spermatic chromatin is highly organized and that this patterning can function to drive Transgenerational Epigenetic Inheritance. Determining the genome-wide organization of chromatin in germ cells using genomic and bioinformatics approaches. We are currently working with previously/externally generated datasets but will also be investigating spermatic chromatin in the context of Ctcf mutant mice at Rowan University as this project matures.

Member of:
American Society for Biochemistry and Molecular Biology (www.asbmb.org)
Genetics Society of America (www.genetics-gsa.org)
Sigma Xi (www.sigmaxi.org)

Recent Publications:


Mark J. Hickman
Associate Professor
Molecular & Cellular Biosciences

hickmanm@rowan.edu
go.rowan.edu/hickman

Education:
AB (Biochemistry), Bowdoin College
PhD (Biological Sciences), Harvard University
Postdoctoral (Genetics), Harvard Medical School
Postdoctoral (Genomics), Princeton University

Research Expertise:
Genetics | Genomics | Bioinformatics | Molecular Biology

My laboratory studies: (1) cellular signaling and global gene expression in response to hypoxia, and (2) mutation analysis using whole genome sequencing. We employ genetic, genomic and bioinformatic approaches in the model organism S. cerevisiae. A current focus is characterizing the multiple signaling pathways that control gene expression in response to hypoxia, using signaling deletion mutants and RNA-seq analysis.

Member of:
Genetics Society of America
International Society for Computational Biology
American Chemical Society
American Society of Microbiology

Recent Academic Projects:
Mentoring BS and MS students in all aspects of my research
Development and coordination of BS and MS Programs in Bioinformatics.

Recent Publications:


Cristina Iftode  
Associate Professor  
Molecular & Cellular Biosciences  
iftode@rowan.edu  
http://users.rowan.edu/~iftode/index.html

Education:
BS (Biochemistry; Cell Biology and Genetics), University of Bucharest, Romania  
PhD (Cellular and Molecular Biology), New York University Medical Center  
Postdoctoral (Molecular Virology), Princeton University

Research Expertise:
Stem cell differentiation | Replication and transcription of DNA viruses

My research interests are: 1) human stem cells and biomaterials in regenerative medicine, and 2) isolation and characterization of secondary plant metabolites.

1) I study the application of the adipose derived-mesenchymal stem cell (AD-MSC) differentiation to the regeneration of the intervertebral disc tissue. In collaboration with the Departments of Chemical and Mechanical Engineering, my group is using a tissue engineering approach where cell-seeded injectable scaffolds and inducers of differentiation are delivered to the injury site. Characterization of differentiation toward the desired phenotype is assessed by the presence of tissue specific markers.

In collaboration with the Department of Physics & Astronomy, I examine the medical applicability of protein-based biomaterials in combination with AD-MSCs.

2) I also am interested in culturing methods from meristematic plant cells for the production of secondary plant metabolites (SPMs). Together with a colleague from my department, we are expanding the application of this technique to extracting SPMs from plant species with uses in medicine and cosmetology.

Honors and Awards:
Rowan University’s Collaborative Innovation in Tissue Engineering Award, 2016

Member of:
American Society for Cell Biology Chemical Society (www.ascb.org)  
American Society for Microbiology (www.asm.org)  
American Society for Virology (www.asv.org)

Recent Publications:


Ileana Soto Reyes
Assistant Professor
Molecular & Cellular Biosciences
sotoreyes@rowan.edu
http://users.rowan.edu/~sotoreyes/index.html

Education:
BS (Life Sciences), University of Puerto Rico
PhD (Biology) School of Medicine, University of Puerto Rico
Postdoctoral (Neuroscience), Johns Hopkins University
Postdoctoral (Genetics/Neuroscience, The Jackson Laboratory

Research Expertise:
Neurodegeneration | Mouse Genetics | Neuroinflammation

My primary research focus is on the role of inflammation in neurodegenerative diseases such as Niemann Pick Type-C disease. In particular, emerging evidence suggests that neuroinflammation, a carefully controlled infiltration of specific immune cells into the tissue, may be critical for neuronal damage. The interplay between neurons, resident support, endothelial cell and infiltrating immune cells (particularly monocytes) is complex. Therefore I will apply cellular and genetic approaches to critically assess the role of the different cell types in neurodegenerative diseases.

Honors and Awards:
The Jackson Laboratory Postdoctoral Fellowship, NIH T32 training grant, 2009-2011

Member of:
Society for Neuroscience (SFN.org)
American Society for Cell Biology (ASCB)

Recent Publications:


Physics & Astronomy
Tabbetha A. Dobbins  
Associate Professor  
Physics & Astronomy/Molecular & Cellular Biosciences  
dobbins@rowan.edu  
http://users.rowan.edu/~dobbins/  

Education:  
BS (Physics), Lincoln University (PA)  
MS (Materials Science & Engineering), The University of Pennsylvania  
PhD (Materials Science & Engineering), The University of Pennsylvania  
Postdoctoral, National Institute of Standards and Technology  

Research Expertise:  
Synchrotron X-ray Studies | Neutron Scattering | Hydrogen Storage  

My research interests are in two major areas: neutron and synchrotron X-ray studies for understanding reaction mechanism in metal hydrides and developing nanomaterials for enhancing cancer therapy.  

Honors and Awards:  
National Research Council Post-Doctoral Fellowship  
Penn State University Alumni Association Achievement Award  
National Science Foundation Early Faculty Career Award  

Member of:  
American Physical Society (www.aps.org)  
National Society of Black Physicists (https://nsbp.org)  
ASM International (http://www.asminternational.org/)  
Materials Research Society (www.mrs.org)  

Recent Publications:  


Eduardo V. Flores
Associate Professor
Physics & Astronomy
flores@rowan.edu
http://users.rowan.edu/~flores/

Education:
BS (Physics), NYU Polytechnic Institute
PhD (Theoretical Physics), University of Michigan

Research Expertise:
Elementary Particle Physics | Foundations of Quantum Physics

I study the paradoxes of quantum physics, a theoretical problem. Quantum physics numerical predictions are outstanding at all the available energy levels. However, the same is not true about the interpretation of quantum physics. Standard quantum theory contains a paradox known as the wave-particle duality paradox, that is, how the same object could sometimes be extended as to produce wave motion yet when detected it is a dot on a screen. This paradox might be symptomatic of a theory with intrinsic problems or a theory with an incorrect interpretation of its results. The mathematical success of quantum mechanics points to a problem with the interpretation of the theory. My present research is a quest to resolve the wave-particle duality paradox. The importance of finding a model that would explain this paradox is to open a new frontier in our understanding of the microscopic world. Another reason for my interest is its connection with quantum gravity. Quantum gravity is the major problem in theoretical particle physics. In my work I am proposing that the solution to the quantum gravity problem is linked to the solution of the wave-particle duality paradox.

Recent Publications:


Eddie J. Guerra  
Associate Professor  
Physics & Astronomy  

guerra@rowan.edu  
http://elvis.rowan.edu/~guerra/  

Education:  
BS (Engineering Physics with Honors), University of California at Berkeley  
MA (Physics), Princeton University  
PhD (Physics), Princeton University  
Postdoctoral (Physics), Gravity Group, Princeton University  

Research Expertise:  
Active Galaxies | Cosmology | Galaxy Photometry | Diversity in Science  

Active galactic nuclei (AGN) are among the most distant objects observed, and the light we observe from AGN originated billions of years ago. Many advances in cosmology have come from precise measurements of the cosmic microwave background at radio wavelengths. My astronomy research has an observational emphasis, although the motivations arise out of theoretical issues raised in the study of AGN and cosmology. This includes past work in radio interferometry, theoretical studies, and recent work on a program of CCD photometry using the 0.4-meter telescope atop Science Hall.  

I have a commitment to diversity in science that includes collaborations with county colleges to recruit Latino students to science programs at Rowan University  

Member of:  
American Astronomical Society  
Society for Advancement of Chicanos/Hispanics and Native Americans in Science  

Most Recent Publications:  

Jeffrey Hettinger
Professor
Physics & Astronomy/Molecular & Cellular Biosciences
hettinger@rowan.edu

Education:
BA (Physics), Mansfield University
PhD (Physics), Boston University
Postdoctoral (Materials Science Division), Argonne National Laboratory

Research Expertise:
Thin Film Synthesis | Materials Characterization | Materials Processing

My current research includes:
Broad spectrum bactericidal coatings are focused on silver-eluting coatings and the control of the elution rates. These coatings are synthesized by the sputtering of silver in an oxygen-rich reactive environment forming highly soluble silver oxide coatings with excellent adhesion to surfaces with bactericidal silver-ion elution rates much higher than nanoparticle silver.

Carbide-derived carbon (CDC) is a porous carbon material with a very narrow pore-size distribution. This material is synthesized by extracting reactive metals from binary or ternary carbides creating a coordinated network of mesoscopic pores. The pore-size distribution is influenced by the method used for extraction and parameters (temperature, reactive gas flow rate, etc.) used in the conversion. Our group has investigated the role of pre-cursor crystal structure on the ultimate performance of the CDC in a double layer capacitor.

The role of microstructure and composition in determining the performance of neuro-stimulation electrode coating materials has been investigated. The goal of this work is to optimize the charge transfer rate between the charge carriers in the coating and ionic charge in solution. The microstructure can be adjusted by adjusting the substrate, the substrate surface roughness and the coating deposition parameters.

Experiment Techniques:
Sputtering, optical lithography, XRD, RIE, SEM, AFM, FIB, EDS, WDXRF, specific heat, thermal transport, electrical transport, magnetization and magnetic susceptibility.

Member of:
Materials Research Society
American Physical Society
Society of Vacuum Coaters

Recent Publications:


Xiao Hu
Associate Professor
Physics & Astronomy/Molecular & Cellular Biosciences/Biomedical Engineering
hu@rowan.edu
http://users.rowan.edu/~hu/

Education:
BS (Crystal and Material Physics), Nanjing University
MS (Physics), Tufts University
MS (Biomedical Engineering), Tufts University
PhD (Polymer and Biophysics), Tufts University
Postdoctoral (Tissue Engineering), Tuft University

Research Expertise:
Protein-based Biomaterials | Polymer Physics | Tissue Engineering | Controlled Drug Release and Delivery | Biosensor and Nanomedicine

My research focus is on protein or biopolymer materials, including fibrous proteins (silks, elastins, resilins, keratins, collagens), variable plant proteins (zeins, soy proteins, etc.) and other recombinant or natural polymers, and their related engineering technologies to control the self-assembly of these polymer systems into functional materials. These materials can be fabricated into tunable forms such as films, gels, particles, fibers, or composites, and can be widely used for different green or biomedical technologies, including tissue regeneration medicine, disease model, controlled drug delivery and release, antibody and vaccine storage, flexible biosensors, green plastics, biophotonics, and nano-biotechnology.

Honors and Awards:
Rising Innovator Award, Rowan University (2016)

Recent Academic Projects:
Flexible Protein Sensor Materials for Controlled Drug Delivery and Release (NJHF)
Continuous Processing for Improved Properties of Nanofibers (NSF)

Recent Publications:


David R. Klassen
Professor & Department Chair
Physics & Astronomy
klassen@rowan.edu
http://www.rowan.edu/colleges/csm/departments/physics/facultySta_/moreinfo.cfm?id=215

Education:
BS (Astrophysics & Math), University of Minnesota
PhD (Physics), University of Wyoming
Postdoctoral, Cornell University

Research Expertise:
Planetary Science | Infrared Observational Astronomy | Computational Physics

My primary area of research interest is understanding how clouds affect the water cycle and climate of Mars. On the observational side I use ground-based (NASA-IRTF) and spacecraft (MRO-CRISM) near-infrared spectral images to track and measure the ice abundance in clouds over diurnal, seasonal, and interannual timescales. More recently, I have begun working on the climate modeling side of the problem—working out a way to convert General Circulation Model outputs into synthetic spectra that can be more directly compared to spacecraft data. My work is done in collaboration with scientists at the Space Science Institute, NASA Goddard Space Flight Center, and NASA Ames Research Center. My work has been funded by both NASA and the NSF. Over the years I have had the pleasure of training a multitude of Rowan undergraduates in astronomical image processing and analysis.

Member of:
American Astronomical Society-Division for Planetary Sciences
American Geophysical Union
American Association of Physics Teachers
New Jersey AAPT
Astronomical Society of the Pacific
Planetary Society

Recent Academic Projects:
I am working with the Education & Public Outreach Subcommittee of the Division for Planetary Sciences of the American Astronomical Society to create and maintain a web guide for undergraduate students and advisors to all the graduate programs in which a PhD can be earned within the field of Planetary Science.

Recent Publications:

Michael J. Lim
Professor
Physics & Astronomy
lim@rowan.edu

Education:
BS (Physics), Harvard College
PhD (Physics), University of Michigan, Ann Arbor
Postdoctoral (Physics), National Institute of Standards and Technology, Gaithersburg
Postdoctoral (Physics), Bryn Mawr College

Research Expertise:
Ultracold plasmas | Fiber-coupled confocal microscopy | Laser-induced breakdown spectroscopy

Current projects:
Formation of ultracold atomic plasmas (UCPs). Recombination dynamics in UCPs formed by photoionization of ultracold neutral atoms.

Fiber-coupled confocal microscope for fluorescence correlation spectroscopy to study micelle dynamics. Collaboration with Nathaniel Nucci, Rowan Physics and Rowan MCB.

Member of:
American Physical Society (www.aps.org)

Recent Academic Projects:
Philadelphia-Singapore Optics Research Experience for Undergraduates:
10-week summer program for Philadelphia-area physics majors to perform experimental atomic physics and photonics research at Nanyang Technological University in Singapore. Funded by NSF-IRES

Recent Publications:


Hong Y. Ling  
Professor  
Physics & Astronomy  
ling@rowan.edu  

Education:  
BS (Physics), Jiaxin Teacher’s College (currently known as Huzhou University), Huzhou, P. R. China.  
MS (Optics), Xian Institute of Optics and Fine Mechanics, Academia Sinica, Xian, P. R. China.  
PhD (Physics), Drexel University

Research Expertise:  
Cold Atom | Condensed Matter | Quantum Optics

My research interests include atomic and molecular physics, condensed matter physics, and quantum optics. The focus of my research is on low-temperature many-body systems which, depending on whether their constituents, are bosons or fermions or mixtures of both, can exhibit different but equally fascinating quantum effects at the macroscopic level. The experimental progress in cold atom physics has enabled such phenomena, which were only accessible to a few isotopes in solid state systems, such as 3He and 4He, to be studied in cold atom quantum gases. Of particular relevance are multi-component quantum gases which can exist as Bose-Bose, Fermi-Fermi, and Bose-Ferm binary mixtures, and as Bose-Bose-Bose, Fermi-Fermi-Bose, and Bose-Fermi-Fermi ternary mixtures. The list of possible quantum gases in cold atom systems, thus, seems endless in view of the rich existence of atomic elements and their isotopes in nature. Examples of my current research include exotic phases with unconventional Cooper pairings, nonequilibrium phenomena, polarons, etc., in a strongly interacting quantum gases either in continues or in lattice models.

Honors and Awards:  
Rowan University Research Achievement Award 2011  
KITP Scholar 2013-2015, Kavli Institute for Theoretical Physics, University of California, Santa Barbara, CA

Member of:  
American Physical Society  
Anacapa Society

Recent Publications:  


Education:
BS (Physics, High Honors), University of Maryland
BS (Mathematics), University of Maryland
MS (Physics), University of Maryland
PhD (Physics), University of Maryland
Postdoctoral Fellowship (Condensed Matter Physics), University of Maryland

Research Expertise:
Magnetic Materials | Thermal Materials | Strongly Correlated Systems

My work is centered on the development and understanding of advanced materials and subsequent applications. Much of the research is interdisciplinary by nature.

Honors and Awards:
Inaugural recipient, Rowan University Award for Excellence in Research, 2007
Society of Physics National Advisor of the Year, 2009

Member of:
American Physical Society
IEEE

Recent Publications:


Karen Magee-Sauer  
Dean, College of Science & Mathematics  
Professor, Physics & Astronomy  
sauer@rowan.edu  
www.rowan.edu/csm

Education:
BS (Physics), University of Virginia, Charlottesville  
MS (Physics), University of Wisconsin-Madison  
PhD (Physics), University of Wisconsin-Madison  
Postdoctoral (Physics), University of Delaware, Bartol Research Institute

Research Expertise:
Cometary atmospheres | Infrared spectroscopy | Physics education

I currently serve as the Dean of the College of Science & Mathematics and the School of Health Professions. I also am the Principal Investigator for the PhysTEC comprehensive site award to Rowan University. The goals of Rowan’s PhysTEC work is to recruit, retain, and train future high school physics teachers. As Dean, I continue my work leading the PhysTEC grant and also am committed to evidence-based instruction in math and science.

Prior to becoming the Dean, my research field in planetary sciences was supported by the National Science Foundation's Research at Undergraduate Institutions (RUI) program and NASA’s Planetary Astronomy program for 13 years. I collaborated with scientists at the NASA Goddard Space Flight Center in Greenbelt, MD. This collaboration involved the composition and behavior of comets by observing the infrared emission of cometary molecules. The telescopes for these investigations were the NASA Infrared Telescope Facility and the W.M. Keck telescope, both atop of Mauna Kea (14,000 ft) on the Big Island of Hawaii.

Honors and Awards:
Lindback Distinguished Teaching Award, 2007  
PhysTEC, Comprehensive Site Award: Recruiting and Training of High School Physics Teachers

Member of:

Recent Publications:


Nathaniel V. Nucci
Assistant Professor
Physics & Astronomy/Molecular & Cellular Biosciences
nucci@rowan.edu

Education:
BS (Biochemistry and Molecular Biology), University of New Hampshire
MS (Biochemistry and Molecular Biology), University of New Hampshire
PhD (Biochemistry and Molecular Biophysics), University of Pennsylvania
Postdoctoral (Biochemistry and Biophysics), University of Pennsylvania

Research Expertise:
NMR Spectroscopy | Reverse Micelle Technology | Protein Biophysics

Nuclear Magnetic Resonance (NMR) is a state-of-the-art spectroscopic method that provides both spatial and temporal information on the atomic level. This technology is especially insightful when examining macromolecules, but various technical challenges limit the size of the molecules that can be easily studied. I have unique expertise in the application of reverse micelle technology to the NMR-based investigation of macromolecular structure and dynamics. This special skill set allows my research group to ask a range of innovative questions about the ways biological systems function at the molecular level. In addition to NMR, we utilize UV/Visible absorption and fluorescence spectroscopy to investigate biomolecular structure and function. We are also developing an apparatus that combined fluorescence correlation microscopy with microfluidics to study chemical dynamics and the impacts of macromolecular crowding on protein function. Present projects include study of antifreeze protein function, nanoscale confinement effects on protein structure and function, structure/function studies of the hypoxia-inducible factor prolyl hydroxylases, and applications of reverse micelles such as drug delivery and manufacture of quantum dots.

Honors and Awards:
New Jersey Health Foundation Research Grant 2016-2017

Member of:
American Association for the Advancement of Science
Biophysical Society
American Chemical Society

Recent Publications:


Research Expertise:
Physics Education Research

I study how people think about and learn physics. My major work has focused on developing instructional strategies for advanced undergraduate thermal physics courses. My current research centers on how students use and reason about mathematics in both introductory and advanced physics courses, and the ways in which they synthesize various pieces of information to form a coherent understanding of a particular topic. I am particularly interested in using statistical analyses to measure how student understanding of a particular topic changes during a course.

Honors and Awards:
Invited Plenary Speaker at the Foundations and Frontiers of Physics Education Research Conference 2017
Physics Education Research Conference Proceedings Paper Award Finalist 2010

Member of:
American Association of Physics Teachers (www.aapt.org)
American Physical Society (www.aps.org)

Recent Academic Projects:
Measuring and representing student learning in introductory physics: A main goal of this project is to use statistical analyses to measure the relative “correctness” of various responses to common multiple-choice tests. These results may be used to show how students’ understanding of physics develops during a course, even if they do not choose the correct response.

Recent Publications:


Nicholas Whiting
Assistant Professor
Physics & Astronomy/Molecular & Cellular Biosciences

whitingn@rowan.edu

Education:
BS (Chemistry), Southern Illinois University
PhD (Physical Chemistry), Southern Illinois University
Postdoctoral (Magnetic Resonance), University of Nottingham (UK)
Postdoctoral (Cancer Systems Imaging), The University of Texas MD Anderson Cancer Center

Research Expertise:
Hyperpolarized Magnetic Resonance | Molecular Imaging | Nanotherapeutics

My research focuses on improving nuclear magnetic resonance spectroscopy (NMR) and imaging (MRI) through the development of hyperpolarization methodologies, which temporarily improve NMR & MRI signals by several orders of magnitude through enhanced nuclear spin alignment. My primary goal is to apply these techniques to biocompatible nanomaterials, which can be utilized for both targeted molecular imaging and novel therapeutics. Along with developing additional MR-based contrast agents, I am also interested in determining the effects from prolonged usage of electronic nicotine delivery systems.

Honors and Awards:
Harold C. and Mary L. Daily Endowed Fund Fellowship 2016
Diane Denson Tobola Endowed Fellowship in Ovarian Cancer Research 2015
National Cancer Institute R25T Postdoctoral Fellowship in Cancer Prevention Research 2012
MD Anderson Cancer Center Odyssey Recruitment Postdoctoral Fellowship 2012
Baxter Young Investigator Award 2012
National Science Foundation International Research Postdoctoral Fellowship 2010
Participant: 57th Meeting of Nobel Laureates and Student Researchers in Lindau, Germany 2007

Recent Publications:


Psychology
Research Expertise:
Visual Attention | Change Detection | Working Memory

Generally I study visual attention; it has been thought that we retain an accurate portrayal of our visual world simply by using our sense of vision. However, people are often poor at detecting large changes in their visual environment and they miss important information when their attention is focused on a primary task. My research focuses on examining factors that influence people’s ability to detect visual information that is vital to an accurate representation, because in many situations it is this information that if missed can lead to deleterious effects. There are many image properties that can affect visual attention, such as salience, scene context, and complexity. In addition, there may be factors within the individual that influence visual attention abilities, such as expertise and working memory capacity.

Honors and Awards:
Nomination, Lindback Distinguished Teaching Award, Rowan University 2014
Wall of Fame Teaching Award, Rowan University 2008

Member of:
Vision Sciences Society (www.visionsciences.org)
Psychonomic Society (www.psychonomic.org)

Recent Publications:


D.J. Angelone  
Professor  
Psychology  
angeloned@rowan.edu  
www.rowan.edu/assertlab

**Education:**  
BA (Psychology), California State University  
MA (Clinical Psychology), Kent State University  
PhD (Clinical Psychology), Kent State University

**Research Expertise:**  
Sexual Victimization | Perpetration, Sexual Risk Taking, Perceptions of Sexual Aggression, Substance Abuse, Post Traumatic Stress Disorder (PTSD), Readiness to Change Processes

My research agenda includes laboratory based experimental research examining 1) men’s engagement in sexually aggressive behavior, 2) women’s risk recognition for sexually inappropriate behaviors, and 3) observer perceptions of sexually aggressive behavior. I developed an alcohol administration laboratory to examine intoxication as a precursor to sexual decision-making. I also use survey-based methods to understand the correlates of sexually aggressive and risky behaviors, as well as factors related to successful substance abuse treatment and twelve-step engagement.

**Honors and Awards:**  
Rowan University Teaching and Advising Wall of Fame  
Society for the Scientific Study of Sexuality Outstanding mentor

**Member of:**  
American Psychological Association,  
International Academy of Sex Research  
Research Society on Alcoholism  
Society for the Scientific Study of Sexuality

**Recent Publications:**  


Education:
BA (Psychology), Rutgers University
MA (Child Development) University of Wisconsin- Madison
PhD (Human Development) University of Wisconsin-Madison

Research Expertise:
Clinical child development and assessment

The majority of my research focuses on the factors affecting and techniques to improve performance in children, especially those with developmental challenges. I have worked with young children (0-5) in several States since 1993 in a variety of capacities, including medical settings.

Honors and Awards:
Previous Executive Officer for Eastern Psychological Association

Member of:
Eastern Psychological Association

Recent Publications:


Research Expertise:
Schizophrenia-spectrum disorders | Individual differences | Health and lifestyle

My research focuses on schizophrenia and the schizophrenia-spectrum disorders. I am interested in understanding the individual risk factors that contribute to the development (or exacerbation) of schizophrenia-related disorders. Over the last several years my lab has specifically examined neurocognitive functioning, personality factors, social/interpersonal functioning, & lifestyle behaviors. Recent research has included outpatients with schizophrenia and high-risk samples (e.g. college students with high levels of schizotypy). I am also interested in the relationship between health behaviors (e.g., substance use, stress management, exercise & nutrition) and outcomes in those with schizophrenia-spectrum conditions.

Member of:
American Psychological Association (www.apa.org)
Society for the Teaching of Psychology (http://www.apa.org/about/division/div2.aspx)
Society for Research in Psychopathology (www.psychopathology.org)

Recent Academic Projects:
Current projects include the examination of schizophrenia-spectrum indicators and 1) parental education and income and early life experiences on levels of physical activity and nutrition patterns, 2) the contribution of cognitive and emotional factors in the development of delusional ideation, 3) internet and technology usage related to wellbeing and social functioning, 4) individual differences in physiological response (EEG, blood pressure/heart rate) during visual change detection task. We are also in the process of finalizing a 7-year longitudinal project examining the prediction of academic functioning among college students with varying levels of schizotypy.

Recent Publications:


Most statistical procedures assume (explicitly or implicitly) that samples were obtained using random selection. Rarely is this the case in Psychology, where convenience samples are frequently used. My research aims to discover how convenience sampling biases parameter estimates and how we can recover population parameters from biased samples. It turns out, if we consider non-random selection as a “missing data” problem, solutions are possible.

Aside from my main research area, I also spend a lot of time thinking and writing about, as well as programming algorithms for large-scale data mining operations. I have developed packages in R that aim to solve “small N, large p” type problems.

Honors and Awards:
Chuck Gettys Award for Outstanding Research in Graduate School, Department of Psychology at the University of Oklahoma, 2013
Best Paper Award, The Consortium for Student Retention Data Exchange (CSRDE), 2011

Member of:
Academic Educational Research Association

Recent Publications:


Education:
BA (Psychology), Hampton University
MA (Clinical Psychology), The Ohio State University
PhD (Clinical Psychology), The Ohio State University
Internship/Residency (Clinical Psychology),
The Warren Alpert Medical School at Brown University
Postdoctoral (Clinical Health Psychology),
The Warren Alpert Medical School at Brown University

Research Expertise:
Psycho-social Oncology | Physical Activity | Community Engagement/Health Disparities

I am a licensed clinical psychologist trained in health psychology and currently an Associate Professor in the Department of Psychology at Rowan University. I am also the Director of Clinical training of the newly formed Ph.D. Program in Clinical Psychology at Rowan University. The two foci of my work with medically under-served populations are in 1) cancer education and control and 2) physical activity interventions or longitudinal designs. I have expanded her cancer survivor research to examine the psychological, behavioral and quality of life outcomes of medically under-served triple negative female breast cancer patients (TNBC; who typically have African American ancestry, BRCA 1 mutation, and/or advanced stage disease).

Honors and Awards:
Association of State and Provincial Psychology Boards (ASPPB)/Job Task Analysis Task Force (2016)
American Psychological Association Accreditation Site Visitor (2015)

Member of:
Society of Behavioral Medicine (SBM)
American Psychological Association (APA)

Recent Publications:


Jeffrey M. Greeson
Assistant Professor
Psychology
greeson@rowan.edu
www.mindfulnesslab.org

Education:
BA (Psychology), Swarthmore College
MS (Biomedical Chemistry), Thomas Jefferson University
PhD (Clinical Psychology), University of Miami
Post-doctoral (Health Psychology), Duke University Medical Center

Research Expertise:
Health Psychology | Integrative Medicine | Mindfulness & Stress

My translational research program integrates basic science and behavioral medicine to better understand the link between being mindful, and being healthy. In addition to studying clinical outcomes of mindfulness training to reduce stress and stress-related symptoms, we also investigate the underlying mechanisms of mindfulness. These mechanisms include a number of biological and behavioral pathways, ranging from sleep patterns, to stress physiology and stress hormones, to emotion regulation, immune function, and gene expression – all of which are implicated in chronic disease risk.

Honors and Awards:
Fellow, The Institute for Integrative Heath
Distinguished Fellow, NIH/OBSSR Summer Institute in Behavioral RCTs
Ruth L. Kirchstein, NHLBI Institutional Training Grant

Member of:
American Psychological Association (APA)
American Psychosomatic Society (APS)
Association for Behavioral and Cognitive Therapies (ABCT)

Recent Academic Projects:
Mindfulomics: Pioneering the field of Mindfulness, Stress & Health through the ‘Omics’ Sciences
Serenity Study: NIH-funded, multisite trial to study mindfulness training to reduce stress and lower blood pressure
Serenity NOW: pilot study through Penn Mental Health AIDS Research Center to study mindfulness, HIV & depression

Recent Publications:


Jim A. Haugh
Associate Professor
Psychology
haugh@rowan.edu
http://theroadresearchlab.wixsite.com/theroad

Education:
BA (Psychology), Baldwin Wallace College
MS (Clinical Psychology), St. Louis University
PhD (Clinical Psychology), St. Louis University
Postdoctoral (Clinical Psychology), University of Michigan

Research Expertise:
Depression and Anxiety | Self-Help | Stepped-Care | Depression & Health | Etiology

My research areas focus on etiology and treatment of depression, anxiety, and co-morbid presentations of depression and anxiety. More specifically, recent investigations have included the utilization and effectiveness of guided bibliotherapy (self-help) to treat individuals with depressive and anxious symptoms, examining treatment preferences for depression and for individuals with cancer experiencing depressive symptoms, exploring stepped-care models of treating subclinical and clinical depression, acceptability and attitudes toward stepped care models, and the influence of state mindfulness and social problem-solving on depressive symptoms.

Honors and Awards:
2016 Rowan University Teaching Wall of Fame

Member of:
American Psychological Association
Division 12 of the APA Division of Clinical Psychology
Division 38 of the APA, Division of Health Psychology
Division 2 of the APA, Division of Teaching of Psychology
Eastern Psychological Association

Recent Publications:


Gerald E. Hough
Associate Professor
Psychology/Biological Sciences
hough@rowan.edu
http://users.rowan.edu/~hough/

Education:
BS (Biology), Purdue University
PhD (Neuroscience), The Ohio State University
Postdoctoral (Psychology), Bowling Green State University

Research Expertise:
Neuroscience | Electrophysiology | Bioacoustics

My research interests are in two major areas: effects of aging on behavior and hippocampal anatomy, and language dialect analysis in songbirds. The increased lifespan of humans causes a concomitant increase in age-related disorders. Therefore, developing animal models for age-related declines in neuroanatomy and learning are key to developing new diagnostic tests and treatments for these progressive disorders. I am using homing pigeons, a model species that is similar to humans in the way it learns about the environment (using 3D visual cues) and in hippocampal neuroanatomy. I am investigating the neural bases of spatial working memory declines seen in older birds as a model for developing new tools to diagnose at risk populations of humans. I also am interested in how the seaside sparrow, an Atlantic saltmarsh songbird, develops song dialects. This species is very sensitive to environmental disruption, which makes them a good indicator species for wetland degradation.

Honors and Awards:
Elected Fellow, American Ornithologists Union (2015)
Local Hero Award, American Federation of Teachers New Jersey (2015).

Member of:
Society for Neuroscience (www.sfn.org); Animal Behavior Society (www.animalbehaviorsociety.org); American Ornithologists Union (www.americanornithology.org); National Association of Biology Teachers (www.nabt.org); Wilson Ornithological Society (www.wilsonsociety.org)

Recent Academic Projects:
Homing pigeons fail to use spatial memory as they age (project with four undergraduate students resulting in two national conference presentations)

Discovery of geographic variation in song in seaside sparrows (project with three undergraduates resulting in two national conference presentations)

Recent Publications:

Meredith C. Joppa
Assistant Professor
Psychology
Joppa@rowan.edu
www.rowan.edu/assertlab

Education:
BA (Psychology and Anthropology), Brown University
MA (Clinical Child Psychology), University of Denver
PhD (Clinical Child Psychology), University of Denver
Postdoctoral, Alpert Medical School of Brown University

Research Expertise:
Adolescence and Emerging Adulthood | Romantic Relationships | Dating Violence Prevention | Sexual Risk Prevention

The focus of my research is on risk behaviors that occur within young people’s romantic relationships and make them vulnerable to dating violence, sexual assault, unintended pregnancy, sexually transmitted infections (STIs) and HIV. I use a mixed-methods approach to inform the development of prevention interventions for at-risk young people, currently focusing on young mothers and college student-athletes. Related interests include attachment theory, health risk behaviors, health disparities and healthcare engagement, and mental health.

Honors and Awards:
Frances R. Lax Award, Rowan University

Member of:
Licensed Psychologist #5428 (State of New Jersey), #B1-0001106 (State of Delaware)
American Psychological Association, Div. 53 (https://www.clinicalchildpsychology.org/)
American Psychological Association, Div. 54 (https://societyofpediatricpsychology.org/)
International Academy of Sex Research (http://www.iasrsite.org/)
Society for Research in Child Development (http://www.srcd.org)
Society for Research in Adolescence (http://www.s-r-a.org)
Society for Prevention Research (http://www.preventionscience.org)
Society for the Scientific Study of Sexuality (http://www.sexscience.org)

Recent Publications:


Mary Louise E. Kerwin
Professor & Department Head
Psychology
kerwin@rowan.edu
http://www.rowan.edu/abacenter

Education:
BA (Psychology), University of Notre Dame
MA (Developmental & Counseling Psychology), University of Notre Dame
PhD (Developmental & Counseling Psychology), University of Notre Dame
Postdoctoral (Addictions),
University of Pennsylvania School of Medicine & The Treatment Research Institute

Research Expertise:
Behavior Analysis | Pediatric Feeding Disorders | Autism | Addiction | Parenting

My research interest is in evaluating the effect of behavioral interventions for a variety of issues/problems including pediatric feeding disorders, autism, and drug addiction, especially for mothers.

Honors and Awards:
Rowan University Research Achievement Award (2010)

Member of:
American Psychological Association
Association for Behavior Analysis International
International Society for Autism Research

Recent Publications:


Kimberly C. Kirby  
Professor  
Psychology  
kirbyk@rowan.edu

Education:  
BA & MA (Psychology), University of Manitoba  
PhD (Human Development and Child Psychology), University of Kansas  
Postdoctoral (Animal Learning), Duke University  
Postdoctoral (Behavior Pharmacology), Johns Hopkins University School of Medicine

Research Expertise:  
Applied Behavior Analysis | Substance Use Disorders | Addiction & the Family

I study the use of behavior analysis principles in treating Substance Use Disorders (SUDs) to find ways to encourage their use in treatment programs, and to help family members influence a loved one with a SUD. I also research technology-assisted tools to administer efficacious treatments. Recent grant work includes a NIH Center developing tools to assist parents of youth with SUDs and developing training for parents to help opiate-addicted youth leaving residential treatment.

Honors and Awards:  
2010 Caron Foundation Research Award  
2015 Distinguished Alumni Award in Applied Behavioral Science, University of Kansas

Member of:  
American Psychological Association, Division 25; Fellow of Division 28 & 50 (www.apa.org/)  
International Association for Behavior Analysis (www.abainternational.org)  
College on Problems of Drug Dependence (www.cpdd.org)

Recent Publications:  


Research Expertise:
Technology | Health | Behavior Analysis | Behavioral Economics

My primary research activities involve developing and testing the integration of technological innovations with behavioral interventions for promoting drug abstinence and other health behavior.

I am exploring mobile and video game-based interventions to promote smoking abstinence in adult smokers. In addition, I have investigated novel approaches to increasing adherence with recommended medical regimens, as well as physical activity, particularly among individuals diagnosed with diabetes. My research can be understood within the framework of Behavioral Economics, with a particular focus on delay discounting and immediate incentives for healthy behavior. In the past, I have conducted pre-clinical basic research investigating the effects of nicotine on responding for environmental stimuli to identify why nicotine dependence is so difficult to treat.

Honors and Awards:
APA Division 25 B.F. Skinner New Researcher Award (Applied)
University of Florida Pioneer Award
SABA Experimental Analysis of Behavior Fellowship

Member of:
Association for Behavior Analysis International
Society for Research on Nicotine and Tobacco
American Psychological Association

Recent Academic Projects:
*Up from the Ashes: A computer videogame-based smoking cessation intervention
*Breathe Free: A smartphone videogame-based smoking cessation intervention

Recent Publications:


Christina Simmons
Assistant Professor
Psychology
simmonsc@rowan.edu

Education:
BA (Psychology; Spanish Language, Literature, & Culture), Syracuse University
MA (School Psychology), University of Georgia
PhD (School Psychology), University of Georgia
Post-doctoral (Severe Behavior), Munroe-Meyer Institute, Univ. of Nebraska Medical Center

Research Expertise:
Severe Behavior | Autism Spectrum Disorder | Behavior Analysis

My research focuses on promoting socially valid outcomes for individuals with autism spectrum disorder and other developmental disabilities who engage in severe behavior. Toward that goal, I am exploring how to best facilitate caregiver involvement in the assessment, treatment, and maintenance of treatment effects through research comprising three areas: (a) refinements to the assessment of problem behavior, (b) parent and teacher training in behavioral interventions, and (c) implementation of evidence-based practice across settings. I have contributed to the development of novel indirect and direct assessment measures to identify tasks that evoke problem behavior and am currently evaluating caregivers’ accuracy at demand identification and evaluating alternative instructional methods that do not rely on physical guidance.

Honors and Awards:
2016 Certificate in Interdisciplinary Care in Developmental Disabilities, Munroe-Meyer Institute
2012 Del Jones Memorial Award, University of Georgia
2010 Fulbright English Teaching Assistantship to Spain

Member of:
Association for Behavior Analysis International (https://www.abainternational.org)
International Society for Autism Research (http://www.autism-insar.org/)
National Association of School Psychologists (https://www.nasponline.org/)

Recent Publications:


Michelle Ennis Soreth  
Associate Professor  
Psychology  
noreth@rowan.edu  
https://academics.rowan.edu/csm/facultystaff/listing/soreth.html

Education:  
BA (Psychology), Rollins College  
PhD (Experimental Psychology), Temple University

Research Expertise:  
Applied Behavior Analysis | Autism Spectrum Disorder | Early Intensive Behavioral Intervention | Parent-Implemented Interventions | Telehealth Service Delivery | Experimental Analysis of Behavior

My research is theoretically grounded in behavior analysis, the scientific study of behavior and learning processes. The majority of my current research in Applied Behavior Analysis (ABA) focuses on treatment outcomes of early intensive behavioral intervention (EIBI) for young children diagnosed with autism spectrum disorder (ASD). In collaboration with Dr. MaryLouise Kerwin, our team is currently studying how distinct teaching methods used in EIBI (e.g., Discrete Trial Training, Natural Environment Training) affect individual responses to intervention. I am also interested in parent-implemented interventions based on ABA for children diagnosed with behavioral and developmental disorders, as well as telehealth delivery of behavioral interventions.

Member of:  
Association for Behavior Analysis International (www.abainternational.org)  
International Society for Autism Research (www.autism-insar.org/)  
Association for Professional Behavior Analysts (www.apbahome.net/)

Recent Academic Projects:  
Using SMART Adaptive Treatment Design to Evaluate Center-Based Discrete Trial Teaching and Verbal Behavior on Social and Verbal Communication in Preschool Children with Autism (PI: Kerwin). This clinical research is funded in part by the New Jersey Governor’s Council for Medical Research and Treatment of Autism & the NJ Department of Health.

Efficacy of Relationship Development Intervention and Parent-implemented Applied Behavior Analysis/Verbal Behavior on Joint Attention and Communication of Preschool Children with Autism (PI: Kerwin). This clinical research is funded in part by the New Jersey Governor’s Council for Medical Research and Treatment of Autism & the NJ Department of Health.

Recent Publications:  


Patrice (Polly) Tremoulet
Associate Professor
Psychology
tremoulet@rowan.edu

Education:
BSE (Civil Engineering and Operations Research), Princeton University
MS (Operations Research), Stanford University
MS & PhD (Psychology), Rutgers University

Research Expertise:
Human Factors | Cognitive Psychology | Clinical Informatics

My research uses information about human behavior, abilities and limitations to design and evaluate tools that improve safety, productivity, and/or health. I have over two decades of applied human factors research experience in industry where I developed expertise in designing, evaluating and improving technologies and work processes, including building prototypes to demonstrate how novel technologies can be leveraged to enable more effective human-system performance. I am currently leading an effort at Children’s Hospital of Philadelphia exploring how to ensure that children can ride safely in self-driving vehicles and I recently completed a project funded by ECRI Institute that focused on improving the usability of the discharge documents that are generated by electronic health records.

Honors and Awards:
Honors Night Award (highest division award for superior performance – Lockheed Martin) 2006
Twelve Lockheed Martin Special Recognition Awards for engineering excellence 2003-2012
National Institute of Health (NIH) Graduate Fellowship 1999-2000
“Best in state” MS thesis award, NJ-American Psychological Association (APA) 1997
Fellow, Summer Institute in Cognitive Neuroscience, University of California Davis 1995
Rutgers Excellence Fellowship 1994-1996

Member of:
Human Factors and Ergonomics Society (http://www.hfes.org/Web/Default.aspx)
Association for the Advancement of Medical Instrumentation (AAMI) (http://www.aami.org/index.aspx )

Recent Publications:

