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
Mary L. Alpaugh
Associate Professor
Biological Sciences/Biomedical & Translational Sciences
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.

Overall, my research is focused on the development of efficacious cancer therapeutic strategies. Additionally to my above work, I have also developed an ex vivo response technique of patient-derived primary tumors and/or associated metastases that has been successfully implemented in the preclinical and clinical setting of drug development. Implementation of this technique coupled with an ‘omic’ profile is an attempt to identify the ‘extraordinary’ responder in a prospective manner; as a step towards a personalized/precision medicine approach in therapeutic development strategies.

Member of:
American Association for Cancer Research

Recent Publications:


Benjamin R. Carone
Assistant Professor
Biological Sciences
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 Ctfc 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:


Patrick W. Crumrine
Associate Professor
Geography & Environment/Biological Sciences

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

Education:
BS (Biology), Plattsburgh State University
PhD (Biology), University of Kentucky

Research Expertise:
Community Ecology | Aquatic Ecology | Ecotoxicology

My research interests are in two major areas: size-structured predator prey interactions and anthropogenic effects on populations and communities.

The majority of my research examines how differences in body size among individuals in a population (size structure) influence the outcome of predator-prey interactions between conspecifics (cannibalism) and between species that also compete for prey (intraguild predation). I examine these interactions in aquatic insects, primarily larval dragonflies and beetles, using mesocosm experiments. I am also interested in the role of non-host predators of amphibian parasites in parasite transmission.

My applied research focuses on the impacts of anthropogenic stressors on populations and communities. I am involved in a multi-institution project examining the effects of urbanization on the sex ratio and age structure of aquatic turtles. I am also interested in the direct and indirect effects of chemical pollutants (pesticides and pharmaceuticals) on species interactions in aquatic ecosystems.

Honors and Awards:
Rowan University Junior Faculty Innovative Teaching Award, 2009

Member of:
Ecological Society of America (www.esa.org)
Society for Freshwater Science (www.freshwater-science.org)

Recent Publications:
Crumrine PW (2016). Don’t Blame the Trees: Using Data to Examine How Trees Contribute to Air Pollution. In Learner-Centered Teaching Activities for Environmental and Sustainability Studies (pp. 245-250). Springer International Publishing.


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. Specifically, we use 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 20 independent ethanol-tolerant mutants of Escherichia coli FBR5 and carried out physiological and genomic analyses of these strains.

Previous applied microbiology projects in my laboratory have involved industrial partnerships to study the enhancement of microbial activity in commercial grease traps and an analysis of microbial contamination of rice flour.

My other area of focus is in improving the retention and education outcomes of students in the biology curriculum. I am involved in the development of two new initiatives at Rowan: (1) 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; and (2) Rowan MISSION, a collaboration with Rowan-SOM aimed at improving the success of underrepresented and minority students in entering medical school. I am also involved in developing curricular advances in the college classroom, particularly in implementing active learning techniques and importing research projects into the classroom.

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

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:


Mark J. Hickman
Assistant Professor
Biological Sciences/Chemistry & Biochemistry

hickmanm@rowan.edu
http://users.rowan.edu/~hickmanm/Site/Hickman_Lab/Hickman_Lab.html

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 in response to hypoxia; (2) mutation analysis using whole genome sequencing; and (3) regulation of mRNAs. 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
American Chemical Society
American Society of Microbiology

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

My research revolves around 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. My particular focus has been on the Order Perissodactyla, which includes the living horses, rhinoceroses, and tapirs, as well as their extinct relatives.

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:  


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:


Alison Krufka  
Associate Professor  
Biological Sciences  
krufka@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 are seeking 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 in fish and mammals. We hypothesize the urea cycle genes function in fish 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 Society for Cell Biology  
Society for Developmental Biology

Recent Publications:  


Claude F. Krummenacher
Assistant Professor
Biological Sciences/Biomedical & Translational Sciences

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 agents able to prevent infection.

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:
Bhargava AK, Rothlauf PW, Krummenacher C. 2016 Herpes simplex virus glycoprotein D relocates nectin-1 from intercellular contacts. Virology, 499:267-277


Terry J. O'Brien
Associate Professor
Biological Sciences

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

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 (www.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 mostly studied marine invertebrates, including copepods, ctenophores, and the larvae of snails and marine polychaetes, but 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

Recent Publications:
Richmond, CE, Rose, KA, Breitburg DL. 2013. Individual variability and environmental conditions: effects on zooplankton cohort dynamics. Marine Ecology Progress Series 486: 59-78

Ileana Soto Reyes  
Assistant Professor  
Biological Sciences/Biomedical & Translational Sciences  

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)  
Faculty for Undergraduate Neuroscience (Funfaculty.org)

**Recent Publications:**  


Soto I, Howell GR, John CW, Kief JL, Libby RT and John SW (2014) DBA/2J mice are susceptible to diabetic nephropathy and diabetic exacerbation of IOP elevation. PLOS One 9(9):e107291

Maria V. Tahamont  
Professor  
Biological Sciences  

[Email Address]  

**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  
Chemistry & Biochemistry/Biomedical & Translational Sciences  

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:  


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 (including 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:
NIH NRSA Individual Postdoctoral Fellowship Award (F32- EB019800)
HPLC 2013 Csaba Horváth Top Young Scientist Award
NSF Predoctoral Graduate Research Fellowship (DGE-0646083)

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

Recent Publications:


Subash Jonnalagadda  
Associate Professor  
Chemistry & Biochemistry/Biomedical & Translational Sciences

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

My research interests are in the following areas:  
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/Biomedical & Translational Sciences
keckt@rowan.edu
http://www.rowan.edu/open/rufaculty/facultyInfo.cfm?id=999

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 (NIDA)

Research Expertise:
Pharmacology | Neuroscience | Biochemistry

I am interested in developing new medications for neuropsychiatric disorders, including Alzheimer’s disease, schizophrenia, ADHD, pain, anxiety, and drug addiction. My lab works closely with medicinal chemists to design and test new drug-like molecules, using molecular and behavioral pharmacology methods to evaluate their preclinical potential. Current research targets include the dopamine D4 receptor, the mu opioid receptor, and the trace amine-associated receptor 1.

Honors and Awards:
2015 Frances R. Lax Faculty Development Award, Rowan University
2013 Mentoring Award for Fellows, NIDA, 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/
Mid-Atlantic 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 method development and library synthesis. My research group is focused on developing novel methods for the synthesis of biologically relevant molecular scaffolds. Our central hypothesis is to develop novel synthetic methods to access biologically relevant molecular scaffolds. 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 Publications:**  


Neuhaus WC, Moura-Letts G. Alumina-Promoted Synthesis of N-Aryl-1,2,4-Triazoles from Substituted Hydrazines and Imides Tetrahedron Letters 2016, 57, 4974-4977.


Amos Mugweru
Associate 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:


Jain A, Ramanujachary KV, Jonnalagadda S, Mugweru A. Conversion of fructose, glucose and sucrose to HMF using zirconium phosphate as catalyst, Applied Catalysis A, 2015, 489 (5) pp. 72-76


Jain A, Ramanujachary KV, Jonnalagadda S, Mugweru A. Selective oxidation of 5-hydroxymethyl-2-furfural to furan-2,5-dicarboxylic acid over spinel mixed metal oxide catalyst, Catalysis Communications, 2015, 58, pp 179–182
Lark Perez  
Assistant 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:  
Wu B; Capilato J; Pham MP; Walker J; Spur B; Rodriguez A; Perez LJ; Yin K. (2016) Lipoxin A4 augments host defense in sepsis and reduces Pseudomonas aeruginosa virulence through quorum sensing inhibition. The FASEB Journal, 30(6), 2400-2410.


Kandalam V. Ramanujachary  
Professor  
Chemistry & Biochemistry  

chary@rowan.edu  
http://www.rowan.edu/centers/materials/rama.htm  

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:  
Shu Z; Axe Li; Jahan K; Ramanujachary KV; Kochersberger C. Metal Concentrations and Distribution in Paint Waste Generated during Bridge Rehabilitation, Science of the Total Environment (2015), 526, 262-270.  
**Timothy D. Vaden**  
Associate Professor  
Chemistry & Biochemistry  
  
[Image of Timothy D. Vaden]  
|vadent@rowan.edu|  
|http://users.rowan.edu/~vadent|  

**Education:**  
BS (Chemistry), Midwestern State University  
PhD (Chemistry), University of Illinois at Urbana-Champaign  
Postdoctoral (Physical Chemistry), Oxford University  
Postdoctoral (Environmental and Molecular Sciences), Pacific Northwest National Laboratory

**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](http://www.acs.org))

**Recent Publications:**  


Chun Wu
Assistant Professor
Chemistry & Biochemistry/Biomedical & Translational Sciences

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 insight into the structure, dynamics and function of important biomolecules that are prominent drug targets. The mechanic insight has direct translational relevance, because it enables the rational discovery of improved agents to treat underlying diseases. My current research focuses on identifying selective ligands against drug targets such as DNA quadruplexes and G-protein-coupled receptors using a hierarchical virtual screening protocol including docking, molecular dynamics simulation and free energy perturbation methods.

Honors and Awards:
China Scholarship Council exchange scholar award 2015
Shandong Provincial Education Department exchange scholar award 2015

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

Recent Publications:


Catherine Yang  
Professor  
Chemistry & Biochemistry  

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. Components in aquesou Hibiscus rosa-sinensis flower extract inhibit in vitro melanoma cell growth, J Trad Comp Medicine, 2016, 1-5.  
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 Li+ ion and acids as advanced electrolyte solutions of Li-ion batteries and fuel cells; (2) electrochemical preparation of carbide-derived carbon and its application in supercapacitors 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 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  

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 exceeding $750,000.  

Member of:  
ACM  

Recent Publications:  

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 the Internet. I am in the process of developing other open source textbooks, in collaboration with other authors.

Honors and Awards:
Visiting Professor positions at Oberlin College (1986) and The University of Auckland (1987) while on sabbatical leave.

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-GOxEAAAJ&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)

Recent Publications:


Vasil Hnatyshin  
Professor  
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 algorithm 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 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: spatiotemporal data mining, privacy issues in data mining, machine learning on network/graph data, learning analytics. My research on spatiotemporal data mining focuses on (i) overcoming data management issues using distributed array-based database, (ii) analytic algorithms and tasks, (iii) data representation using networks and tree structures, (iv) privacy issues, and (v) application developments. 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 from smartphone, factory sensor data, text data (from internet), image data, and satellite data.

I am also interested in (i) developing new methods for discovering interesting or useful events (and patterns) in heterogeneous data from multiple data sources, (ii) effective machine learning using very few labeled examples, and (iii) applying data analytics and machine learning techniques to support technological-enabled learning.

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

Recent Publications:


Gabriela Hristescu
Associate Professor
Computer Science
hristescu@rowan.edu
http://elvis.rowan.edu/~hristescu/

Education:
BS (Computer Science and Engineering), Polytechnic Institute of Bucharest, Romania
MS (Computer Science), Rutgers University
PhD (Computer Science), Rutgers University

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:
Kay JS, Nolan TJ, Grello TM. The Distributed Esteemed Endorser Review: A Novel Approach to Participant Assessment in MOOCs, in Proceedings of the Third Annual ACM Conference on Learning@Scale, 2016 In press.


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

My research focuses on the design and evaluation of algorithms, software, networks and systems. 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 am developing materials for an award-winning undergraduate curriculum for algorithms design and NP-Completeness.

Honors and Awards:
Best Faculty Poster Presentation Award,
Best Paper Award, with Ganesh Baliga,
University of Delaware Bloc Fellowship, 1991
University of Costa Rica International Fellowship, 1987-1993
Organization of American States International Fellowship, 1988, 1989
University of Costa Rica Merit Scholarship 1985, 1986

Member of:
ACM
IEEE

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 and 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
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:


Daniel Freidenreich
Assistant Professor
Health & Exercise Science
freidenreich@rowan.edu

Education:
BS (Exercise Science), Rutgers University
MA (Kinesiology), The University of Connecticut
PhD (Kinesiology), The University of Connecticut
Postdoctoral (Kinesiology), The Ohio State University

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

My research focuses on dietary interventions and their impacts on metabolic disease, human performance and immune function. Within this concentration, my research agenda can be separated into a few related but diverse aims.

My first aim is to investigate how a low carbohydrate diet alters macronutrient metabolism and the downstream effects these alterations have on other metabolic processes that can lead to reductions in the risk factors for metabolic diseases such as overweight/obesity, metabolic syndrome and type 2 diabetes as well as indicators of inflammation.

My second aim is to discern how a low carbohydrate diet alters metabolism during exercise and to elucidate the effects on athletic performance and immune function.

Finally, I aim to discern the effects of resistance and cardiovascular exercise on markers of immune function and to dissect the communication network between immune cells after exercise to better understand the cascade of events that leads to recovery.

Member of:
International Society for Exercise and Immunology (ISEI) (http://www.isei.dk/)

Recent Publications:


Qian Jia
Assistant Professor
Health & Exercise Science
jia@rowan.edu

Education:
BS (Biology Education), Shanxi Normal University
MS (Cell Biology), Beijing Normal University
PhD (Nutrition), Texas A&M University

Research Expertise:
Eating Behavior | Noninvasive Brain Imaging | plant-extracted compounds (PACs)

Environmental determinants of health will shape individual choices and therefore influence personal health outcomes. I investigate how economical, social, individual choices, physical and mental health factors impact the eating behaviors of college students and study the current prevalence of irregular eating behaviors among them. I also investigate the effect of a tailored nutrition intervention for individuals with intellectual and developmental disabilities (IDD) and caregivers on their overall quality of life and eating behaviors. In addition, I measure the pattern of neural activation correlated with eating behaviors. A noninvasive functional optical brain imaging system is used to monitor neural activity and hemodynamic response in cognitive and behavioral functioning areas of the brain. Besides, I research the influence from the added plant-extracted compounds and plant-extracted compounds (PACs) on nutrition quality and evaluate the beneficial effects of PACs as food preservatives.

Member of:
Academy of Nutrition and Dietetics (www.eatright.org)
Nutrition and Dietetics Educator and Preceptor (www.ndepnet.org)

Recent Publications:


Peter Rattigan  
Associate Dean, College of Science & Mathematics  
Associate 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). I studied with David and Roger Johnson at the University of Minnesota, 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, knowledge 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](http://www.shapeamrica.org))  
New Jersey Association For Health, Physical Education, Recreation & Dance ([www.njahperd.org](http://www.njahperd.org))

**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:  
Health Behavior Change | Intellectual and Developmental Disabilities

My research interests are in two major areas: health behavior theory (Transtheoretical Model in particular) and designing fitness and nutrition programs for people with intellectual and developmental disabilities.

My research on the Transtheoretical Model (TTM) 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. 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 Publications:  


Robert Sterner  
Associate Professor  
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

My research interests include using community-based participatory research methods to address chronic disease prevention (diabetes, overweight, obesity) 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 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 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 investigates how electronic tools are and can be used to enhance health and health care. This involves the growing use of websites, mobile apps, and wearable technologies that inform people about their health and healthcare, while shaping how health and clinical decisions are made.

My research also examines the various ways whereby economic, social, cultural resources shape health, wellness, and the management of health conditions.

Member of:
American Sociological Association (www.asanet.org)

Recent Publications:


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.

My second interest is outdoor education and adventure education. This is an area in which I hope to begin research in the next few year. The specific research will focus on the impact of this type of education on the college student’s goals and experiences.

Member of:
SHAPE America
American Driver Training Safety Education Association
New England Driver Training Safety Education Association - Board Member at Large
Mathematics
Nasrine Bendjilali
Assistant Professor
Mathematics

bendjilali@rowan.edu
http://www.rowan.edu/colleges/csm/departments/math/faculty/info.cfm?id=846

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 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.

I also am interested in identifying genetic risk factors contributing to complex human diseases including cardiovascular and cerebrovascular disease, in addition to designing and analyzing high-throughput genomic data.

Member of:
American Statistical Association
American Society of Human Genetics

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 Hekce 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:


Karen Heinz
Professor
Mathematics
heinz@rowan.edu

Education:
BS (Mathematics), The Pennsylvania State University
MA (Mathematics), The Ohio State University
PhD (Curriculum and Instruction with an emphasis in Mathematics Education),
The Pennsylvania State University

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:

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  

Milou is 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. Recent published textbooks include Pearson’s EnVisions Math Grades 6-8 and Pearson’s digits - both comprehensive middle 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)
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, into sets with uniform small spectral norms, and to develop applications in communications and signal processing that utilize such partitions.

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

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, News 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 15 years I have published over 130 papers in mathematics and physics. Most of these are expository papers, and include topics of historical interest by 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.

Member of:
American Mathematical Society
Mathematical Association of America

Recent Publications:


Rosado J, Osler TJ. A table of definite integrals from the marriage of power and Fourier series. Revista Scientia Series A: Mathematical Sciences, 26:77-82, 2015
Charalampos (Babis) Papachristou
Assistant 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 develops novel methodologies for analyzing data from genetic studies to identify disease susceptibility genes. I am currently involved in 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)

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:  
Li M-S; Robertson K; Osler TJ; Hassen A; Simons CS; Wright M. On numbers equal to the sum of two squares in more than one way. Mathematics and Computer Education 43 (2009), 102–108.  


Simons CS; Wright M. Zeroing the baseball indicator and the chirality of triples. J. Integer Seq. 7 (2004), no. 1, Article 04.1.7, 8 pp. (electronic).  

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)  

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 | Data Analytics | Machine Learning

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 in biomathematics and image processing.

Before joining Rowan University, I was a Senior Analyst at Equifax Inc. Due to this industrial journey, I am also interested in the areas of data analytics such as statistical modeling, machine learning, big data (hadoop), 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.

Selected Publications:


Dexter C. Whittinghill III  
Associate Professor  
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:

Physics & Astronomy
Tabbetha A. Dobbins  
Associate Professor  
Physics & Astronomy/Translational & Biomedical Sciences  

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:  
Small-angle X-ray Scattering | Polyelectrolyte Self-Assembly | Hydrogen Storage Materials

My research interests are in two major areas: Synchrotron X-ray studies of Catalytic Mechanisms in Hydrogen Storage Materials and Understanding Mechanisms for Nanomaterial Enhancement during Radiation Therapy

My research examines synthesis and surface modification of nanoparticles. We apply microscopy, diffraction, neutron and x-ray small-angle scattering, x-ray absorption spectroscopy, and x-ray tomographic imaging to materials for hydrogen storage and radiation therapy.

Honors and Awards:  
Penn State University Alumni Association Achievement Award

Member of:  
Materials Research Society  
American Ceramics Society  
American Physical Society

Recent Publications:  


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/Biomedical & Translational Sciences
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  
Assistant Professor  
Physics & Astronomy/Biomedical & Translational Sciences/  
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 Publications


Research Expertise:
Planetary Science j Infrared Observational Astronomy j 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. 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 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:
Laser cooling of atoms | Ultracold plasmas | Type-II superconductor magnetic atom traps |
Laser-induced breakdown spectroscopy

My research interests are primarily related to laser cooling of atoms, with a focus on the formation of ultracold atomic plasmas and (in conjunction with the Dumke group at NTU, Singapore) trapping of laser-cooled atoms with superconducting magnetic traps. I am also currently collaborating with Rowan engineering on a portable, high-resolution LIBS system for chemometrics of geological aggregates.

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

Recent Publications:


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-Fermi 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:


Samuel E. Lofland
Professor
Physics & Astronomy
lofland@rowan.edu
http://users.rowan.edu/~lofland/

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:
Condensed Matter Physics: oxides, strongly correlated systems, multifunctional materials

My research focuses on the development of novel functional materials. While much of my work has centered around the use of oxide materials for various applications, including from superconductors, microwave ferrites, colossal magnetoresistance materials, magnetoelectrics, and ferroelectrics, I have done continued interest in binary and ternary carbides as well as nanomaterials. I have more recently begun applying techniques and methods from such studies to soft materials, including protein-based materials and magnetoelastomers. My work generally involves spectroscopic and physical property measurements to investigate structure-property relationships.

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

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 that 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/Biomedical & Translational Sciences  
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. Our present projects focus on the mechanism of antifreeze protein function, nanoscale confinement effects on protein structure and function, and structure/function studies of the hypoxia-inducible factor prolyl hydroxylases.

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

Recent Publications:  


Trevor I. Smith
Assistant Professor
Physics & Astronomy/STEAM Education
smithtr@rowan.edu
http://users.rowan.edu/~smithtr/

Education:
BS (Physics), University of Maine
MST (Physics), University of Maine
PhD (Physics), University of Maine

Research Expertise:
Physics Education Research

I study how people think about and learn physics. Cited by the National Research Council as one of the few examples of physics education research at the upper division, 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.

Honors and Awards:
PERTG Travel Grant from the American Association of Physics Teachers (PI) – 2015

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

Recent Publications


Psychology
Bonnie L. Angelone  
Associate Professor  
Psychology  
angelone@rowan.edu

Education:  
BA (Psychology), University of Tulsa  
MA (Experimental Psychology: Cognitive), Kent State University  
PhD (Experimental Psychology: Cognitive), Kent State University

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
Associate 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 interests focus on sexual aggression and risky sexual behaviors. I also have interests in PTSD and
substance use. My research team includes graduate and undergraduate students with a focus on 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 facilitate the understanding of intoxication as a precursor to sexual decision-making. Finally,
I also conduct survey-based research to understand the correlates of sexually aggressive and risky behaviors, as well
as factors related to successful substance abuse treatment and twelve-step engagement, such as readiness to change
processes.

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

Member of:
American Psychological Association
Research Society on Alcoholism
Society for the Scientific Study of Sexuality

Recent Publications:

Swirsky JM, Angelone DJ. (2016) Equality, empowerment, and choice: What does feminism mean to contemporary

Marcantonio T, Angelone DJ, Sledjeski E. (2016) Using a pattern centered approach to assess sexual risk taking in study

Angelone DJ, Mitchell D, Grossi L. (2015) Men’s perceptions of an acquaintance rape: The role of relationship length,

Swirsky JM, Angelone DJ. (2014) Femi-nazis and bra burning crazies: A qualitative evaluation of contemporary beliefs
Roberta Dihoff  
Professor  
Psychology  

dihoff@rowan.edu  

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:  


Thomas J. Dinzeo
Associate Professor
Psychology

dinzeo@rowan.edu
http://www.rowan.edu/colleges/csm/departments/psychology/facultystaff/moreinfo.cfm?id=470

Education:
BA (Psychology), University of Minnesota
PhD (Clinical Psychology), Kent State University
Postdoctoral research, Yale University School of Medicine

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 Research in Psychopathology (www.psychopathology.org)

Recent Publications:


Dustin A. Fife
Assistant Professor
Psychology
fife@rowan.edu

Education:
BS (Psychology), Brigham Young University, Provo
PhD (Quantitative Psychology), University of Oklahoma
Biostatistician, Oklahoma Medical Research Foundation

Research Expertise:
Non-random Selection and missing data.

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.

Recent Publications:
Georita Marie Frierson  
Associate Professor  
Psychology  

friersong@rowan.edu  
http://www.rowan.edu/colleges/csm/departments/psychology/facultystaff/moreinfo.cfm?id=1055  

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

I have expertise that bridges multiple fields to understand the effects of stress on health. These fields include psychology, medicine, nursing, basic science, exercise/wellness, biostatistics, and clinical trials, among others. I am especially interested in how being more “mindful” can reduce stress, promote health, and prevent common & costly stress-related disorders, from insomnia and depression, to chronic pain and cardiovascular disease.

Working with students and faculty across disciplines and across institutions, we are able to integrate basic, clinical, and translational science to better understand how mindfulness can reduce stress and improve health and wellness. In addition to studying clinical outcomes of mindfulness training, 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.

I am particularly interested in the concept of “mindful emotion regulation” and have a growing interest in the intersection between mindfulness and the “omics” sciences (genomics, metabolomics, proteomics, etc.).

Honors and Awards:
Fellow, The Institute for Integrative Health
Taylor & Francis, Most Downloaded Article for 2014
SAGE, Most Downloaded Article for 2009-2010
Distinguished Fellow, NIH/OBSSR Summer Institute in Behavioral RCTs
American Psychosomatic Society, Scholar Award (2003 and 2005)
Ruth L. Kirchstein, NHLBI Institutional Training Grant
Society for Behavioral Medicine, Citation Award
Pennsylvania Association of Graduate Schools, Distinguished Graduate Student

Member of:
American Mindfulness Research Association (AMRA)
American Psychological Association (APA)
American Psychosomatic Society (APS)
Association for Behavioral and Cognitive Therapies (ABCT)
Association for Clinical and Translational Science (ACTS)
Association for Psychological Science (APS)
Society for Health Psychology (APA Div. 38)

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 comorbid presentations of depression and anxiety. More specifically, recent investigations have include 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 neural 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
Local Hero Award, American Federation of Teachers New Jersey

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

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 | Romantic Attachment

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

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

Member of:  
Licensed Psychologist (#5428), State of New Jersey  
American Psychological Association (Div. 53 & 54)  
Society for Research in Child Development  
Society for Research in Adolescence  
Society for Prevention Research

Recent Publications:  


Mary Louise E. Kerwin
Professor
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 (Divisions 28, 37, 53, 54)
Association for Behavior Analysis International
Association for Advancement of Behavior & Cognitive Therapy
Association of Professional Behavior Analysts
Autism New Jersey
College for Problems of Drug Dependence
International Society for Autism Research
International Society for the Prevention of Child Abuse and Neglect
New Jersey Psychological Association
New Jersey Association for Behavior Analysis

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:  
Addictive Behaviors | Families & Addiction | Behavior Analysis

My research focuses on developing family-based treatment for substance use disorders and on using technology to disseminate efficacious treatments based on the principles of behavior analysis. Her clinical trials comparing procedures to assist parents in dealing with their adolescent or young adult’s substance use problems lead to developing and evaluating the efficacy of a web-based training program for parents. I am also evaluating a mobile application to motivate and assist patients in treatment for substance use disorders and is examining patients’ social media use.

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:  


Bethany R. Raiff
Assistant Professor
Psychology
raiff@rowan.edu
http://www.rowan.edu/colleges/csm/departments/psychology/research/behavioralhealthlab.html

Education:
BA (Psychology), University of Wisconsin - Eau Claire
MS (Psychology), University of Florida
PhD (Psychology), University of Florida

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 videogame-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
University of Florida Research Award in Behavior Analysis
SABA Experimental Analysis of Behavior Fellowship

Member of:
Association for Behavior Analysis International
Society for Research on Nicotine and Tobacco
New Jersey Association for Behavior Analysis
Association for Professional Behavior Analysts

Recent Publications:


Raiff BR, Barry VB, Ridenour TA, Jitnarin N. (2016) Internet-based incentives increase blood glucose testing with a non-adherent, diverse sample of teens with type 1 diabetes mellitus: a randomized controlled Trial. Transl Behav Med, 6(2), 179-188.

Michelle Ennis Soreth
Associate Professor
Psychology
soreth@rowan.edu
http://www.rowan.edu/colleges/csm/departments/psychology/facultystaff/moreinfo.cfm?id=708

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

Research Expertise:
Experimental Analysis of Behavior | Applied Behavior Analysis | Early Intensive Behavioral Intervention | Autism Spectrum Disorder | Verbal Behavior | Telehealth Service Delivery

My research is theoretically grounded in the discipline of behavior analysis, the scientific study of behavior and learning processes. The majority of my current applied research focuses on learning processes and 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 studies how distinct behavior analytic teaching methods used in EIBI (e.g., Discrete Trial Training, Natural Environment Training, etc.) affect acquisition rates and treatment response. We are also interested in identifying the pre-treatment child characteristics that result in better response to treatment, as well as the basic learning processes involved in barriers to treatment response including specific skill deficits and weakened or atypical antecedent control.

I am also interested in parent-implemented interventions involving behavior analytic principles for children diagnosed with behavioral and developmental disorders, as well as telehealth delivery of these interventions. Our collaborative team has adapted and developed one of the first manualized, adjunctive interventions for children with autism based on B.F. Skinner’s analysis of verbal behavior and implemented entirely by parents.

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 Publications:

