Health Science Studies:

- **Christine Fitzgerald, Program Director**
- **Thomas Martin, Chair, Associate Professor of Biomedical Sciences**
- **Jason Scozzafava, Clinical Assistant Professor of Biomedical Sciences**
- **Jerrica Breindel, Assistant Professor of Biomedical Sciences**
- **Dwayne Boucaud, Professor of Biomedical Sciences**
- **Thomas Brady, Professor of Biomedical Sciences**
- **Robert Cottrell, Clinical Assistant Professor of Biomedical Sciences**
- **Lisa Cuchara, Professor of Biomedical Sciences**
- **Christian Eggers, Professor of Biomedical Sciences**
- **Donnasue Graesser, Assistant Teaching Professor of Biomedical Sciences and Laboratory Coordinator**
- **Edward Kavanagh, Professor of Biomedical Sciences**
- **Leo Kelly, Clinical Associate Professor of Biomedical Sciences**
- **Martine Mirrione, Assistant Professor of Biomedical Sciences**
- **Jeffrey Mital, Associate Professor of Biomedical Sciences**
- **Michael Smith, Professor of Biomedical Sciences**
I joined the faculty of the Quinnipiac Respiratory Care Department in 1985, after working several years in Florida and Connecticut, as a respiratory care practitioner, and clinical instructor. Thoroughly enjoying the experience and challenges of teaching students, I pursued further education, completing my PhD in 2002, my dissertation revolving around Adult Learning and the Transfer of Learning. Over the years, my interest and research transitioned from pulmonary topics, such as Dyspnea of the Elderly, to more Scholarship of Teaching and Learning topics including Emotional Intelligence, and Self-Directed Learning. Most recently my professional development activities have been focused on improving my ability to assist students in their career exploration and professional development. While I began at the university teaching courses such as Pharmacology and Pathophysiology, I now focus my energy on developing courses such as HSC 221, Introduction to Health Science, a mandatory freshman course assisting students to focus on their professional goals and develop an action plan. As program director, I hire and manage instructors of traditional and online Health Science Studies courses, for the full-time traditional program and part-time online program, assigning advisors to all the students in the major, while also enjoying the opportunity to advise many students myself. I serve on the university’s Student Community and Civic Engagement Committee, International Service and Learning Faculty-Led Course Abroad Selection Committee and School of Health Science Faculty Development Committee, thus continuing to work in the area of Adult Learning.
I earned my undergraduate and master degrees from Quinnipiac University in the fields of Health and Science Studies and Medical Laboratory Sciences and received my Ph.D in Pathobiology from the University of Connecticut. While my graduate research focused mainly on animal disease modeling for Clostridium pathogens, my interest in human physiology has been my main passion and primary area of teaching and research since joining the Department of Biomedical Sciences in 2010. I currently teach a variety of undergraduate and graduate courses that focus on various aspects of human health, disease and performance. My primary teaching responsibilities are Physiology of Human Performance I and II (BMS 300 AND 301), Medical Terminology (PA 502), Human Physiology (PA 515), and Disease Mechanisms (PA 535).

My current research focuses on investigating the effects of fatigue on the human body with a primary emphasis on overtraining and endurance running. I also work with a number of the University’s Athletic teams assessing sports performance and injury prevention strategies. I have worked with over 40 students on various research projects from the Biomedical Sciences and Physical Therapy Departments as well as the Frank H. Netter MD School of Medicine and emphasis collaboration and interdisciplinary research practices. Many of my research students have presented their work at the American College of Sports Medicine regional and national meetings.

As Department Chair and Program Director of the Biomedical Sciences and Microbiology & Immunology programs I strive to create impactful, hands-on opportunities for our students in both teaching and research. I emphasis a student-centered learning environment as well as a strong sense of community.
I am an assistant clinical professor of Health Science. I earned my Bachelor’s of Science degree in Physical Therapy from the University of Connecticut, my clinical Doctor of Physical Therapy degree from Simmons College, and my Doctorate of Philosophy degree in Physical Therapy from Nova Southeastern University. My professional career has spanned both the clinical and academic settings. Clinically I am expanding on my twenty-year career as a physical therapist, during which I have treated patients in the acute, subacute, rehabilitative, out-patient, and homecare settings. I started my academic career in 2007 working for Quinnipiac University’s School of Health Science. I have taught a variety of courses in both graduate and undergraduate programs. Currently I teach undergraduate courses in the Health Science Studies program, which consist of Medical Terminology, Therapeutic Exercise, Health Care Essentials, International Health Research, and International Health: Capstone Research. Biannually my world-sized classroom encourages students out of the country and into new communities with trips to Costa Rica, Barbados, and the Dominican Republic. There student catalysts engage in health research while learning important clinical interpersonal skills. My research interests include human health, longevity, and environmental influences on natural movement.
I am an Assistant Professor of Biomedical Sciences. I graduated with a Bachelors of Arts in Biology and Mathematics from Clark University and a Doctorate of Philosophy in Experimental Pathology from Yale University. I then completed a postdoctoral research fellowship at Tufts University studying mammary gland development and breast cancer progression. At Quinnipiac, I use hands-on experiences and active learning techniques to teach Immunology Lab (BMS 522L), Research Methods (BMS 502), Fundamentals of Oncology (BMS 564), and Molecular Mechanisms of Cancer Therapies (BMS 364).

The Breindel lab researches how changes that occur in the mammary gland during normal developmental stages, such as pregnancy, can influence cancer progression later in life. Students in the lab are trained in cell culture and molecular biology techniques, which allow them to pursue independent projects investigating the regulation of mammary cell identity. Alterations in identity regulation can ultimately lead to formation of different subtypes of breast cancers that have different prognoses and treatment options. Students are welcome to join the lab for an extracurricular experience, for an independent study, or for a graduate thesis project.
I am a Professor of Biomedical Sciences, graduated with a Bachelor of Science degree from St. Mary’s College (KS), a Master of Science degree in Medical Biology from Long Island University, and a Doctor of Philosophy degree in Pathobiology from the University of Connecticut. I have taught at Quinnipiac for the past 38 years, and regularly teach courses in pathophysiology (BMS 318), disease mechanisms (PA 535), toxicology (BMS 325 and BMS 552), the human organism (BMS 117) and human health and disease (BMS 162).

I served as the Chairman of the Biomedical Sciences Department for 15 years, ending my stint in June 2018. My general research interests include: human disease mechanisms, biochemical toxicology, evolution, astrobiology, dog behavior/evolution and, Nature as an Art Form.
I joined the Department of Biomedical Sciences in 2007. I was attracted to Quinnipiac based on the high priority that it maintains for teaching students in new and innovative ways. There is also an emphasis on incorporating research into that teaching which gives students firsthand experience in a laboratory setting. As the Director of the Graduate Biomedical Sciences Program I have made it my goal to allow students the latitude to gain that research experience in a field of their interest. My research has been in the area of virology and bacteriology. I am also very interested in the impact scientists can have at the international level. As a result of that interest I have led students on research partnerships abroad in Nicaragua and have currently developed a partnership in Barbados. I currently teach BMS 370, Introduction to Microbiology and BMS 470, Virology at the undergraduate level. At the graduate level I teach BMS 570, Virology and BMS 556, Seminar in Health Care Disparities.
I am a Clinical Assistant Professor of Biomedical Sciences and Program Director for the Pathologists’ Assistant program, graduated with a Bachelor’s of Arts degree in Biology from Quinnipiac College and a Master’s of Health Science degree as a Pathologists’ Assistant from Quinnipiac University. I previously taught students as a preceptor for more than 10 years for the PathA program and have been Program Director at Quinnipiac since 2015. I regularly teach courses in graduate Histology (BMS 532), undergraduate Histology (BMS 332), Autopsy Pathology (PA 520, 521, 522) and Surgical Pathology (PA 523, 524, 525). I also oversee independent research studies for graduate students (BMS 688).

Teaching in my labs include both undergraduates and graduate students and focuses on functional histology, learning the fundamentals of tissue fixation, processing, embedding and microtome use for paraffin embedded tissue. An emphasis on normal histology utilizing the virtual microscope with a focus on neoplasia is introduced throughout the semester. Additional labs focus on frozen section tissue preparation as well as surgical & autopsy pathology grossing techniques.
I have several research projects going on in the field of infectious diseases: Antibiotic Resistant Bacteria, The Role of Fomites (inanimate objects that “germs”) in Disease Transmission, Commensals & Opportunistic Bacteria, and my current favorite: Vaccines & Vaccine Preventable Diseases. My bacterial research interests include: the presence of antibiotic resistance genes in water, soil & food, the existence of antibiotic resistant bacteria on fomites in both the public & healthcare venues, MRSA (methicillin resistant *Staphylococcus aureus*), the colonization of bacterial species in healthy individuals, nosocomial infections, and new emerging diseases caused by antibiotic resistant bacteria. These projects include techniques such as bacterial culturing via aseptic techniques, selective & differential biochemical testing, antibiotic resistance testing, DNA extraction, PCR amplification (mainly for virulence & antibiotic resistance genes, 16s rRNA bacterial genotyping, etc. Since summer 2007 I have had >150 QU undergraduate & graduate students involved in my different research projects. My research students have presented many posters at the QU Student Research and Inquiry Poster Sessions and the QU Annual Inter-Professional Poster Day. They have also presented more than 20 research presentations at scientific conferences outside of Quinnipiac (regional and National Sigma XI Conferences, CT Public Health Association Conference, regional and National American Society of Microbiology (ASM) Conferences.

I am a Professor in the Dept. of Biomedical Sciences. I believe that the love of learning and “the big picture” are more important than just filling a student's head with facts that are only retained until the exam takes place. Hence my teaching philosophy: "Education is not the filling of a pail, but the lighting of a fire". Everyone talks about IQ and now EQ, but CQ and PQ are equally important (curiosity & passion quotients). I like to make science interesting and relevant to everyday life. My philosophy is that learning is an active process involving an intellectual presence. I am very passionate about creating "citizen scientists" and incorporate this into all of my classes. I did my post-doc at the National Cancer Institute. From there I went to Yale University School of Medicine as first the supervisor & then the director of the Histocompatibility Laboratory (testing for organ and bone marrow transplants and autoimmune diseases and research on the alloimmune response and chronic graft rejection). At QU I have taught a variety of classes (current courses bring taught are in *italics* & an * indicates courses that I developed at QU) including the undergraduate courses: The World of Microbes, General Microbiology Lab, Pathogenic Microbiology, Clinical Immunology*, Immunology, Infections of Leisure*, The Power of Plagues*, Vaccines*, and Epidemiology* and the Graduate courses: Immunology of Infectious Diseases, Immunohematology, Pathogenic Microbiology, Emerging and Re-emerging Infectious Diseases*, Transplantation Immunology*, Vaccine Preventable Diseases*, and Biomedical Photography.

Lisa Cuchara, PhD.
Professor of biomedical Sciences
Lisa.Cuchara@quinnipiac.edu
BS, SUNY College New Paltz, New Paltz, NY
MS, Rensselaer Polytechnic Institute, Troy, NY
MS, PhD, Albany Medical College, Albany, NY
I am a professor of Biomedical Sciences. I graduated with a Bachelor’s of Science degree in Microbiology from Colorado State University and a Doctorate of Philosophy degree in Biochemistry/Microbiology with an emphasis in Molecular Biology from The University of Montana. I have taught at Quinnipiac for more than ten years, and regularly teaches courses in general microbiology (BMS370), pathogenic microbiology and pathogenic microbiology lab (BMS372/L), and epidemiology (BMS319). I also oversee the microbiology seminar and research seminar (BMS478 and BMS479) required of all senior microbiology majors. I also teach Microbiology & Pathology (BMS213) for allied health majors and nursing students.

Research in the Eggers lab includes both undergraduates and graduate students and focuses on the molecular biology of the causative agent of Lyme disease, the bacteria *Borrelia burgdorferi*. Project areas in the past have included the characterization of a bacteriophage of this bacteria, analysis of metabolic genes that may a role in the establishment of infection within the mammalian host, and the dissection of transcriptional pathways that control genes that potentially are involved in infection and disease in humans. Students participating in research in my lab have been co-authors on published papers and have made presentations at regional and national meetings.
My teaching experience spans 30 years and many disciplines within the Biological Sciences. I joined the faculty at Quinnipiac University in 2014, as Assistant Teaching Professor as well as the Microbiology Laboratory Manager. I have a dual teaching focus in both microbiology and human/animal anatomy and physiology and extensive experience in teaching in both these disciplines to students in health care programs including nursing, physician’s assistant, biomedical engineering, and pre-medical studies. At Quinnipiac, my primary teaching responsibilities are microbiology courses, with an emphasis on laboratory teaching. I teach both the lecture and laboratory courses in General Microbiology and Microbiology and Pathology courses. I am a Biology Scholar Alumni of the American Society of Microbiology, and as such I strive to incorporate the principles of Scientific Teaching into my courses. My teaching strategies include cooperative and inquiry-based learning, with the goal to develop not only students’ fundamental knowledge and laboratory skills, but also the ability to think and reason as scientists and health care providers.

As Microbiology Laboratory Manager, I am involved in mentoring work study students and research students who utilize the microbiology laboratory space. Another aspect of my role as Laboratory Manager is to ensure compliance and safety for all students and faculty in the microbiology laboratories at Quinnipiac University.
Every day I look forward to working with School of Health Sciences students from a variety of majors. I bring to my students the perspectives and lessons learned from 38 years as a University faculty member as well as significant administrative experience in a variety of positions including Provost and Chief Academic Officer. In my teaching I actively engage my students through active discussion and questioning, group projects and reflective essays which gives students a choice in the topics they cover. I also engage students in current development announcements within biomedical research and patient treatment which are topics of discussion (and perhaps controversy) read by practitioners in the field. We draw from announcements from such areas as: Research Matters at NIH, Medscape, the National Institute on Aging, the Salk Institute, The Broad Institute, AAAS, the Allen Brain and Cell institutes and the NSF.

My primary teaching responsibilities are First Year Seminar (FYS 101), The Biology and Experience of Human Aging (BMS 200), and Pathophysiology (BMS 318). My scholarly interests include The diverse factors that Influence Health and disease including: geography, race, age, genetics, culture and environmental exposures, Civic Scientific Literacy and the Public Understanding of Science, the Prevention, Pathophysiology and Treatment of Disease, geosciences and the Human Experience of Aging, and the Politicization of Science.
I am a Clinical Associate Professor of Biomedical Sciences and Clinical Coordinator for the Pathologists’ Assistant Program, I graduated with a Bachelor’s of Arts degree in Biology from Central Connecticut State College and a Master’s of Health Science degree as a Physician Assistant in Pathology from Quinnipiac College. I have taught for the Pathologists’ Assistant program as both academic instructor and clinical preceptor for more than 46 years and has been the Clinical Coordinator at Quinnipiac since 1973. I regularly teach graduate courses in Microscopic Anatomy (PA 511), Basic Human Pathology I & II (PA 513 & PA 514), Applied Anatomic Pathology (PA 517), Autopsy Pathology (PA 520, 521, 522) and Surgical Pathology (PA 523, 524, 525).

Teaching in my lab allows the PathA graduate students to focus on human anatomy and how various disease states effect each system. An emphasis on normal histology utilizing the microscope with a focus on neoplasia is introduced throughout the semester. Additional labs focus on frozen section tissue preparation as well as surgical & autopsy pathology grossing techniques.
Martine M. Mirrione, Ph.D.
Assistant Professor of Biomedical Sciences

Martine.Mirrione@qu.edu

BS in Biology, Marist College, Poughkeepsie, NY

PhD in Molecular and Cellular Pharmacology, Stony Brook University, Stony Brook, NY

I enthusiastically joined the faculty in the Biomedical Sciences Department in 2013, after spending 11 years in basic neuropharmacology research and recognizing my passion for educating students. I was intrigued by the philosophy in the department and School of Health Sciences, integrating biology with experiential learning and clinical applications. Since my appointment began, my two main professional goals have focused on maximizing student learning using interactive teaching, and faculty-mentored student research. Through my courses and research mentoring, I strive to nurture independent learning and thinking to foster students’ commitment to a rigorous and personally meaningful education. My primary teaching responsibilities are Neuroanatomy (BMS 310), Pharmacology (BMS 320), Biotechnology (BMS 472), and Neuropharmacology (BMS 520).

My passion for studying dysfunctional neuronal circuitry in the brain during stress and depression developed during my PhD and six years of postdoctoral experience. Currently, my research group focuses on examining neuronal changes underlying depression, with an emphasis characterizing molecular and cellular changes associated with resilience verses depressive-like behavior. I have mentored over 30 undergraduate and graduate students, many for independent studies or master’s thesis. In recent years, my students and I have presented at several regional, national and internationally recognized conferences including, NEURON (Northeast Undergraduate Research Organization for Neuroscience), Quinnipiac University, CT., The National Collegiate Research Conference (NCRC) & The Harvard College Undergraduate Research Association (HCURA), Cambridge, MA., Cognitive Neuroscience Society, New York, NY., and Society for Neuroscience, Washington DC.
After earning my undergraduate Biochemistry degree from the State University of New York (SUNY) at Geneseo, I received my PhD in Microbiology and Molecular Genetics from the University of Vermont (UVM). While at UVM, I worked on the molecular mechanisms underlying the pathogenesis of *Toxoplasma gondii*, a human pathogen that causes significant medical issues in humans and serves as a model organism for studying malaria. After graduating from UVM, I accepted a post-doctoral fellowship at the Rocky Mountain Laboratories in Hamilton, MT. Rocky Mountain Laboratories is part of the National Institutes of Health (NIH), which is one of the U.S. government’s primary branches of scientific research. At the NIH, I studied how the human bacterial pathogen Chlamydia takes over human host cells for its own benefit.

I joined the Biomedical Sciences Department in 2012, bringing my enthusiasm for teaching and research to Quinnipiac University. I teach at both the undergraduate and graduate levels. I have taught a wide range of courses, including undergraduate Research & Technology and Immunology Lab. I particularly enjoy teaching Research and Technology, as it is our freshman BMS course, which allows me to get to know all of the freshman BMS majors and introduce them to various facets of biomedical sciences. I also teach graduate Immunology and Antimicrobial Therapy, where discussion-based class meetings allow for coverage of a wide range of advanced concepts. At Quinnipiac, I continue to research chlamydial pathogenesis by developing student-led projects where students learn to work safely with human pathogens in a biosafety cabinet, as well as learn a number of traditional and contemporary scientific techniques, including recombinant DNA, mammalian cell culture, and confocal fluorescent microscopy. I also have an established collaboration with Dr. Lisa Kaplan (Biology Department) and Dr. Jonathan Blake (Science and Software Engineering Program). This research uses microbiological and molecular genetic techniques to investigate changes in the gut micro flora in mummichogs, an estuarian fish that serves as an indicator of habitat health. My research students have presented at a wide range of local and regional scientific conferences.

In teaching, research, and advising my goal is to create an atmosphere where students can explore their scientific passions and learn the skills necessary to identify and excel in their chosen career field.
I am the director and professor of Cardiovascular Perfusion and a graduate of the University of Waterloo, in Waterloo, Ontario, Canada. I am a board-certified clinical perfusionist, licensed in the State of Connecticut. I have been the director of the program at Quinnipiac, which is part of the Biomedical Sciences Department, since August of 1990. I coordinate student clinical placement in hospitals across the country, and teach PR 506 Pharmacologic Intervention, and PR 516, Physiologic Monitoring.

Research projects, in collaboration with faculty at the Yale School of Medicine, and Yale-New Haven Hospital, have focused on the mechanisms of systemic inflammatory response syndrome (SIRS), and investigating the efficacy of pharmaceutical compounds being developed to attenuate the response during cardiopulmonary bypass. There have also been investigations into the application of compounds to block steps in the complement cascade which occurs when blood contacts foreign surfaces, such as plastic tubing during extracorporeal circulation.