

CURRICULUM VITAE

NAME

Janet D. Robishaw, PhD

PRESENT POSITION

Senior Associate Dean for Research
Chair, Dept of Biomedical Science
Professor with Tenure
Charles E. Schmidt College of Medicine
Florida Atlantic University (FAU)
Boca Raton, FL
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PREVIOUS POSITIONS

- 1975 - 1979 BS Degree, Double Major in Chemistry and Biology
Central Michigan University
Mt. Pleasant, MI
Summa Cum Laude
- 1979 - 1983 PhD Degree, Major in Physiology
Pennsylvania State University, College of Medicine
Hershey, PA
- 1983 - 1987 Post-doctoral Fellow and Research Assistant Professor
University of Texas, Southwestern Medical School
Dallas, TX
Supervisor, Dr. Alfred G. Gilman
1994 Nobel Prize in Physiology and Medicine
- 1987 - 1996 Staff Scientist
Weis Center for Research
Geisinger Clinic
Danville, PA
- 1996 - 1997 Senior Scientist
Weis Center for Research
Geisinger Clinic
Danville, PA
- 1997 - 2000 Professor with Tenure
Dept of Cellular and Molecular Physiology
Pennsylvania State University, College of Medicine
Hershey, PA
- 2000 – 2016 Director of Research Education
Weis Center for Research
Geisinger Clinic
Danville, PA
- 2000 - 2016 Senior Scientist
Weis Center for Research
Geisinger Clinic
Danville, PA

2005 - 2016	Associate Director and Senior Scientist Weis Center for Research Geisinger Clinic Danville, PA 17822-2614
2004-present	President and CEO SignalPlex, Danville, PA
2016 – present	Chair Professor with Tenure Dept of Biomedical Science Charles E Schmidt College of Medicine Florida Atlantic University Boca Raton, FL
2017 – 2018	Interim Senior Associate Dean for Research and Graduate Education Charles E Schmidt College of Medicine Florida Atlantic University Boca Raton, FL
2018 – present	Senior Associate Dean for Research Charles E Schmidt College of Medicine Florida Atlantic University Boca Raton, FL

HONORS

1983-1986	National Research Service Award, National Institute of Health
1988	Selected Speaker, Science Writer's Forum, American Heart Association
1988-89	Regular Member of Biochemistry Study Section, National American Cancer Society
1989	Member of Research Review Group, Pennsylvania Affiliate of the American Heart Association
1990	Member of SCOR Review Committee, National Institutes of Health
1989-1994	Established Investigator Award, National American Heart Association
1990	Delegate for National Institutes of Health US-USSR Symposium on "Cardiovascular and Pulmonary Biology", Suzdal, USSR
1991-1995	Regular Member of Pharmacology Study Section, National Institutes of Health
1993	Advisory Panel Member, "Future Directions in Neuroscience Research", National Institutes of Health
1993-1998	Editorial Board Member, Journal of Biological Chemistry
1996	Chairperson for ASPET Symposium on "Role of α subunits in G protein-mediated signaling", Experimental Biology '96 Meeting.
1996-2000	Regular Member and Co-Chair of the Molecular Signaling I Study Section, National American Heart Association
1999-2002	Regular Member, Pharmacology Study Section, National Institutes of Health
2002-2005	Executive Committee Member, Cardiovascular Division, American Society of Pharmacology and Therapeutics
2009	Reviewer, Glue Grant, National Institutes of Health
2007-2012	Regular Member of Molecular and Integrative Signal Transduction, National Institutes of Health
2013	Ad hoc Member, Vascular Biology, National Institutes of Health
2019-21	Ad hoc Member, HEAL Initiative, National Institute of Drug Abuse
2021	Reviewer, Program Project, National Institutes of Heart, Lung, Blood

HONORS CONT

2021 "Researcher of the Year", Florida Atlantic University
2021-2023 Technical Expert Panel (TEP), Pain Management & Opioid Use/Misuse in Older Adults, Agency for Healthcare Research & Quality, US Health and Human Services
2022 Reviewer, Special Emphasis Panel, US Public Health Pathogens Genomics Centers of Excellence Applications, Centers for Disease Control
2022 Panelist, NSF Research Traineeship (NRT) Program, Division of Graduate Education, National Science Foundation

PROFESSIONAL SOCIETIES

American Society for Biochemistry and Molecular Biology
American Association for Advancement of Science
International Society for Heart Research
American Society for Pharmacology and Experimental Therapeutics
International Academy of Cardiovascular Sciences
Society for Developmental Biology
Association of American Medical Colleges
Association of Professors of Human and Medical Genetics

CREATIVE ACCOMPLISHMENTS

2002 Filing of US Patent Application 20020106678
2004 Filing of Provisional US Patent Application entitled " Identification of G protein α subtype as potential drug target for angiogenesis therapy"

LEADERSHIP EXPERIENCE

My track record of leadership experience is long and varied. In 1997, I was awarded Tenure as a Full Professor, Department of Cellular and Molecular Physiology, Pennsylvania State University, College of Medicine, Hershey, PA. Shortly thereafter, I was recruited into my first leadership position.

Associate Director for Research, Geisinger Health System (2000-2016)

In this capacity, I served on the senior leadership team responsible for developing such a “learning healthcare system” at Geisinger Health System serving 4.2 million patients across Pennsylvania and New Jersey. As an integral part of a “learning health care system”, the research team and process are embedded in the clinical operations to drive a continual cycle of innovation, with an emphasis on developing new approaches to uncover the root causes of diseases and reveal new targets for drug development. Recognizing early on the value of “big data”, Geisinger adopted an integrated electronic medical record system (EHR) that contains >25 years of rich longitudinal clinical data including diagnostic codes, lab values, medications, and demographics. In 2007, our research team launched the MyCode® biorepository allowing consented participants to contribute biospecimens linked to their EHR data that can be used for both discovery research and for advancements in clinical care. And, in 2014, Geisinger entered into a collaboration with Regeneron Pharmaceuticals to conduct whole exome sequencing and genotyping on the collected biospecimens. To date, more than 200,000 exome sequences have been completed. Leveraging these relational genomic and clinical databases has provided tremendous translational and clinical value. On the research side, we can conduct unbiased computational approaches to identify genetic variants that are significantly associated with categorical disease associations and/or quantitative traits to predict novel contributors to disease risk and/or medical responses. Because such associations are not sufficient to prove causality, we can then go into the laboratory and introduce genetic variants into cells or pre-clinical models to determine whether they recapitulate the phenotype. Once validated, we can apply machine learning approaches to develop predictive algorithms for patient stratification with improved outcomes. On the clinical side, we can also recontact participants and report results that are deemed clinically actionable to improve their outcomes. An integral part of my job was building collaborative clinician-scientist teams to tackle complex projects and for garnering external funding necessary for their completion.

Chair, Department of Biomedical Science, Schmidt College of Medicine, FAU (2016-present)

In this capacity, I was charged with transforming a largely educational department into a growing research program to advance knowledge, training, and practice of future physicians and scientists. Prior to my arrival, the College of Medicine commissioned the AAMC to review the status of the existing departments. The report cited many reasons to celebrate, including *“full LCME accreditation, highly engaged faculty and staff, 100% residency match, and the promise of appointment of a new dean”*. However, the report also noted serious issues, including *those who are not at the executive leadership level have concerns about a deficit of camaraderie and appreciation and a lack of a shared understanding and expression of common purpose, cultural competence, and respect factors. Simply stated, faculty and staff regard the executive leadership as having a very different perception of vision and purpose from the faculty and staff.”* Thus, I found a department in the midst of great turmoil and distress upon my arrival. The first priority was to gain an understanding of the various perspectives through active listening and implementing a data-driven approach to resolving the problems. This required equal parts inspiration, determination, and perspiration by all parties with the strong support of our then newly-appointed Dean Boiselle. From the start, my goal was straightforward: to work closely with each faculty member to create a path to success by leveraging his/her/their own passions and unique talents. Once a path was identified, my role was simple: to set clear expectations for faculty, invest in and advocate for them, and require accountability in a respectful manner and transparent setting. As we traveled this path together, my respect for the BMS faculty and their collective accomplishments has been boundless as they sought to leave the past behind, take on new responsibilities, and succeed beyond expectations. In 2021, the Provost conducted a Chair 360 review of my performance over the past five years resulting in the highest performance rating from 94% of the departmental faculty.

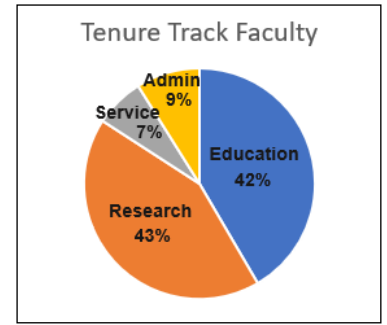
My efforts revolved around the following areas:

- **Faculty Morale.** Because faculty morale affects faculty behavior, productivity, and quality of teaching and research, which ultimately influence student learning outcomes and program quality, the following strategies were implemented to improve morale.
 - Promote culture of transparency, trust, and collegiality
 - Enact Chair open door policy
 - Model positive, inclusive behaviors
 - Hold regular BMS department meetings to allow formal discussions of policies, practices, opportunities, and concerns
 - Launch monthly “Faculty Feed” to enhance informal scientific and social relationship building;
 - Host semi-annual department retreat
 - Evaluate Faculty Effort Dashboard
 - Appoint Task Force to review faculty effort dashboard
 - Implement transparent, objective, and equitable process for determining faculty contributions across our diverse missions and service lines
 - Utilize dashboard for transformative change by aligning effort with development opportunities and creating paths to faculty success
 - Revise dashboard to include professionalism and diversity, equity, and inclusion efforts
 - Work with Chairs of other departments to make this tool less ambiguous and more equitably applied across departments

- **Faculty Recruitment, Development, Promotion, and Tenure.** As part of the Chair offer letter, we were able to recruit new faculty with established research track records and funding to serve as established mentors and contribute to the research funding portfolio, respectively. We also focused on providing the necessary resources and creating paths for success for the existing faculty. For *all* faculty, it was important to set clear expectations, offer professional development, and require shared accountability by working together to create “Individual Development Plans” that outlined the blueprints for success. Notably, through their own dedication and hard work, the overwhelming majority of new and existing BMS faculty are now on track, or have already earned promotions and tenure.
 - Recruit three new faculty with established research funding
 - Serve as mentors for existing faculty
 - Jumpstart research funding portfolio

 - Offer professional development opportunities
 - Develop and approve use of new “Individual Development Plan” for all faculty
 - Introduce formal “Faculty Mentoring Policy”
 - Implement formal “Sabbatical Policy” approving the first faculty member in existence of college
 - Introduced “Sustained Performance Evaluation Policy” under direction of Provost
 - Approve and establish seed funding programs (e.g., Pilot, Bridge, Student grants) to jumpstart individual and collaborative research programs
 - Provide funding for professional development activities (e.g., AAMC leadership conferences, Harvard Macey training, Research workshops, National Research Mentoring)
 - Participate in college wide professional development activities (e.g., Huron and Senn-Delaney)

➤ **Faculty Performance Metrics.** As the Chair, I envision the BMS department as an orchestra in which each member contributes his/her/their own unique passions and talents. While some faculty excel at teaching and others shine at research, their combined efforts are necessary to create a product that is greater than the sum of the parts. In this effort, we have come a long way over the from a largely educational effort to a more balanced educational and research effort. Achieving this balance has been critical in enabling us to complete the goals articulated in the new strategic plan (Fig. 1)



Mission-specific metrics:

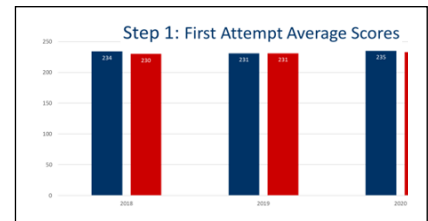
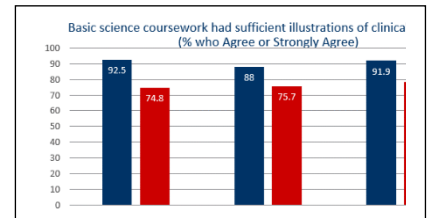
Research. On average, BMS faculty devote 43% effort to research. Remarkably, BMS department faculty represent 15% of total college faculty but account for 90% of the external research funding to the entire college. Based on past three years, further analyses reveal:

- 87% of BMS faculty are supported by external funding;
- 62% of BMS faculty are receiving NIH funding; and
- 67% of BMS faculty are recovering >10% salary from external funding.

Education. On average, BMS faculty dedicate 42% effort to medical and graduate education. For the past three years, further analyses reveal:

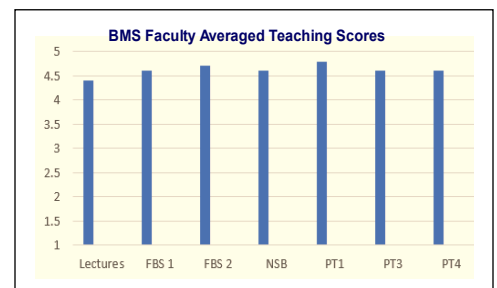
- 72% of BMS faculty participated in direct instructional activities for medical education;
- 95% of BMS faculty engaged in direct instructional activities for graduate education; and
- 100% of BMS faculty supervised research training activities for medical, graduate, and/or undergraduate students.

i) Medical education. The majority of BMS faculty are now actively participating in medical education activities by providing high quality instruction and hands-on research training in biomedical science that lays the foundation for applications to clinical science. The most important indicators of high-quality teaching are sustained student learning outcomes, stimulation of interest in subject matter, and student ratings. The BMS faculty excel across all three domains. With regard to student satisfaction and sustained learning outcomes, medical students reported higher than national statistics for satisfaction with basic science coursework (AAMC GQ). This was further translated into learning outcomes by their outstanding performance on the USMLE Step 1 examination that assesses whether medical students can apply important concepts of foundational sciences to medicine (NBME).



Moreover, with regard to student ratings, BMS faculty receive universally high ratings ranging between 4.3 to 4.7, with a score of 5 being the maximal rating.

Among comments received from students: *“The basic science education is well integrated such that concepts from various subjects are presented together and organized in a thoughtful manner to maximize overall understanding and clinical relevance. I found that this kept me engaged and minimized fatigue attributed to any one subject area. In addition, the faculty demonstrated clear interest in their expert subject material and went above and beyond to be accessible to students. This inspired me to be engaged even in subjects that I was not previously looking forward to.”* (AAMC GQ, 2021).



ii) Graduate education. Preparing graduate and postdoctoral scientists for a broad career options requires innovating and investing in the MS and PhD programs. The BMS faculty is primarily responsible for graduate education, teaching **23** of the **27** courses. Moreover, engaging undergraduate students in research is critical in building pipelines into the medical and graduate programs. By leveraging research to teach critical thinking skills, the BMS faculty are also producing the next generation of “thought leaders” in science and medicine.

- MS program in Biomedical Science. The MS track is the third highest degree-conferring program at FAU and boasts one of the highest minority representations (~60% URM) and graduation rates within the university. In FY 2017-18, the 7-year review of this track was conducted to identify needs, strengths, and concerns. This group of external and internal reviewers provided an overwhelming positive report that recognized the high impact of the program for achieving student learning and career goals. Specifically, they commented on the many improvements made to the program since the last review, including introduction of core courses, enhanced advising procedures, and new electives. They also provided several recommendations for further enhancing the program, including creation of a student study space, development and organization of new electives aligning with new career opportunities, establishment of new recruitment, retention, and graduation goals, and identification of alternative revenue streams for growing the educational program.

Demonstrating the success of our efforts over the past five years, the program has doubled student enrollment, with nearly 100 students now participating in the program. With regard to learning outcomes, graduate students showed higher than national averages for both the 2-year graduation rate and 1-year retention rate attesting to both the quality and accountability of the program. This is even more impressive given the large percentage of under-represented minorities (~60% URM) in the program that generally show deficits in these metrics. Finally, with regard to SPOT student rating, the BMS faculty received an exceptionally high average rating of 1.4, with 1 being the maximal score.

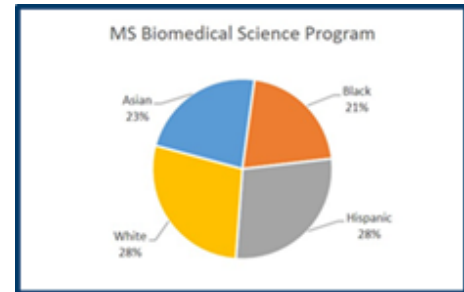
2015-2016 (Fall 14 Cohort)	2016-2017 (Fall 15 Cohort)	2017-2018 (Fall 16 Cohort)	2018-2019 (Fall 17 Cohort)	2019-2020 (Fall 18 Cohort)	2020-2021 (Fall 19 Cohort)
100%	86%	92%	100%	91%	94%

2015-16	2016-17	2017-18	2018-19	2019-2020	2020-2021
100%	92%	100%	82%	100%	88%

Other innovations to these programs include the creation of seven new graduate courses, implementation of a teaching peer evaluation process, development of performance requirements for DIS and DIR students, introduction of a mentor-mentee agreement to track compliance, and launch of a new Graduate Student Exit Survey to track the career outcomes of students and provide feedback to the Office of Graduate Programs. These accomplishments have had a major sustained impact on the growth and quality of our graduate programs and are a true testament to the outstanding dedication of BMS faculty, the Graduate Office leadership (Kantorow), and Senior Associate Dean for Research and Graduate Studies (Robishaw).

- Graduate Certificate in “Genomics and Predictive Health”. In FY 2019-20, we launched the “Genomics and Predictive Health Certificate” for MS and Ph.D. students focused on understanding and improving human health. This new certificate comprises one of only two such programs within Florida’s State University System and represents a major step forward for our college in leading innovation in genomics and precision medicine. Importantly, this educational program provides emerging health professionals and scientists with the requisite skills needed to interpret and incorporate genetic information into a personalized patient care model.

- **Diversity Initiatives.** An overarching goal of graduate and medical education is the development of a new cadre of scientists and physicians with the motivation, diversity, and interdisciplinary breadth to tackle the complex health problems facing our society. At the heart of our efforts is the focus on connecting students' formal learning to immersive experiences to ignite their passion and provide the skills for them to make discoveries that can translate back to improve the health of local communities and beyond. At the trainee level, BMS faculty are actively engaged in increasing diversity by recruiting, developing, and graduating URMs, incorporating curricular changes capturing the evolving nature of science and aligning the enhanced training with prospective careers, empowering students as diversity change agents by engaging them in community-based initiatives. At the faculty level, leadership is dedicated to improving diversity by recruiting, developing, and incentivizing faculty through proven national efforts in culturally aware mentoring and pending modifications to P&T criteria. Attesting to success of these and other efforts, our student population is ranked #24 for "Most Diverse Medical Schools" on the US News and World Report, with our graduate student cohort comprising ~60% underrepresented minorities.



Senior Associate Dean for Research, Schmidt College of Medicine, FAU (2017-present)

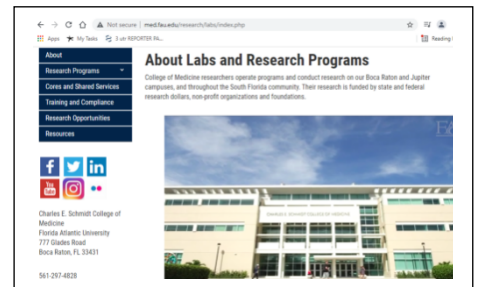
In this capacity, I was asked to develop and implement a Strategic Vision for Research which could then be integrated into a multi-faceted plan for the whole college. Notably, research is interwoven throughout the strategic plan from advancing new knowledge, to working as part of an interdisciplinary team to improve diagnosis and treatment in the clinic, to training the next generations of diverse thought leaders in science and medicine, to attaining national recognition for our institution as leader in innovation.

- **Invest in Research Infrastructure.** As a new medical school, the research infrastructure had to be built from the ground up.
 - Building upgrades. Although the building was only 15 years old, the building lacked basic infrastructure necessary for vital research operations including a distilled water system, autoclave, and glass wash facility. More importantly, it lacked emergency power to sufficiently maintain critical operating systems in the event of a weather-related catastrophe. During years 1-3, I was able to implement these upgrades.
 - Functional laboratory design. The original building was designed with open space in each of the four research quads that served as a dumping ground over the years. Working with FAU facilities, this space was re-designed with modular walls and furnishings to create 16 new research laboratories that are used to house overflow faculty and to create shared core facilities.
 - Shared core facilities. The building lacked the shared core facilities necessary for competitive research. With generous funding from the Schmidt Endowment, six shared spaces were created and equipped with state-of-the-art instrumentation, including: 1) Molecular Biology Core; 2) Cell Imaging Core; 3) Proteomics Core; 4) Genomics Core; 5) Stem Cell and Disease Modeling Core; and 6) Histology Suite. To ensure proper utilization, BMS faculty with specialized training oversee training, provide advice, and assist with scheduling.
 - Student spaces. The building lacked functional spaces designated for our graduate students that represent the engines driving much of our research. Since many students commute to campus, a graduate student lounge was created and furnished with computers, printers, study spaces, and kitchen facilities. In addition, a student teaching laboratory was created and furnished with common lab equipment and cell culture capability for students to receive the latest hands-on training.
 - Vivarium. An extensive renovation of the animal facility was required to increase its capacity to meet the needs of an expanding research program.

- **Develop research culture.** As the first step in growing research productivity, there was an overriding need to develop a research culture to provide the framework in which research is *uniformly expected, produced, and rewarded*. Although requiring several years to establish, several strategies were implemented to jumpstart this transformation.

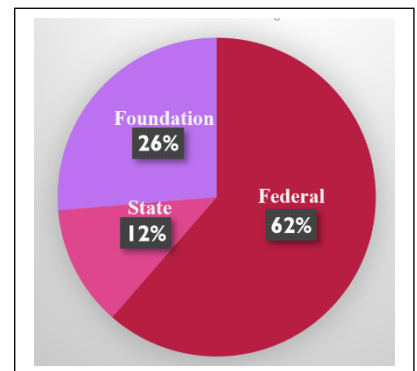
-Conduct national research climate survey. The National Center for Professional & Research Ethics was contracted to provide an objective, baseline assessment of the existing research climate. This nearly 12-month process started with a faculty working group to develop customized questions specifically related to FAU and College of Medicine, along with core questions widely administered across all medical schools to allow national benchmarking. The anonymized survey was administered to College faculty with >5% effort for research and scholarship. Reflecting the undeveloped state of the research programs, these findings were used to formulate an action plan for the College (Strategic Plan 2018-21; Strategic Plan Refresh 2021-23) and to provide a baseline for tracking metric-driven improvements in research culture (see Robishaw et al, (2020) Establishing and Maintaining Research Integrity at Academic Institutions: Challenges and Opportunities. Am J Med 133(3):e87-e90). Achieving a positive research culture requires sustained commitment over many years, and despite improvements, our culture remains a work in progress for the foreseeable future.

-Establish Office of Research and Website. As a first priority, we established the Office of Research to support the growth of the research program and to coordinate the breadth of research activities. This included hiring both pre- and post-award staff, along with a strategic and operational director. Through their collective efforts, a research website was created and an efficient system for on-line regulatory tracking and laboratory access was established. Creating a research website provides an identity on the internet. It lets people know about our school, offers a centralized place for sharing information and engaging with prospective faculty and students, and provides links to valuable service and resources.



-Offer sustained faculty development opportunities. Faculty are our greatest asset and investing in them produces the best outcomes. To this end, several strategies were deployed, including: 1) allocating significant resources for faculty training and support; 2) offering sabbaticals for enhancing or expanding research programs; and 3) providing pilot and bridge funding mechanisms that are essential for generating preliminary data needed in the current competitive climate.

- **Grow research portfolio.** Prior to my arrival, the College of Medicine had received a few NIH R15 student training awards but only three R01 awards. Notably, the research portfolio has shown tremendous growth since then. _ Currently, the College of Medicine has 62 active awards totaling nearly \$30 M. The majority of the awards are federal (62%) with smaller portions coming from state and private foundations (28%). *Notably, the BMS department accounts for 90% of the research portfolio for the entire College of Medicine.*



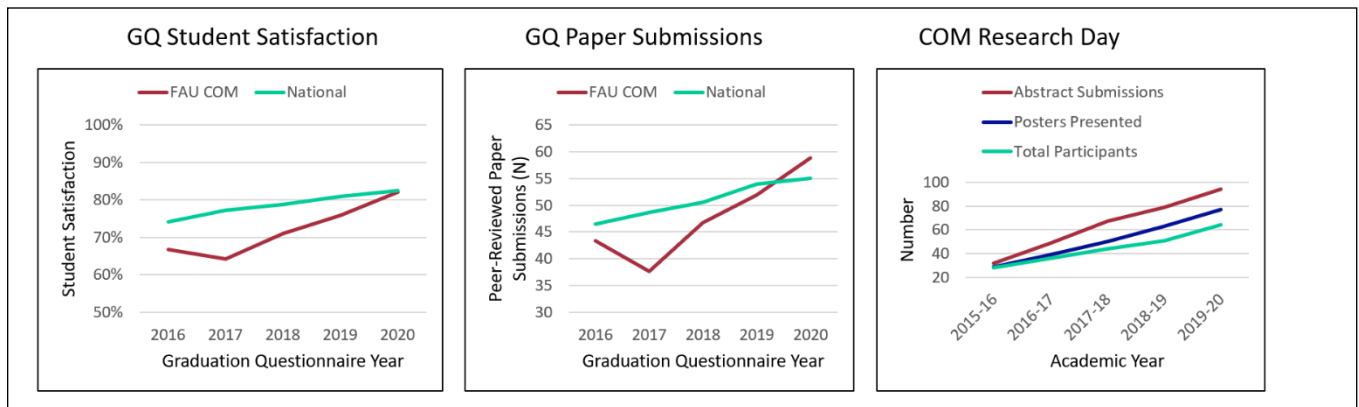
-Increase in NIH funding. Over the past five years, the College of Medicine has seen a 3-fold increase in in NIH funding. This increase in both number of grants and total funding occurred even though there was no net increase in the number of faculty engaged in research (hires were offset by retirees). *Importantly, the BMS faculty account for 97% of the NIH funding for the entire College of Medicine.*

-External metrics for department success rate and average funding per faculty member. Based on external metrics, our research faculty are just as productive as those of similar departments at top medical schools. The table shows the success rates by medical school departments for which NIH collectively received at least 750 grant applications. Nationally, Genetics and Neuroscience departments have the highest NIH success rates, while Pharmacology and Biochemistry departments have the lowest. For the past three years, our college falls in the middle, averaging a 20% success rate for NIH funding and a 34% success rate for all awards (i.e., federal, state, private, philanthropic). Moreover, our faculty are just as productive as those at top medical schools based on NIH dollars per faculty member. Attesting to successful growth of our research program, both internal and external metrics attest to the tremendous growth of the College of Medicine research program and the high quality of our faculty. Moreover, these data reveal the major difference between our college's research portfolio and those of other Research 1 medical schools is determined by the total number rather than the quality of the faculty.

Department	Success Rate %
ANATOMY/CELL BIOLOGY	23.6%
BIOCHEMISTRY	20.4%
GENETICS	26.5%
INTERNAL MEDICINE/MEDICINE	20.9%
MICROBIOLOGY/IMMUNOLOGY	21.2%
NEUROLOGY	24.4%
NEUROSCIENCES	26.2%
PATHOLOGY	20.2%
PEDIATRICS	17.0%
PHARMACOLOGY	17.8%
PHYSIOLOGY	23.9%
PSYCHIATRY	22.3%
RADIATION-DIAGNOSTIC/ONCOLOGY	15.1%
SURGERY	17.7%

➤ **Create Research Training Opportunities for Medical Students.** Providing research experiences are critical for medical students by instilling a spirit of discovery and lifelong learning. Prior to my arrival, the LCME report cited the inadequate research training opportunities. In my role as Senior Associate Dean for Research, I was asked to address this gap by implementing several strategies.

-Summer Research Experiences. The Research and Scholarship Committee met regularly for more than one year to draft a workflow, policies, and procedures to improve research opportunities for medical students. This plan called for establishing three tracks to provide a breadth of offerings and was implemented for the first time in the Summer of 2018. By all accounts, this program was highly successful as assessed by internal and national metrics.



-Distinction in Research Track. In addition to the summer research experience, we also created a longitudinal program for those medical students wishing to engage in longitudinal research over the entire course of medical school. This track received form accreditation in June 2020 and the first group of clinical scholars will graduate in Spring 2023.

-MD/PhD Programs. And, we also oversee a MD/PhD program with UF-Scripps and launched a second MD/PhD program with Max Planck Florida Institute in Sept 2022. The latter features an innovative curriculum shortening the time required for the dual degree while placing students with an internationally renowned group of research mentors.

- **Contribute to Institutional Reputation and Visibility.** Ultimately, these efforts contribute to the visibility of our college and university nationwide.

-LCME Re-Accreditation. In 2020, the College of Medicine earned re-accreditation with a full 8 years from the Liaison Committee on Medical Education (LCME) that signifies national standards for structure, function, and performance are met for the MD degree. This achievement represents the collective efforts of the COM leadership team and faculty across all departments. One noteworthy contribution that was singled out was the substantial improvement in increased research and scholarship opportunities for medical students.

-US News and World Report Ranking. The US News and World Report is the most widely used metric ranking medical school performance. From an institutional perspective, this ranking is a tangible reflector of our reputation on the national stage which is a point of pride as well as a key metric that determines our school's funding by the Florida State University System. From a student perspective, this ranking is a predictor of the students' education, residency, and career options. Between 2018 and present, the College of Medicine went from being unranked to being ranked but not published status. Notably, this ranking is related, in part, to the increased federal research expenditures that drives 40% of the score.

RESEARCH TRACK RECORD

The identification of genetic variants associated with diseases and their successful application to the clinical setting represents a current bottleneck. From the growing number of examples that have successfully managed to bridge this gap, research aimed at prioritizing and identifying the functional consequences of such genetic variants is absolutely required for “personalized” medicine to become a reality for most patients. For this reason, a major focus of my own laboratory has been to identify and prioritize the genetic variants that have the highest clinical potential. Since our eventual goal is to develop better pharmacologic treatments for complex diseases, we focus on the most “druggable” part of the genome: G-protein coupled receptor signaling pathways that represent the targets of >60% of drugs currently on the market. Moreover, we further focus only on the subset of genes that encode the rate-limiting step in these pathways since their manipulation will offer the most efficacious treatment. Finally, we are moving away from gene-centric approaches to Mendelian disorders towards network-based strategies for understanding common, chronic diseases representing the greatest health burden world-wide. Attesting to national and international recognition, my own research laboratory has been continuously funded for 33 years by the National Institutes of Health.

In addition to conducting my own research program, I have taken on senior leadership roles laying the groundwork for Precision Medicine Initiatives at both the Geisinger Health System (2000-2016) and Florida Atlantic University, College of Medicine (2016-present). As the former Associate Director for Research, Geisinger Health System in Pennsylvania (2000-2016), I contributed extensively to the establishment of a large research biorepository (>300,000 participants) whose genomic information is directly linkable to a searchable clinical data warehouse. In doing so, I also assisted in the development of a data analytics platform and acquired the relevant expertise in genome-based (GWAS), phenome-based (PheWAS), and rare variant analyses aimed at understanding the genetic architecture of chronic diseases. As the Senior Associate Dean for Research and Department Chair, Florida Atlantic University College of Medicine (2016-present), I have built a similar initiative on a smaller scale in South Florida. To date, these programmatic efforts have led to several NIH funded initiatives between Geisinger, University of Pennsylvania, and Florida Atlantic University on which I serve as one of the three multi-PIs. Briefly, our collective research team uses genotype, whole exome sequence, and clinical phenotype data to perform both common and rare variant association strategies, allowing the rapid identification and prioritization of genetic variants significantly associated with clinical phenotypes (e.g., disease diagnoses, physiological traits, clinical lab values, and medications). Subsequently, we perform functional screening to assess the causality of the observed associations. This analysis runs the gamut from assessing the functional impact of a genetic variant in heterologous expression systems, to genome editing and study in native cells, to isolating human induced pluripotent cells carrying the genetic variant and modeling the disease in culture. By identifying genetic variants that are causally linked to clinical outcomes, we facilitate the rapid translation of laboratory-based discoveries into medically informed practices.

Finally, I have recently extended these programmatic initiatives to forge ties between Florida Atlantic University College of Medicine and federally qualified community health centers to improve the quality and equity of health outcomes for underserved populations within Palm Beach. A recurring challenge faced by institutions wishing to leverage their own EHR data for is establishing a suitable research environment in which the patient population can be profiled, cohorts can be identified, and high-quality data can be collected and analyzed to assess the effectiveness of treatments on the relevant clinical outcome(s). Under the auspices of our recently funded NIH grant as part of the AIM AHEAD Consortium, we will establish an EHR-compliant research environment to bridge the gap between patient- and population- centered care.

1. Funding History

I have been continuously funded by the National Institutes of Health (NIH) for >33 years through multiple NIH R01/P01 awards). In addition to NIH support, I have received research grants from the American Heart Association, private foundations, and philanthropic sources. Altogether, the total grant awards exceed \$30 million.

1a.	Completed.
1988-1993	NIH, R29 Award GM39867 entitled " <i>G Proteins: Significance of β and γ subunit heterogeneity</i> " (PI, Robishaw)
1993-1997	NIH, R01 Award GM39867 entitled " <i>G Proteins: Significance of β and γ subunit heterogeneity</i> " (PI, Robishaw)
1989-1994	American Heart Association, National Established Investigator Award entitled " <i>Structure/Function of G-proteins involved in neurohormonal control of heart</i> " (PI, Robishaw)
1990-1992	American Heart Association, Pennsylvania Grant-In-Aid entitled " <i>Regulation of expression and function of G-proteins involved in neurohormonal control of heart</i> " (PI, Robishaw)
1993	Eagle Award (PI, Robishaw)
1993-1998	NIH, R01 Award HL49278 entitled " <i>Diversity of α_1-adrenergic signaling pathways in heart</i> " (PI, Robishaw)
1998-2004	NIH, R01 Award GM58191 entitled " <i>Elucidating G protein signaling systems in vivo</i> " (PI, Robishaw)
1997-2000	American Heart Association, National Grant-In-Aid Award entitled " <i>Spatial Segregation of G proteins</i> " (PI, Robishaw)
1997-2000	NIH, R01 Award GM39867 entitled " <i>G Proteins: Significance of β and γ subunit heterogeneity</i> " (PI, Robishaw)
1998-2004	NIH, R01 Award HL49278 entitled " <i>Diversity of α_1-adrenergic signaling pathways in heart</i> " (PI, Robishaw)
2001-2005	NIH, R01 Award GM39867 entitled " <i>G Proteins: Significance of β and γ subunit heterogeneity</i> "
2004-2006	Pennsylvania Life Sciences "Greenhouse" Award entitled " <i>Functional Genomics of GPCR signaling using zebrafish model</i> " (PI, Robishaw)
2004	Pfizer, K-12 Science Education Award (PI, Robishaw)
2005-2012	NIH, R01 Award GM39867 entitled " <i>G Proteins: Significance of $\beta\gamma$ subunit heterogeneity</i> " (PI, Robishaw)
2004-2009	NIH, R01 Award GM58191 entitled " <i>Elucidating G protein signaling in vivo</i> " (PI, Robishaw)
2007-2009	Keystone Innovation Zone Business Grant awarded to SignalPlex (PI, Robishaw)
2009-2010	NIH, R01 Award GM39867 ARRA Supplement (PI, Robishaw)
2010-2012	NIH, R01 Award GM39867 Administrative Supplement (PI, Robishaw)
2011-2013	Geisinger Translational Grant Award entitled " <i>Networks in Neocortical Epilepsy</i> " (PI, Robishaw)
2012-2014	NIH, R03 Award NS080083 entitled " <i>Gng5 function in neural progenitor cells</i> "(PI, Robishaw)
2015-2021	NIH, R01 Award GM114665 entitled " <i>Novel Aspects of G_{olf} Signaling in Brain</i> " (PI, Robishaw)
2015-2021	NIH, R01 Award GM111913 entitled " <i>An Integrated Approach to Study GPCR Variants Associated with Complex Diseases</i> "(MPIs, Robishaw/Mirshahi)
2017-2022	NIH, R01 Award HL134015 entitled " Approaches to Genetic Heterogeneity of Obstructive Sleep Apnea", (MPIs, Pack/Robishaw)
2018-2022	NIH, R01 Supplement HL134015-04S1 entitled "Alzheimer's Disease and Sleep" (MPIs, Pack/Robishaw/Kirchner)

1b. Active Grants.

NIH AIM AHEAD COORDINATING CENTER

3OT2OD032581-01S1

Robishaw (Project PI)

9/17/2022-9/16/2023

Developing a Precise, Community Focused, Population Health Framework in an FQHC to Tackle Chronic Disease Disparities through EHR Data

NIH NIDA

R01DA044015

Troiani/Robishaw (MPIs)

9/1/2017-5/31/2023

Clinical and Genetic Study of Prescription Opioid Addiction

NSF RESEARCH TRAINEESHIP (NRT) PROGRAM

2021585

Furht (PI); Robishaw/Khoshgoftaar/Tappen/Barenholtz (Co-PIs)

Harnessing the Data Revolution: A Graduate Traineeship in Data Science Technologies and Applications

9/1/2020-8/31/2025

The Harry T. Mangurian, Jr. Foundation, Inc.

Robishaw (PI)

New Frontiers in the Prevention of Dementia

05/01/20-04/30/23

Florida Blue

Robishaw (PI)

“Developing Predictive Algorithms for COVID-19 Infection in FAU Health Care Workers”

2021-2023

1c. Pending Grants.

The US Department of Transportation

Kaiser (PI); Robishaw (Co-I)

T-Health: Center for Transportation Safety and Health

1/1/2023-12/31/23

NIH NHLBI

P01

Pack/Justice (MPIs); Robishaw (Co-I)

Developing a P4 Medicine Approach to Obstructive Sleep Apnea

7/1/23-6/30/2028

NIH HEAL

R01

Pilitsis/Robishaw/Wilson (MPIs)

A Pragmatic Clinical Trial to Evaluate the Adoption of Battlefield Acupuncture for Chronic Pain in Rural Setting

7/1/2023-6/30/2028

2. **Publications** (Selected from >100 peer-reviewed papers, reviews, book chapters)

<https://www.ncbi.nlm.nih.gov/myncbi/1t3-9mx25aTkp/bibliography/public/>

Sampling of full length, peer reviewed articles

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17. Foster KA, McDermott PJ and **Robishaw JD**: Expression of G proteins in rat cardiac myocytes: Effect of KCl depolarization. *Am. J. Physiol.* 28: H432-H441, 1990.
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96. Mason AE, Hecht FM, Davis SK, Natale JL, Hartogensis W, Damaso N, Claypool KT, Dilchert S, Dasgupta S, Purawat S, Viswanath VK, Klein A, Chowdhary A, Fisher SM, Anglo C, Puldon KY, Veasna D, Prather JG, Pandya LS, Fox LM, Busch M, Giordano C, Mercado BK, Song J, Jaimes R, Baum BS, Telfer BA, Philipson CW, Collins PP, Rao AA, Wang EJ, Bandi RH, Choe BJ, Epel ES, Epstein SK, Krasnoff JB, Lee MB, Lee SW, Lopez GM, Mehta A, Melville LD, Moon TS, Mujica-Parodi LR, Noel KM, Orosco MA, Rideout JM, **Robishaw JD**, Rodriguez RM, Shah KH, Siegal JH, Gupta A, Altintas I, Smarr BL. Detection of COVID-19 using multimodal data from a wearable device: results from the first TemPredict Study. *Sci Rep*. 2022 Mar 2;12(1):3463. doi: 10.1038/s41598-022-07314-0.PMID: 35236896

Manuscripts Pending Review or In Preparation

1. **Robishaw JD**, DeMets DL, Alter SW, Wood S, Hennekens CH. Chapter, "Research Integrity in Academic Institutions: Roles and Responsibilities of Academicians and Their Institutions, as well as Other Major Stakeholders. Textbook, *Fraud, Misconduct and Fake News in the Academic, Medical and Social Environment*, Edited by Faintuch J and Faintuch S, TO BE Published by Springer, USA 2021
2. Breitwieser G, Metpally R, Toll L, Wei J, **Robishaw JD**. The orphan receptor GPR37L1 is associated with migraine. *Human Genetics*, In Preparation.
3. Palumbo S, **Robishaw JD**, Troiani V. Characteristics of Chronic Pain Patients Abusing Prescription Opioids, In Preparation.

Invited Lectures/Conferences-selected from last 5 years

October 12, 2017	Invited Speaker, Future of Medicine Conference, West Palm Beach, FL
June 27, 2017	Invited Speaker, Cardiomyopathies Meeting, Fudan University, Shanghai, China
July 1, 2017	Keynote Speaker, Postdoctoral Innovation Forum, Chongqing, China
Oct19-21, 2017	Invited Speaker, International GPCR Meeting, Ottawa, ON, Canada
March 19, 2018	Invited Speaker, Brainy Days, FAU Brain Institute, Boca Raton, FL
April 7, 2018	Keynote Speaker, SUD Talks, FAU School of Social Work, Boca Raton, FL
August 18, 2018	Invited Speaker, Opioid Healthcare Response Meeting, Healthcare Emergency Response Coalition, West Palm Beach, FL
Sept 8-16, 2017	Poster Presenter, Genetics of Addiction Conference, Jackson Laboratory, Bar Harbor, ME
September 19, 2018	Invited Speaker, FAU Research Showcase, Boca Raton, FL
October 22, 2018	Invited Speaker, Opioids & Florida: The Collaboration Imperative, GuideWell Innovation, Orlando, FL
September 1, 2018	Invited Speaker, Opioid Forum, Palm Beach County Medical Society, West Palm Beach, FL
November 2, 2018	Invited Speaker, VA Clinical Conference on Pain Management, Palm Beach, FL
January 13-15, 2019	Invited Speaker, NIDA Genetics Conference, Washington, DC
Feb/Mar 2019	Keynote Speaker, Medical and Resident Research Days, FAU Boca Raton, FL
June 8-12, 2019	Poster Presenter, 2019 Sleep Conference, San Antonio, TX
September 27, 2019	Invited Speaker, FAU Research Showcase, Boca Raton, FL
January 16, 2020	Keynote Speaker, Better Brain Health, Palm Health Foundation, West Palm Beach, FL
March 2020-2022	Speaking engagements cancelled due to COVID-19 Pandemic
October 28-29, 2022	The Art and Science of Pain Management Symposium, Personalizing pain management and opioid risk assessment, Boca Raton, FL

PIPELINE AND EDUCATIONAL PROGRAMS

1. K-12 Students

As Director of Research Education and Training, I saw a need for practicing scientists to become more involved in the science education of K-12 students from the six surrounding rural school districts, which lack the resources typically available to their more urban counterparts. To fulfill this need, I designed and implemented three types of programs: 1) Summer Science Workshops; 2) Field Trips; and 3) Research Internships.

Summer Science Workshops. I developed and obtained funding from Pfizer to run two workshops: "Fun with Science" for students entering 3rd-5th grade; and "Fun with DNA" for students entering 6th-8th grade. These workshops were designed to promote a better understanding of science and its impact on everyday life and health. Located in the Weis Center for Research, children explored science in fun and empowering ways in a real laboratory. Using state-of-the-art techniques and tools, children experienced the discovery process that scientists employ in the real world under the safe supervision of researchers and educators, such as me. For example, the younger students learned about the different types of germs and the common diseases they cause. In the process, they learned about epidemics, how easily they spread, and how to contain them. The older students learned about DNA and heredity. In the process, they used DNA fingerprinting to solve a hypothetical crime; paternity testing to reunite a hypothetical child with her parents; and genetic testing to identify and treat a hypothetical patient with cystic fibrosis. The workshops ran Monday-Friday, from 9am to 3pm; and concluded with Parent Participation Day when children became the teachers and explained the week's activities to their parents. These Summer sessions have received overwhelming response from children and parents alike from 2003 to present.

Field Trips. To reach a greater number of students, I also designed and implemented one-day field trips for K-12 grade students to visit the Weis Center for Research. These field trips allow students to form their own impression of scientists and the scientific enterprise. In addition, students can participate in various experiments targeted for their particular age group.

High School Internships. To provide opportunities for motivated high school students to perform hands-on research, I have also established research internships for 12th grade students from the Danville Area High School. Although requiring a tremendous commitment, the potential rewards for both students and mentors are great: 1) for students, the experience has the potential to influence their academic choices, career plans, and goals; and 2) for mentors, the opportunity exists to turn students onto science whether they pursue a career or not. In addition to organizing and implementing this program, I have also supervised the research training of the following talented high school students in my own laboratory:

2002-2004	Cong Luo, Danville Area High School, PA
2004-2005	Alex Zhang, Danville Area High School, PA
2009-2010	Amy Sudol, Danville Area High School, PA
2019-2020	Sophie Gorup, St. Andrews School, Boca Raton, FL
2020-	Marlie Kahan, Pine Crest School, Boca Raton, FL

2. Undergraduate and Graduate Students

As the Director of Research Education and Training, Weis Center for Research, Geisinger Clinic, I oversaw a 10-week, summer research training program designed to expose talented undergraduate students to career opportunities in research, with > 90% of these students going on to pursue medical or graduate degrees in the 25 years since the inception of this program. The primary emphasis of the research training experience has been at the cellular, genetic, and molecular levels. In addition to providing leadership and oversight, I have personally supervised the following students in my own laboratory:

Selected from a List:

Kimberly Rose, Becknell University
 Kristen Mowed, University of Pennsylvania
 Laurence Beck, Princeton University
 Kellie Saxton, Indiana University
 Michelle Schley, Indiana University
 Kimberly Smyrna, Franklin and Marshall College
 Seem Shah, Bryn Mar College
 Heidi Martinson, Dickinson College
 Janna Pawhuska, Lafayette College
 Amy Hoffman, Lycoming College
 Erin Crawl, University of Pittsburgh
 Renee Uncheck, King's College
 Elaine Sunderlin, James Madison University
 Angela Sabol, Bloomsburg University
 Hilary Hoffman, Pennsylvania State University
 Beth Carey, Lehigh University
 Lora Waldman, Becknell University
 Eric Horstick, Bloomsburg University
 Leanne Yearly, Bloomsburg University
 Rebecca Wert man, University of North Carolina
 Kristin McIntosh, Lock Haven University
 Lindsey Yurcaba, University of Pennsylvania
 Chase Parsons, Grove City College
 Kyle Bartol, Bloomsburg University
 Talora Steen, University of Pittsburgh
 Mikhail Attoar, Northwestern University
 Michelle Stipanovic, Bloomsburg University
 Nishikanta Elangbam, University of Wisconsin-Madison
 Amy Sudol, Cornell University
 Alek Keller, University of Pittsburg
 Lilian McKinley, University of Pennsylvania
 Laura Sprunt, Case Western
 Dillon Warr, Susquehanna University
 Marc Erdman, Pennsylvania State University

Previously, I have also mentored and served on thesis committees for the following graduate students at Bloomsburg University.

1997-1998	Eric Balcueva, Candidate for MS degree, Biology, Bloomsburg University
2001-2002	Soniya Sinhu, Candidate for MS degree, Biology, Bloomsburg University
2003-2004	Amy Mawdry, Candidate for MS degree, Biology, Bloomsburg University

Undergraduate Teaching Activity and Mentorship:

Nov 9-14, 2017	Lecturer, Fundamental Topics in Human Health, IBBS Grad Program
October 12, 2018	Lecturer, Responsible Conduct in Research
Nov 1, 2018	Lecturer, Biomedical Concepts/Translational Applications, IBBS Grad Program
April 1, 2019	Lecturer, Pre-Professional Track, College of Science
October 24, 2019	Lecturer, Biomedical Concepts/Translational Applications IBBS Grad Program
October 25, 2019	Lecturer, Pre-Professional Track, College of Science
2018	Alexander Gitin, Florida Atlantic University
2019	Maddie Pung, Florida Atlantic University
	Sanjana Chandran, Florida Atlantic University
	Ty Roachford, Florida Atlantic University

Graduate Teaching and Mentorship:

- 2020-present Course Director, "Genomics and Predictive Health" Capstone Course, In Genomics and Predictive Health Certificate, IBBS Graduate Program
- 2021-present Course Director, "Emerging Applications in Oncology and Pharmacogenomics, In Genomics and Predictive Health Certificate, IBBS Graduate Program

Graduate students at FAU:

- 2019-present Oliver Pelletier, Florida Atlantic University (PhD candidate) Robishaw role: thesis advisor
- 2019-present Sean Paz, Florida Atlantic University (PhD candidate)
- 2020-2021 Nicholas Toll, Florida Atlantic University (MS student)
- 2022 Michelle Shanefield, Florida Atlantic University (PhD rotation)

3. Medical Students

During my time as a Tenured Professor at the Penn State College of Medicine, I was involved in teaching graduate and medical students.

- 1998 Organized and participated in the teaching of a graduate level course entitled "Molecular Basis of Inherited Diseases" that was offered at the Penn State College of Medicine. This course used examples from the literature to highlight conceptual and practical approaches to a) the discovery of genes underlying human diseases; b) the identification and functional characterization of gene products; and c) the possible opportunities for clinical intervention through gene therapy.
- 1999-2000 Taught case-based learning to medical students.

During my return to assume a leadership position at Geisinger, I continued to participate in the teaching of graduate and medical students and served on several thesis committees at Penn State College of Medicine and continue to hold an appointment as an Adjunct Professor there. I did this on a *voluntary* basis even though traveling to the Hershey campus requires a 3-hour commute.

- 2003-2006 Served on thesis committees for the following graduate students at Penn State College of Medicine:
- Soniya Sinhu, Candidate for a PhD degree, Genetics Program, Penn State College of Medicine
- Meredith Hannan, Candidate for MD/PhD degree, Genetics Program, Penn State College of Medicine
- Jasper Humbert, Candidate for a PhD degree, Genetics Program, Penn State College of Medicine.
- 2004 Taught a graduate level course entitled "Genetic Approaches to Biomedical Problems" offered at the Penn State College of Medicine
- 2004 Served as facilitator for "Graduate Research Colloquium" at the Penn State College of Medicine

Since moving to FAU College of Medicine, I have mentored the following medical students:

- 2017-present Sarah Palumbo - Opioid Use Disorder Research/various projects
- 2018 Bailey Pierce - Rare synonymous GPR52 variants associated with mood and movement disorders

- 2019 Jonathan Freeman - Genotype-phenotype project combining bioinformatics and functional approaches/perform experiments to test hypothesis
- 2020-present Steven Shiba - OURA ring research study (Florida Blue project listed on pg.14)
- 2020 Caroline (Abby) Temple - OURA ring research study (Florida Blue project listed on pg.14)

4. Post-Doctoral Fellows

- 1987-1992 Dr. Karen Foster, Recipient of American Heart Association Fellowship
- 1991-1992 Dr. James Cali
Dr. Karen Proulx
- 1992-1996 Dr. Mohammed Rahmatullah
- 1992-1996 Dr. Rownak Rahmatullah, Recipient of American Heart Association Fellowship
Dr. Kausik Ray, Recipient of American Heart Association Fellowship
- 1995-1996 Dr. Dean Wenham
Dr. Mark Richardson, Recipient of American Heart Association Fellowship
- 1996-1999 Dr. Qin Wang, Recipient of American Heart Association Grant-in- Aid
- 1997-1998 Dr. Jeffrey Yu
- 1997-1999 Dr. Sujata Kanwal
- 1998-2001 Dr. Tatyana Ivanova-Nikolova, Recipient of American Heart Association Grant-in-Aid
- 1999-2001 Dr. Ding-Ji Wang
- 1999-2001 Dr. Charlene McWhinney, Recipient of American Heart Association Grant-in-Aid
- 2001-2006 Dr. Chonang Li
- 2001-2008 Dr. Hui Chen
- 2006-2009 Dr. TinChung Leung
- 2001-2011 Dr. Bill Schwindinger
- 2012-2013 Dr. Mike Liu
- 2014-2016 Dr. Misha Chernovski
- 2017-2022 Dr. Gloria Brunori

5. Visiting Scientists

- 1988 Dr. Michael Pugh, Assistant Professor of Chemistry, Bloomsburg University
- 1989 Dr. Andrei Scamrov, US-USSR Scientific Exchange Program
- 1990 Dr. Igor Rybalkin, US-USSR Scientific Exchange Program
- 2001-2018 Dr. Carl Hansen, Professor of Biology and Allied Health, Bloomsburg University

6. Clinical Trainees/Collaborations

As the Director of Research Education and Training, I oversaw the research training component of the Internal Medicine Residency Program at the Geisinger Clinic. As part of this responsibility, I developed and wrote a new curriculum for the research training of medical residents as part of their re-accreditation process in 2004. In addition, I supervised and/or collaborated with the following clinical associates:

- 1993-1996 Dr. Robert Klein, Associate, Endocrinology, Geisinger Clinic
- 2002-2007 Dr. Mark Stecker, Associate, Neurology, Geisinger Clinic
- 2003-2005 Dr. Ping Zhang, Associate, Pathology, Geisinger Clinic
- 2004-2006 Dr. Ayoub Mirza, Associate, Internal Medicine, Geisinger Clinic
- 2009-2016 Dr. Joe Boscarino, Investigator, Center for Health Research, Geisinger Clinic
Dr. Chris Still, Bariatric Surgery, Geisinger Clinic
Dr. Carole Ulloa, Neurology, Geisinger Clinic
Dr. Dan Horwitz, Orthopedics, Geisinger Clinic

RECENT CONTINUING EDUCATION

2001 Intro to Clinical Research
2002 ASPET Short Course, Behavioral Pharmacology for Gene Jockeys and Molecular Biologists, Orlando, FL
2002 Jackson Laboratory Workshop, Phenotyping New Mouse Models for Heart, Lung, Blood, and Sleep Disorders, Bar Harbor, ME
2001 Jackson Laboratories Workshop, Mouse Colony Management: Principles and Practices, Bar Harbor, ME
2003 Jackson Laboratories Symposium, Mouse Initiatives V: Genomics of Complex Systems in Biomedical Research, Bar Harbor, ME
2010 Jackson Laboratories Workshop, Genetics of Addiction, Bar Harbor, ME
2011 Jackson Laboratories Workshop, Epilepsy, Bar Harbor, ME
2019 IACUC Re-Certification
2019 IRB Re-Certification
2019 Florida Atlantic University, College of Medicine, Required CITI Training
2019 Awarded Certificate for "Implementing Pharmacogenomics in the Clinic", University of Colorado
2019 Advanced Course on "Chronic Pain", Neuroscience School of Advanced Studies, Venice, Italy
2019 Advances in Integrated Nutrition, Thomas Jefferson University, Philadelphia, PA
2020 AAMC Advanced Leadership Conference, Washington, DC
2020 Fighting COVID-19 with Epidemiology Online Course: A John Hopkins Teach-Out - Coursera
2021 Environmental Health and Safety required trainings, Florida Atlantic University
2022 Clinical Research Methods, BCM Center of Excellence in Health Equity, Training and Research, Baylor College of Medicine

SERVICE TO THE PROFESSION

1. Institutional and Regional Responsibilities

1987-2005	Organizer, Faculty Talks Committee
1987-1997	Chair, Hazardous Waste Committee
1987-1997	Chair, Recombinant DNA and Biosafety Committee
1988-2016	Chair, Selection Committee for James R. Neely Lectureship
1994-1997	Member, Scientific Review Committee
1998-2016	Chair, Selection Committee for Balcueva Award
1997- 2016	Chair, Institutional Animal Care and Use Committee
2002-2003	Member, Ventures Committee
2003-2016	Director, Research Education and Training
2003-2016	Chair, Promotion and Tenure Committee
2005-2016	Associate Director, Weis Center for Research
2007	Chair and Organizer, 20 th Anniversary Celebration and Scientific Symposium entitled "G Protein Coupled Receptor Signaling: Bench to Bedside"
2007-2016	Organizer, Focus Group on "Signaling and Disease Modeling"
2011	Chair, Neuroscience Institute Steering Committee
2012	Chair, Strategic Vision Committee, Weis Center for Research
2013-2016	Member, Organizing Committee, Susquehanna Valley Undergraduate Research Symposium
2014	Chair, Research Misconduct Committee Responsible for Reporting to the National Institutes of Health
2014-2016	Organizer, "Translational and Functional Genomics" Steering Committee
2014-2016	Head, Translational and Molecular Medicine Division, Weis Center for Research
2015	Geisinger-Regeneron Advisory Panel
2016-2018	Interviewer, Charles E. Schmidt College of Medicine Admissions Committee, Florida Atlantic University
2017	Member, Strategic Vision Panel, Florida Atlantic University
2017	Co-Chair, Strategic Vision Committee, College of Medicine, Florida Atlantic University
2017	Member, CFO Search Committee for the College of Medicine, Florida Atlantic University
2017-present	Member, Research Core Facility Oversight Committee, Florida Atlantic University
2017-present	Member, Research Dean Leadership Council, Florida Atlantic University
2018	Member, Pharmacology Faculty Search Committee, Florida Atlantic University
2019-2020	Member, Search Committee for Chair of the Department of Integrated Medical Science, College of Medicine, Florida Atlantic University
2019- 2020	Member, Search Committee for Director of Surgical Research, Florida Atlantic University
2019-present	Member, Marcus Implementation Committee, Florida Atlantic University
2020	Member, Vivarium Task Force, Division of Research, Florida Atlantic University
2020	Member, Search Committee for Assistant Professor in Bioethics/Medical Ethics, Department of Philosophy, Florida Atlantic University
2020	Co-Chair, Strategic Plan Refresh: Advanced Patient-Centered Research & Discovery, College of Medicine, Florida Atlantic University
2020	EHR Analytics Infrastructure Task Force, Division of Research, Florida Atlantic University
2020-present	Institutional Liaison Committee, Florida Atlantic University
2020-2021	Member, Chief Diversity Officer Search Committee, College of Medicine, Florida Atlantic University
2021	Member, Search Committee for Dean of the Medical School, Florida Atlantic University
2021	Member, MS Thesis Committee, Samuel McFarlane
2021-present	JEDI Guardian, Schmidt College of Medicine JEDI (Justice, Equity, Diversity & Inclusion) Council, Florida Atlantic University

- 2021 Member, Bioethics Faculty Search Committee, Department of Philosophy, Florida Atlantic University
- 2021 Member, Dean's Search Committee, Schmidt College of Medicine, Florida Atlantic University
- 2022 Member, Chair, Clinical Neuroscience Department, Search Committee, Schmidt College of Medicine, Florida Atlantic University
- 2022 Member, Chair, Population Health Department, Search Committee, Schmidt College of Medicine, Florida Atlantic University

2. National Advisory and Review Groups

- 1989 Member, Peer Review Group, Pennsylvania Affiliate, American Heart Association
- 1988 Member, Biochemistry Study Section, American Cancer Society
- 1989 Member, Biochemistry Study Section, American Cancer Society
- 1990 Ad hoc Member, SCOR Review Committee, National Institutes of Health
- 1990 Ad hoc Member, Pharmacology Study Section, National Institutes of Health
- 1989 Delegate for National Institutes of Health US-USSR Symposium on "Cardiovascular and Pulmonary Biology", Suzdal, USSR
- 1991-95 Regular Member, Pharmacology Study Section, National Institutes of Health
- 1993 Panel Member, Advisory Committee on "Future Directions in Mental Health Research", National Institute of Mental Health
- 1996 Ad hoc Member, Cardiovascular Study Section, National Institutes of Health
- 1996-2000 Co-Chair, Molecular Signaling I Study Section, American Heart Association
- 1997 Ad hoc Member, SCOR Review Committee, National Institutes of Health
- 1989-97 Reviewer, Whitaker Foundation
- 1999-2002 Regular Member, Pharmacology Study Section, National Institutes of Health
- 2002-2006 Executive Committee Member, Cardiovascular Division, American Society of Pharmacology and Therapeutics
- 2009 Reviewer, Glue Grant, National Institutes of Health
- 2007-2012 Regular Member of Molecular and Integrative Signal Transduction, National Institutes of Health
- 2013 Ad hoc Member, Vascular Biology, National Institutes of Health
- 2020-2023 Technical Expert Panel (TEP), Pain Management & Opioid Use/Misuse in Older Adults, Agency for Healthcare Research & Quality, US Health and Human Services
- 2020 Member, Special Emphasis Panel, NHLBI P01 Program Project Review, National Institutes of Health
- 2020-present Reviewer, HEAL Initiative Grants, National Institutes of Health
- 2022 Reviewer, Special Emphasis Panel, US Public Health Pathogens Genomics Centers of Excellence Applications, Centers for Disease Control
- 2022 Panelist, NSF Research Traineeship (NRT) Program, Division of Graduate Education, National Science Foundation

3. Editorial Boards

- 1993-1996 Editorial Board Member, Journal of Biological Chemistry

4. Journal Reviews

- 1987- present Referee for following journals: American Journal of Physiology, Biochemistry, Cardiovascular Research, Circulation Research, Trends in Cardiovascular Medicine

LEADERSHIP EXPERIENCE

REFERENCE CONTACTS

1. Phil M Boiselle, MD
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