

CURRICULUM VITAE

DATE: April, 2026

NAME: Melissa Brinkman Rogers

PRESENT TITLE: Associate Professor

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OFFICE ADDRESS: Rutgers New Jersey Medical School
Microbiology, Biochemistry & Molecular Genetics (CC F1216)
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CITIZENSHIP: USA

EDUCATION:

A. Undergraduate

Rensselaer Polytechnic Institute,
Troy, NY
B.S. Biology
1979

B. Graduate

Brandeis University
Waltham, MA
Ph.D. Biology
1985

Advisor: Dr. K.M. Karrer,
Thesis: A Molecular and Biochemical Analysis of
Conjugation and Adolescence in *Tetrahymena thermophila*

POSTDOCTORAL TRAINING:

A. Internship and Residencies: N/A

C. Research Fellowships

Pharmaceutical Manufacturers' Association Foundation Pharmacology-
Morphology Fellowship
1989-1991

Aid for Cancer Research Postdoctoral Fellowship (declined)
1989-1991

Massachusetts American Cancer Society Postdoctoral Fellowship
"Mouse Teratocarcinomas and Embryos: Genes in Common"
1986-1988

D. Postdoctoral Appointments:

Dana-Farber Cancer Institute and Department of Biological Chemistry and
Molecular Pharmacology, Harvard Medical School
1985-1991 Advisor: Dr. L. J. Gudas,

Dept. of Genetics, Harvard Medical School, Boston, MA
Hughes Scholar
1992 Advisor: Dr. J. G. Seidman

MILITARY: N/A

ACADEMIC APPOINTMENTS:

Biology Department and Institute for Biomolecular Sciences
– primary appointments
Department of Pharmacology and Therapeutics - joint appointment
University of South Florida, Tampa, FL
Assistant Professor
1993 – 1999

Biology Department and Institute for Biomolecular Sciences
– primary appointments
Department of Pharmacology and Therapeutics - joint appointment
University of South Florida, Tampa, FL
Associate Professor with Tenure
1999 - 2001

Department of Biochemistry & Molecular Biology
UMDNJ-New Jersey Medical School, Newark, NJ
Associate Professor (with tenure from 2013)
2001- 2014

Department of Microbiology, Biochemistry & Molecular Genetics
Rutgers-New Jersey Medical School, Newark, NJ
Associate Professor with Tenure
2014 - Present

NJMS – UH Cancer Center Community
Member
2007 – 2019

Cardiovascular Research Institute
Rutgers-New Jersey Medical School, Newark, NJ
Member
2015 – Present

Rutgers Cancer Institute of New Jersey
Member
2016 – Present

Rutgers NJMS-Center for Cell Signaling
<https://njms.rutgers.edu/ccs/index.php>
Member
2019 - Present

HOSPITAL APPOINTMENTS: N/A

PRIVATE PRACTICE: N/A

OTHER PROFESSIONAL POSITION AND MAJOR VISITING APPOINTMENTS – NONE

LICENSURE: N/A

DRUG LICENSURE: N/A

CERTIFICATION: N/A

MEMBERSHIPS, OFFICES AND COMMITTEE ASSIGNMENT IN PROFESSIONAL SOCIETIES:

Association of Biochemistry Course Directors (ABCD)
Member
2013 – 2016

Association of Biochemistry Educators (ABE)
Member
2018 – present

International Association of Medical Science Educators (IAMSE)
Member
2012 – Present

American Heart Association
Member
2011 – Present

Association for Computing Machinery (ACM) First International Workshop on
Text Mining in Bioinformatics
Program Committee
(TMBIO 2006)

Society for Developmental Biology
Member
1993 – Present

World Federation of Chinese Medicine Societies (WFCMS)
Member
2017 – Present

HONORS AND AWARDS:

NJMS Faculty Organization Distinguished Career Award – PhD
2025-2026

New Jersey Health Foundation Excellence in Teaching Award # PC 1-24-10
2023-2024

NJMS Faculty Organizations Basic Science Teaching Award
2016

Nominated for a Foundation of UMDNJ Excellence in Teaching Award
2012

Research highlighted in the UMDNJ *Pulse* publication
2009

Faculty Quality Research Award for Providing Exemplary Research Experiences
McNair Scholars Program, University of South Florida, Tampa, FL

2000

Honorary Member of the Golden Key National Honor Society –
Student nominated.

1998

Outstanding Research Award,
H. Lee Moffitt Cancer Center & Research Institute, Tampa, FL
1996

BOARD OF DIRECTORS/TRUSTEES POSITION: N/A

SERVICE ON NATIONAL GRANT REVIEW PANELS, STUDY SECTIONS, COMMITTEES:

Member

Rutgers Research Council, 3 academic year term 2025-2028

4 Reviews 12/20/2025

9 Reviews December 2025

Ad hoc member

National Institutes of Health

Special Emphasis Panel on Topics in Endocrinology, Metabolism, and
Reproduction Study Section ZRG1 EMS-C(02), virtual meeting held on
8/5/2025 10:00:00 AM - 8/6/2025 6:00:00 PM

Ad hoc member

National Institutes of Health

Special Emphasis Panel/Scientific Review Group 2024/10 ZHL1 CSR-A (O1) 1
MCDA to Enhance Research Faculty Diversity RFA HL-22-010 and HL-22-011
Teleconference Wed 6/5/2024 10:00 AM - 2:00 PM

Ad hoc member

National Institutes of Health

Special Emphasis Panel/Scientific Review Group 2024/05 ZHL1 CSR-A (M1)
R
RFA HL-22-010 & 22-011 Review
Teleconference Fri 3/8/2024 10:00 AM - 2:00 PM

Ad hoc Member

American Heart Association,

Fellowship Basic Sciences 2 (BCGE) Peer Review Meeting
Teleconference Thu 11/9/2023 11:00 AM - 7:30 PM

Ad hoc member

National Institutes of Health

Fellowship review panel: 2022/05 ZHL1 CSR-K (M2) 2 - Career Development
Program to Promote Diversity in Health Research
2022

Ad hoc Member

American Heart Association, AHA Fellowships Basic Science 2 (GE)
(Teleconference 10/28/2021)
2021

Ad hoc member

National Institutes of Health

Fellowship review panel: Cell Biology, Developmental Biology, and
Bioengineering (Teleconference July 13-14, 2021, F05-D)

2021

Ad hoc Member

American Heart Association, AHA Fellowships Basic Science 2 (GE)
(Teleconference 02/24/2021)

2021

Ad hoc member

National Institutes of Health
NHLBI K01 Diversity Special Emphasis Panel (Teleconference 04/01/2021,
2021/05 ZHL1 CSR-M)

2021

Ad hoc member

National Institutes of Health
Fellowship review panel: Cell Biology, Developmental Biology, and
Bioengineering (Teleconference 11/9-10/2020, F05-D(21))

2020

Ad hoc member

National Institutes of Health
Neurodevelopmental and Neurodegenerative Disorders (Teleconference
12/3/2019, ZRG1 BDCN-L (90) S)

2019

Chair

American Heart Association, Basic Cell Genetics & Epigenetic Committee

2017

Ad hoc Member

American Heart Association, Allen Distinguished Investigator Award

2017

Chair

American Heart Association, Basic Cell—Genetics & Epigenetics (GE) 3
Committee
2012 - 2015 Fall and Spring cycles

Co-Chair

American Heart Association, Basic Cell—Genetics & Epigenetics
(GE) 1 Committee

2011

Member, American Heart Association, Basic Cell—Genetics & Epigenetics
(GE) 1 Committee

2010, 2011

Member

American Heart Association Region 1 Basic Cell 2 Review Panel

2008

Member

American Heart Association National, Basic Cell & Molecular Biol. 3

2008

Member

American Heart Association 2006-7 NEA5 (Gene Expression: Cardiovascular
Development) Review Panel

2006, 2007

Ad hoc member
National Institutes of Health
Cell Development and Function-5 Study Section, NIH
2002

Member
American Cancer Society Institutional Research Grant Review Committee
1995 - 2000

ad hoc external reviewer

National Science Foundation external reviewer
NSF Proposal # 1121760, Feb. 2011
NSF Proposal # 1052219, Oct. 2010
Alzheimer's Association
Philip Morris External Research Program

SERVICE ON MAJOR COMMITTEE:

A. International: N/A

B. National: N/A

C. Medical School

RBHS

AAUP-BHSNJ Council
2025 – present

AAUP-AFT PI Advisory Group
2021-present

AAUP-AFT Contract Bargaining committee: Research and NTT-focused bargaining sub-committees
2025 - present

Co-chaired Chancellor Strom's Committee on Campus Identity and Culture convened to answer Senate questions regarding a possible merger of the two medical schools. Co-wrote Culture and Identity report containing data and opinions collected from a broad range of faculty, staff, students, and community members.
2021-2022

RBHS Senator
2023 - 2024

Rutgers School of Dental Medicine

Promotion Review for Dr Emi Shimizu (Oral Biology)
03/14/24
Promotion with Tenure Review Dr. Modupe Coker (Oral Biology)
11/21/23

Rutgers (UMDNJ) - New Jersey Medical School

Faculty Mentor to Veronika Miskolci, Ph.D., Assistant Professor

Served as *Gonfalonier* by carrying the NJMS *Gonfalon* at Rutgers Commencement.

Cell Biology and Molecular Medicine Promotion or Tenure evaluation
committee external member

2023
2022
2021
2017
2024
2025

Search Committee for Chair of the Department of Microbiology, Biochemistry
& Molecular Genetics

2020 - 2021

LCME Sub-Committee on Faculty

2020

Institutional Planning & Development

2020 - 2024

Faculty Organization Past President

2023-2024

Faculty Organization President

2022-2023

Faculty Organization President Elect (elected)

2021-2022

Faculty Organization Vice President for Basic Research (elected)

2015 – 2016

2020 – 2021

Faculty Investigator's Committee (Chair)

2015 – 2016

2019 - 2020

2020 - 2021

Faculty Investigator's Committee (Member)

2016 - present

Foundations group (Member)

within the Organ Systems-based Integrated Curriculum Workgroup within the
NJMS Curriculum Renewal Taskforce

2013 – 2015

Endocrine Group (CoChair)

within the Organ Systems-based Integrated Curriculum Workgroup within the
NJMS Curriculum Renewal Taskforce

2013 – 2014

Goal 1 Taskforce (Member)

2013 – 2015

PreClerkship Committee (PCC) (Member)

2013 – 2015

Reviewer for the 2013 FUMDNJ Bridge Grants Program

2013

Committee on Faculty Affairs (Vice Chair)
2012 – 2014

Committee on Faculty Affairs (Member)
2010 – 2012

Reviewer for the 2009 FUMDNJ Bridge Grants Program
2009

Institutional Animal Care & Use Committee (IACUC)
2007 – 2008

Biomedical Engineering Academic Progress Committee
2005 – 2006

Faculty Council (elected Member at large)
2004 – 2006

D. Hospital: N/A

E. Department:

Chairperson - Biochemistry Medical Education Self Study Report for
Department Review
2013

Chairperson - Biochemistry Department Graduate Admissions Committee
2010

Biochemistry Department External Seminar Series Organizer
2009 – 2010

Biochemistry Departmental Committee on Graduate Program
2008

Biochemistry Graduate Curriculum Review Committee
2007

Committee on Additional Training in Biochemistry for Biochemistry Students
2007

Molecular Genetic Medicine Steering Group
2006

Biochemistry Graduate Education Self Study Group
2003

F. Editorial Boards: N/A

G. *Ad hoc* Reviewer

Journals:

Biochemistry, Biochimie, Cancer Cell, Comparative Biochemistry and Physiology,
Endocrinology, FASEB Journal, FEBS Letters, Human Genetics, Human Molecular
Genetics, International Journal of Developmental Biology, In Vitro Cellular &
Developmental Biology, Journal of Biological Chemistry, Journal of Bone and Mineral
Research, Journal of Cellular Biochemistry, Journal of Neurochemistry, Oncogene, Stem
Cells and Development

Individual reviews recorded since Oct. 2009

Bone, BONE-D-20-00140
March 2020
Journal of Developmental Biology, jdb-704911
January 2020
Hypertension, HYPE201913145
April 2019
International Journal of Molecular Sciences, ijms-339586
July 2018
Journal of Molecular and Cellular Cardiology, JMCC11369
January 2018
PLOS ONE, PONE-D-17-26771
September 2017
BMC Medical Genomics, MGNM-D-17-00032R1
July 2017
Scientific Reports (Nature journal), SREP-17-08209
March 2017
Diabetes Research Center (DRC) McAbee Endowed Postdoctoral Fellowship,
University of Washington,
April 2015
MDAdvisor, A Journal for the New Jersey Medical Community, D-14-00003
June 2014
PLOS ONE, PONE-D-13-13379
Apr. 2013
Molecular and Cellular Biochemistry, mcbi-649
Jan. 2013
PLOS ONE, PONE-D-12-39216
Jan. 2013
Developmental Biology, DBIO-12-448R1 (revised)
Dec. 2012
Developmental Biology, DBIO-12-448
Sept. 2012
AJP-Heart and Circulatory Physiology, H-00263-2012 (revised)
Jul. 2012
AJP-Heart and Circulatory Physiology, H-00263-2012
Apr. 2012
ACS Medicinal Chemistry Letters, ml-2011-00279s
Dec. 2011
Human Genetics, HumGen-11-0039
Feb. 2011
Journal of Medical Genetics; JMG/2010/084814 (revised)
Jan. 2011
Growth Factors, GGRF-2010-0056
Oct. 2010
Journal of Medical Genetics, JMG/2010/084814
Oct. 2010
Human Genetics, HMG-2010-W-00661
Jul. 2010
FASEB Journal, /2010/157768
Feb. 2010
Stem Cells and Development, SCD-2009-0357
Oct. 2009

SERVICE ON GRADUATE SCHOOL COMMITTEES:

UMDNJ – Graduate School of Biomedical Sciences

Judge –Annual GSA Symposium
2026
2024

2022
2021 (virtual)
2013 - 2015
2010 - 2011
Judge - ORSP-SSRP Poster Symposium
2017
2014 – 2015
2012
Judge - Cancer Research Summer Program Closing Symposium
2014 – 2015
2010 - 2011
Chairperson – Molecular Biology, Genetics, and Cancer (MBGC) Track
Graduate Admissions Committee
2012
Co-Chairperson – Molecular Biology, Genetics, and Cancer (MBGC) Track
Graduate Admissions Committee
2011
Member - GSBS Recruitment Committee for Multidisciplinary PhD Program in
Biomedical Sciences
2011, 2012
Member – Molecular Biology, Genetics, and Cancer (MBGC) Track Oversight
Committee
2011 – Present

SERVICE ON UNIVERSITY OF SOUTH FLORIDA COMMITTEES:

University

University of South Florida Institutional Biosafety Committee
1999

Provost's Task Force on Allied Health/Health and Basic Sciences
1998 – 1999

Research and Creative Scholarship Grant Review Committee
1995 – 1996

University of South Florida Grievance Committee
1993 – 1996

Suncoast Biomolecular Science Conference Planning Committee and Session
Leader
1993 – 1994

Department

State University System Program Evaluation Committee
2000-01

Developmental Biologist Faculty Search Committee
2000-01

Faculty Advisory Committee, elected member, formally evaluated Biology
Department Faculty. Weight of committee evaluations equaled those of the
Department Chair
1999-02

Cell Function Faculty Search Committee

1999-00

Honors Committee
1997-00

Graduate Curriculum Committee
1996-98

Genetics Faculty Search Committee
1997

Cell Biology Faculty Search Committee (2 positions)
1996

Interdisciplinary Ph.D. Program in Cellular and Molecular Biology Admissions
and Recruitment Committee
1995-01

Faculty Planning Committee (elected member)
1994-97

Biology Department Graduate Admissions Committee
1994-96

Microbiology Faculty Search Committee
1994

SERVICE ON HOSPITAL COMMITTEES: N/A

SERVICE TO THE COMMUNITY: N/A

SPONSORSHIP OF CANDIDATES FOR POSTGRADUATE DEGREE: see below

SPONSORSHIP OF POSTDOCTORAL FELLOWS: see below

TEACHING EXPERIENCE:

A. Lectures or Course Directorships
University of South Florida

Course director:

Advanced Cell Biology (BSC6107, ~25 graduates)

Developed and gave all lectures (3 h/wk) and exams in course, Fall 1994, 1996
Responsible for one third of curriculum, Fall 1997, 1998
Responsible for lectures on "Cell Cycle and Apoptosis", Spring 2001

Advances in Cell and Molecular Biology (BSC6920) Fall 1993, 1994, 1996, 2000;
Spring 1994, 1998, 1999; Summer 1996

Cell Biology (PCB3023, 140-200 undergraduates)

Developed and gave all lectures (3 h/wk) and exams in course, Spring 1994, Fall
1997, 1998, 2000
Responsible for one half of course Fall 1995, Spring 1996

Cell Biology Labs (PCB3023L, 140-200 students) Spring 1994, 1996; Fall 1996
Revised lab manual
Supervised 4 teaching assistants

Cell Growth, Death, and Differentiation (BSC6932, 13 graduates), Spring 1996
Recruited nationally renowned scientists for the associated 1996 Institute for Biomolecular Science Spring Seminar series
Prepared students for seminars
Organized extensive interactions between speakers and students

Developmental Biology (PCB4253/PCB5256, 19-30 upper-level undergraduates and graduates) Spring 1993, 1995, 1997, 1998, 1999, 2001
Developed and gave all lectures (3 h/wk) and exams in course
Compiled workbook with scientific research publications and student exercises in interpreting and designing scientific experiments in developmental biology

Practical Applications in Developmental Biology (BSC5931, ~4 students) Spring 1997, 1998, 1999; Fall 1997, 1998, 1999, 2000

Tutorial in Development (BSC6932, 1 graduate) Spring 1998

Lectures:

Biology Honors Seminar (BSC4931)
“Tissue Culture Techniques”
Methods in Pharmacology (GMS6503)
“Tissue Culture Techniques”
Spring 1998
Cellular and Molecular Pharmacology (GMS6501)
“Steroid Receptor Superfamily”
Fall 1995, 1997

Rutgers School of Graduate Studies (UMDNJ - Graduate School of Biomedical Sciences until 2014, Rutgers GSBS until 2017, then Rutgers SGS)

Course director:

Fundamentals of Biomedical Sciences A: Biochemistry and Molecular Biology (Course GSND N500A, ~170-280 graduate students)
Developed 18 hours of new lectures in 2022.
Presented material in Classroom and by Zoom. Troubleshoot, and taught the following technologies to faculty, TAs, and students: Canvas, Zoom, Turning Point, ExamSoft, ExamMonitor.
Prepared 3 comprehensive exams and 10 quizzes (over 100 revised or new multiple-choice questions not counting in class Turning Point questions)
Introduced system allowing one exam drop which allowed students to recover from one poor exam performance. Removed need to scale final grades.
Added categories to ExamSoft Questions to enable “Strengths and Opportunities” functionality,
Counseled innumerable students,
Wrote letters of evaluation to professional schools
Supervised 1-4 Teaching Assistants
2022 - present

Introduction to Biomedical Sciences Molecular Function Module I (GSND5200Q, ~40 graduate students)
Modified course by recruiting new lecturers and guiding the design of new lectures to increase topic integration and lecture quality within the new Multidisciplinary Track curriculum

Mentors lecturers by previewing lecture slides and providing constructive criticism on presentations (Neerja Kaushik-Basu, Hong Li, Vanessa Routh, Caroline Suzuki, Ray Birge)

Prepares and administers comprehensive exam

Reviews course direction and effectiveness each year, including a major course wide review in 2016 – 2017.

2009 – 2012

2016 - 2017

Molecular Cell Biology Core Course Module I: Molecular Structure & Metabolism (GSND5200, ~40 graduate students)

Developed new outline emphasizing topic integration

Mentored lecturers (Hong Li, Shuishu Wang, Matt Neiditch)

2007, 2008

Molecular Biology of the News (BIOC5240, ~20 graduate students)

Modified course by recruiting new lecturers and developing a new student evaluation system

Mentored lecturers by providing constructive criticism on presentations (Hong Li, Shuishu Wang, Betsy Barnes, Ray Birge)

2007, 2009, 2011

Molecular & Genetic Medicine (GSND 5201Q, ~40 graduate students)

Introductory Lecture (new in 2013)

“Sickle Cell Disease – Cases to Exemplify Genetics, Protein Biology, and Cell Biology” (new Podcast 2013)

“Mitosis & Meiosis” (new Podcast 2013)

“Signaling – Peptide Hormones” (new Podcast 2014)

“Cell Metabolism Basics” (new Podcast 2014)

2005 – 2014

Unit Leader:

Genes Molecules and Medicine (GSND 5205Q)

Unit 6 leader - Endocrinology and Cancer

2010 - 2014

Co-course director:

Molecular Biology of the News (BIOC5240, ~20 graduate students)

2005

Critical Readings of the Literature (BIOC5290Q, ~4 graduate students)

2016

Fundamentals of Biomedical Sciences A: Biochemistry and Molecular Biology (Course GSND N500A, ~220 graduate students, 284 students in 2020)

co-directed with Dr. Michael Lea

Added a comprehensive final in 2021

Presented material in Classroom and by Zoom. Troubleshoot, and taught the following technologies to faculty, TAs, and students: Canvas, Zoom, Turning Point, ExamSoft, ExamMonitor, TechSmith, NJMS Digital Media access. Prepared 3 comprehensive exams and 10 quizzes (over 300 revised or new multiple choice questions not counting in class Turning Point questions), added categories to ExamSoft Questions to enable “Strengths and Opportunities” functionality, counseled innumerable students, designed a comprehensive course evaluation, wrote letters of evaluation to professional schools

Prepared and administered 2 comprehensive exams 2017 – 2020

Added 2 Quizzes in 2019

Due to COVID-19, changed format to Flipped Classroom in 2020, Virtual format with online question and answer sessions in 2020. Learned, troubleshoot, and taught the following technologies to faculty, TAs, and students: Canvas, ProctorTrack, Webex, Turning Point, ExamSoft, ExamMonitor, TechSmith, NJMS Digital Media access. Prepared 2 comprehensive exams and 12 quizzes (320 revised or new multiple-choice questions not counting in class questions), added categories to ExamSoft Questions to enable “Strengths and Opportunities” functionality, counseled students, wrote letters of evaluation to professional schools
2017 - 2021

Lectures:

Microbes and Infectious Disease (MICR N5233)

Proctored Virtual Exams

2020 - present

Fundamentals of Biomedical Sciences A: Biochemistry and Molecular Biology (Course GSND N500A, ~170 to 284 graduate students)

“Introduction - Functional Groups in Biological Molecules, Amino Acids”

“Protein Structure & Function; Enzyme Kinetics & Regulation” *new in 2022*

“Carbohydrates and Nucleotide Structure, Glycolysis and Gluconeogenesis”

“More cytosolic reactions: Glycogen, other sugars, Pentose Phosphate Path, Amino acid sugar molecules” *new in 2022*

“Bioenergetics and the Tricarboxylic Acid Cycle; Electron Transport and Oxidative Phosphorylation”

“Lipid metabolism” *new in 2022*

“The Many Fates of Nitrogen: Nitrogen disposal; Amino Acid Metabolism” *new in 2022*

“More Nitrogen Fates: Special Products, Porphyrins, Heme, and more; Nucleotide metabolism, Plasma proteins, & Blood clotting” *new in 2022*

“DNA, RNA and Nucleic Acid Techniques”

“Protein Synthesis & Techniques”

“Tying it together: Regulation of Gene Expression”

“Tying it together: Integration of Metabolism” *new in 2022*

18 hours new lectures in 2022

20 hours new lectures in 2018

In 2020, all lectures were Re-recorded for flipped classroom viewing plus

13 Q & A sessions were set up. Revised lecture titles:

“DNA and RNA Synthesis and Nucleic Acid Techniques”

Protein Synthesis and Techniques”

2018 – present

Responsible Conduct of Research (GSND 5001Q)

Small Group Leader (2 hours)

2018 – 2024

New lecture: “Data Acquisition and Laboratory Tools”

2025 to present

Medical Biochemistry & Genetics (GSND5501Q)

“Signaling – Peptide Hormones I”

2015 - present

“Signaling – Peptide Hormones II”

2015 - present

“Developmental Genetics”

2015 – present

Genes, Molecules and Medicine (GSND 5205Q)

“Mitosis and Meiosis”

“Signaling – Peptide Hormones I and II”

“Mechanism of Action of Steroid Hormones”

“Calcium Metabolism”

“Techniques in Molecular Biology” 2012

2010 – 2014

Foundations in Biochemistry and Molecular Biology (BIOC5007)

“Nuclear Hormone Receptors: from Glucocorticoids to Orphans”

2006, 2008, 2010, 2012, 2014, 2016

Seminar in Biomedical Sciences (MSBS-591Q)

“BMP2 Gene Regulation”

“How to keep BMP2 off when it should be off”

“Turning BMP2 On and Off”

“Controlling the level of BMP2”

2003, 2009, 2010, 2011, 2012, 2014, 2015, 2016, 2017

Biochemistry of Nucleic Acids (BIOC5070)

“Eukaryotic Activators and Repressors”

“Transcriptional Factors during Embryogenesis & Development” *new in 2011*

2002 – 2014, 2016, 2018

Molecular Cell Biology Core Course (GSND5200)

“Cellular & Biochemical Foundations”

2007, 2008

Molecular Biology of the News (BIOC5240)

“Stem Cells”

2003, 2005, 2007, 2009, 2011, 2013

Evening Core I (GSND N551Q)

“Cellular & Biochemical Foundations”

2007, 2008

Developmental Biology (CBMM5020)

“Cell Cycle and Apoptosis”

“Teratogens”

2003 – 2009

“Teratology and Teratogens”

2025

Introduction to Biomedical Sciences (GSND5200Q)

“Biochemical Foundations” 2 hours

“Tying it Together, Regulation of Metabolism” *new in 2017*

2009 – 2025

Current Topics in Biochemistry (BIOC508A)

“BMP2 Gene Regulation”

2002

Cancer Biology (MBGC 5020Q)

“p53 and Apoptosis”

2012 - present

Cancer Biology (GSND5225Q)
“p53 and Apoptosis”
2010, 2011

Molecular Methods in Biochemistry (BIOC5170)
“Tissue Culture”
2008 – 2010

Analytical Methods in Biochemistry (BIOC5170)
“Tissue Culture”
2002 – 2007

Rutgers (UMDNJ until 2014) - NJ Medical School

Course Director

Molecular & Genetic Medicine (EDUC6002K, ~200 medical and graduate students)
2013 – 2014
Compressed course from 9 weeks to 7 weeks and 3 days in 2013
Increased use of active learning techniques such as problems sessions and use of the Automated Response System (clickers)
Prepared 4 new podcasts
Added Cell Biology material via a podcast prepared by Richard Feinberg
Developed new Team Based Learning Exercises
Organized new Problems Sessions on Biochemistry
Prepared pretest to be administered online with the assistance of the CALM tutors and the Office of Student Affairs
Reviewed lectures (60-66 total), TBLs (6), and problems sessions (4)
Edited syllabus introduction and prepared schedules

Course Coordinator – Biochemistry & Molecular Biology

Molecular & Genetic Medicine (EDUC6002K)
2012 – 2014
Reviewed lectures
Prepared and administered exams

Unit Leader:

Molecular & Genetic Medicine Unit 1 – Introduction to Molecular & Genetic Medicine (EDUC6002K)
Reviewed lectures in Unit 1 (9 total) and suggested modifications to increase topic integration and lecture quality
2013 – 2014

Molecular & Genetic Medicine Unit 6 – Endocrinology and Cancer (EDUC6002K)
Developed new case-based learning exercise (CBL6) designed to review basic concepts in frame shift mutations, receptor function, oncogenes and tumor suppressors, PCR, retroviral gene integration and to discuss the risks and benefits of gene therapy.
Reviewed lectures in Unit 6 (8 total) and suggested modifications to increase topic integration and lecture quality
2009 – 2013

Lectures:

Molecules Cells and Systems (NJMS Foundations EDUC 6100K)

“Glycolysis & Gluconeogenesis”

2022 - present

“Glycogen & Galactose”

2022 - present

“Integrating Metabolism”

2022 - present

“Signaling – Peptide Hormones I”

2015 - 2021

“Signaling – Peptide Hormones II”

2015 - 2021

“Developmental Genetics” (new in 2015)

2015 – 2021

Reviewed new Small Interactive Group (SIG) activities

Molecular & Genetic Medicine (EDUC6002K)

Introductory Lecture (new in 2013)

“Sickle Cell Disease – Cases to Exemplify Genetics, Protein Biology, and Cell Biology” (new Podcast 2013)

“Mitosis & Meiosis” (new Podcast 2013)

“Mitosis & Meiosis” (lectures 2005 - 2012)

“Signaling – Peptide Hormones”

2005 –2013

“Signaling – Peptide Hormones I”

2014

“Signaling – Peptide Hormones II”

2014

“Cell Metabolism Basics” (new Podcast 2014)

“Peptide Hormones Basics” (new Podcast 2014)

Team Based Learning Exercise 1 “Key Concepts in Biochemistry, Molecular, & Cell Biology” (new in 2013)

Team Based Learning Exercise 6 “SCID” (new in 2014)

Small group leader (2 to 6 two-hour sessions/year):

Molecular & Genetic Medicine recitations (EDUC6002K)

2004 – 2010

Rutgers School of Dental Medicine (UMDNJ - NJ Dental School until 2014)

Course Director

Dental Biochemistry (BIOC7102) ~90 RSDM and 8 SGS students

Prepared schedule accommodating lecturer and RSDM needs, 9 new lectures, and 3 comprehensive exams.

Added over 300 multiple choice questions to Canvas.

Developed new Case Based Learning (CBL) exercise in 2026

Revised and ran two Case Based Learning (CBL) exercises.

Added categories to ExamSoft Questions to enable “Strengths and Opportunities” functionality.

Compared Legacy to Enterprise ExamSoft functionalities.

Mentored faculty providing new lectures:

PingPing Hou, Anish Das, Sergei Kotenko, Rena Zelig, Carla Cugini, Ken Markowitz

2023 - present

Lectures:

Dental Biochemistry (BIOC7102)

“Chromosomes”

“Bones”

2006 – 2010

“Mechanism of action of peptide hormones (insulin/glucagon)”

“Integration of Metabolism”

2017 – present

“Introduction to Molecules”

“Amino acids and transport”

“Glycolysis and gluconeogenesis”

“TCA cycle”

“Oxidative phosphorylation”

“Pentose phosphate path and glycogen”

“Glycoproteins & proteoglycans”

“Fatty acid metabolism”

“Hemoglobin & Heme Metabolism”

2023 – present

2025 - present

Protein Structure

Enzymes

Case Based Learning (CBL) exercises:

“Bone and Extracellular Matrices” new in 2026

“AIDs” converted to “HIV” focus in 2024

“Diabetes”

Small group leader (4 two-hour sessions):

Dental Biochemistry PBL sessions

2004 – 2008, 2015

B. Research Training

Post-Doctoral Fellows:

Ying Tang, Ph.D.

2018 – Jan. 2021

Jianbo Guo, M.D. (Joint with Dr. Azzam)

2016 – 2018

General Surgery, The Fourth Affiliated Hospital of China Medical

University, Shenyang, China

Lakshmi Gummadi, Ph.D.

2012 – 13

Adriano S. Martins, Ph.D.

Maimonides Medical Center, Brooklyn, NY

2009-10

Junwang Xu, Ph.D.,

2002-06

Associate Professor

University of Tennessee Health Science Center, College of Medicine -
Memphis

Department of Physiology

Jaspreet Kochar, Ph.D.

2003-05

Donglin Liu, Ph.D.

2003-05

FrontAim Biomedicines, Inc., Princeton, NJ 08540

Céline Nativelle-Serpentini, Ph.D.

2002-03

Pragnya Das, Ph.D.

2002-05

Scientist, Department of Pediatrics, Drexel University College of Medicine

Michele A. Glozak, Ph. D.

1995-02

Scientist, H. Lee Moffitt Cancer Institute, USF, Tampa, FL

Loreé Heller, Ph.D.,

1994-97

Associate Professor, Medical Diagnostic & Translational Sciences, Old Dominion University, Norfolk, VA

Pre Doctoral Students:

Ph. D Students:

University of South Florida

Kevin L. Abrams,

"Transcriptional Regulation of *Bmp2*",

AdWords and SEO Specialist, Thermo Fisher Scientific, ClickKinetics, Rockford, IL

1997-04

Todd Meyer, Ph.D. supervised jointly with Dr. John Francis (Walt Disney Cancer Institute)

"Cellular Effects of Tissue Factor Binding Proteins

Walt Disney Cancer Institute, FL

1995-02

Yong Li, Ph.D.

"Characterization and trapping of novel RA-regulated genes"

Professor, Life Sciences, Xiamen University, Xiamen, Fujian,

P.R.China

1995-99

UMDNJ/Rutgers

Shan Jiang, Ph.D.

"Bone Morphogenetic Protein 2 (Bmp2) Gene Regulation in Lung Cells" American Society for Cell Biology (ASCB) Predoctoral Student

Travel Award recipient, 2006, Southeast Developmental Biology

Meeting Runner-Up Poster Presentation, 2007

Scientist, Gene Tools, LLC; Philomath, OR

2003-08

Tapan Shah, Ph.D.

"Post-transcriptional Gene Regulation of Bone Morphogenetic Protein (BMP)-2 During Embryogenesis and Cardiovascular Calcification"

Advanced Cell Diagnostics (ACD - a Bio-Techne brand) Newark, CA

2014 – 2018

M.S. Students:

University of South Florida

Vivian Wong, M.S. in Microbiology

"The Effects of RA and BMP-4 on the *In Vitro* Differentiation of Mouse Embryonic Stem (ES) Cells"

1995-98

Travis VanDyke, M.S. in Zoology, Co-Major Professor with Dr.

Samuel Edwards "Possible Regulation of *Limulus polyphemus* Lateral Eye Protein Phosphatase Type 2A by PKA Phosphorylation of AB

Subunit"
1994-96

UMDNJ/Rutgers

Ruwenne Moodley (non-thesis)
2025
Bhavya Sri Akkineni (non-thesis)
2025
Eunice Lee (non-thesis)
2025
Menlinda ZayZay (non-thesis)
2024 – 2025
Emely Baez (non-thesis)
2024
Haaris Raja (non-thesis)
2024-2025
Adriana Paldino (non-thesis)
*Successfully nominated for Graduate Student Excellence in Leadership
and Teaching Award*
2023
Henry Chen (non-thesis)
2023
Jasmine Brooks (non-thesis)
2023
Jennifer Martinez (non-thesis)
2022-24
Hebah Ahmen (non-thesis)
2022-2023
Alexandra Cobos (non-thesis)
2022-23
Julie Joseph (non-thesis)
2022-23
Natalia Fuenzalida (non-thesis)
2022
Tiarrah Tolliver (non-thesis)
2022
Johan Yaport (non-thesis)
2021
Jessica Lu (non-thesis)
2021
Sanchita Kashyup (non-thesis)
2019 – 2020
Alexis Lee (non-thesis)
2020
Antony Muzika (non-thesis)
2019
Ariane Ramos (non-thesis)
2018-2019
Ariella Feitelberg (non-thesis)
2018-2019
Paula Phu (non-thesis)
2018-2019
Jocelyn Packer (non-thesis)
2018-2019
Sydney Panella (non-thesis)
2018
Patricia Palanca (non-thesis)
2018

Nadim Modi (non-thesis)
2018
Morgan Zahn (non-thesis)
2018
Irina Kleiman (non-thesis)
2017
Risha Patel (non-thesis)
2017
Nadia Shaikh, M.S. (thesis)
“Characterization of Three New Bone Morphogenetic Protein (BMP)-2
Alleles”
Student at St. George’s University School of Medicine 2017
2014 - 2017
Giany Salinas (non-thesis)
2016
Imani Williams (non-thesis)
2016
Risha Patel (non-thesis)
2016
Irina Kleiman (non-thesis)
2016
Ashley Franko (non-thesis)
2015 - 16
Daniel Tabaras (non-thesis)
2015
Gabriella Slater (non-thesis)
2015
Tyler Sharp (non-thesis)
2015
Justin Hulin (non-thesis)
2015
Joseph Doran (non-thesis)
2015
Precious Martin (non-thesis)
2015
Chinwendu Emelumba (non-thesis)
2014
Danni Fu (non-thesis)
2014
Pedro EspinoGrosso (non-thesis)
2013
Anastasios V. Fotinos, M.S. (thesis)
“Regulation of Bone Morphogenetic Protein 2 (Bmp2) Signaling and
Post-Transcriptional Elements in Lung Cells”
student at Rowan University School of Osteopathic Medicine 2014
2012 – 2013
Naila Saidu-Kamara (non-thesis)
2012
Meegan Napoleon (non-thesis)
2011
Channing Hui (non-thesis)
2011
Jacek Waszkiewicz (non-thesis)
2010
Nathalie Duroseau (non-thesis)
2010
Yijun Liu, M.S. (thesis)
“Bone Morphogenetic Protein 2 (Bmp2) Gene Regulation”
Account Manager, Qiagen, Washington, DC

2009-10

University of South Florida

Honors Undergraduates:

Gialinh T. Le (USA Today All-USA College Academic Team finalist, Biology and University Honors), now Lynn Thi Le, MD, Florida Hospital, Orlando, FL
Alekh Hira (Institute for Biomolecular Science Undergraduate Research Fellow, Biology honors)
Rosario Martinez-Angel (Biology and University Honors)
Elisa Schuetz (Biology and University Honors)
Christine Roland (Institute for Biomolecular Science Undergraduate Research Fellow, University Honors)
Greg Twarowski

American Cancer Society (ACS) R.G. Thompson Summer Research Fellows (undergrad):

Cynthia Higgins-Owsinski
Kerri Aaron
Simon Wloch

Ronald E. McNair Postbaccalaureate Achievement Program (an undergraduate program that aims to increase the attainment of Ph.D. degrees by students from underrepresented segments of society):

Sherma St. Fort
Katrina Duckworth
Brandon Rodriguez

Non-Honors Program University of South Florida Undergraduates:

Terri Slifko,
Denise Basch,
Michael Randall,
Susan Smith,
Juan P. Richiusa, MD, Family Health Centers of Southwest Florida Inc., Fort Myers, FL
Jason Matthews,
Kumar Jairamdas,
Yasmin Issa,
Anita Arias

UMDNJ/Rutgers

Undergraduates and graduate or other student volunteers:

Bryanna Clervil (Seton Hall University)
2023-present
Saahil Patel (NJMS Summer Student Research Program, TCNJ BS/MD program, entered NJMS in 2023)
2022-2023
Maansi Chalasani (NJMS Summer Student Research Program, TCNJ BS/MD program, entered NJMS in 2023)
2022-2023
Claire Jiang, Dwight D. Eisenhower Middle School in Wyckoff, NJ (virtual)
2021

Alice Lee, Montgomery High School

2020 (virtual)

Lindsey Hernandez (RU New Brunswick), joint with Dr. Patricia Buckendahl (received *Rutgers Aresty Undergraduate Research Fellowship* twice and Society of Developmental Biology *Choose Development! Summer Fellowship*, \$4000, Honors in Genetics thesis)

Honors research:

2016 – 2019

Post-baccalaureate studies funded by NIH Diversity Supplement:

2019 - 2020

Jawad Salloum (RU Newark)

Honors research

2018 – 2020

Yue Wang (Doctoral student, Beijing University of Chinese Medicine)

2019 - 2020

Nikita Patel (TCNJ BS/MD program, entering NJMS in 2020)

2019

Lianhua Jin (MS student, NJ Institute of Technology)

2017

Weijun Huang (Doctoral student, Beijing University of Chinese Medicine)

2017

Ludmila Lisii (Rutgers New Brunswick)

2015

Alicja Zalewski (TCNJ BS/MD program, entered NJMS in 2012)

2010

Abdul Rahman (NJ Institute of Technology)

2007-08

Swetha Yeldandi (University of Maryland Honors Undergraduate, entered NJMS Fall 2010)

2006

NHLBI Summer Minority Program

Ismanic Guillaume (Rutgers University)

2008

Cancer-Related Student Research Program

Anirudh Goyal, NJMS

2016

Annica Tehim, NJMS

2015

Jordana Goldman, NJMS

2014

Manpreet Parmar, NJMS (1st Place in Poster Competition)

2013

Steven Lisica, (TCNJ BS/MD program, entered NJMS in 2011), 2011;

2012

Dena Abelshahed, NJMS

2010

Shanchita Ghosh, NJMS (2nd Place in Poster Competition)

2009

Jason Teichman, NJMS

2008

Guy Jones, NJMS (3rd Place in Poster Competition)
2006

NJMS Summer Student Research Program

Mark Danila, RU New Brunswick undergrad, joint with Dr. Patricia
Buckendahl (Aresty Undergraduate Research Fellowship recipient
(\$1,000)

2017 – 2018 (2017 summer plus academic year)

Claudia Siniakowicz, TCNJ/NJMS BS/MD program

2018

Amy Song, TCNJ/NJMS BS/MD program

2017

Theresa Krawiec, NJMS,

2016

Vanya Jain (RU Newark undergrad)

2016

Lauren Cué, NJMS,

2015

Annica Tehim, TCNJ BS/MD program, entered NJMS in 2014,
2014

David Kam, NJMS (2nd Place in Poster Competition)

2013

Sandra Chesoni, Ph.D, NJMS

2012

Hao Sun, NJMS

2011

Zain Boghani (TCNJ)

2007

Rotating Graduate Students (3 to 6 month projects):

Ian Campbell

2017

Mayra Tuiche

2017

Jaemin Byun

2013

Ke Geng

2012

Narayani Nagarajan (2014 S.-C. Joseph Fu Scholarship Award)

2010

Yi Jun Liu

2009

Manpreet Kaur

2008

Khanh Quynh Nguyen

2007

Sarah Darmon

2006

Jiaying Huang

2003

Wei Li

2002

Masters Thesis Advisory Committee

Audrey Pettengill

2026 - present

Vincent Rubino

2026 - present

Qualifying Examination Committee Member for:

Yunping Gao
2025
Sarangelica Alamo Ortiz
Tanaz Sadeghian
2024
Angelo Cirinelli
2021
Krystopher Maingrette
2020
Michael Warkala
2019
ShanShan Li
2018
Sonia DaSilva-Arnold, Molecular Biology, Genetics, & Cancer Track
2016
Daniel Vollenweider, Biochemistry and Molecular Biology
2011
Ruifeng Zheng, Pharmacology and Physiology
2010
Wenting Luo, Biochemistry and Molecular Biology
2010
Wen-I Tsou, Biochemistry and Molecular Biology
2009
Sneha Joshi, Biochemistry and Molecular Biology
2007
Lisa Hague, Biochemistry and Molecular Biology
2005
Eduardo Areche, Biochemistry and Molecular Biology
2004
Qi Wang, Ph.D. Biochemistry and Molecular Biology
2003
Qi Shen, Ph.D. Biochemistry and Molecular Biology
2002
Nitu Tibrewal, Ph.D. Biochemistry and Molecular Biology
2001

Doctoral Thesis Committee Member for:

Jonathan Dias
2025 – present
Tanaz Sadeghian
2024 - present
Sarangelica Alamo Ortiz
2024 – present
Krystopher Maingrette
2020- present
Jojo Reyes
2022 - 2023
AnnJosette Ramirez, Ph.D., CBNP
2019 - 2023
Brianna Alexander, Ph.D., CBNP
2019 - 2023
Sonia DaSilva-Arnold, Ph.D., Molecular Biology, Genetics, & Cancer
Track
2016 -2000

Qi Wang, Ph.D. Biochemistry and Molecular Biology
2003-07
Qi Shen, Ph.D. Biochemistry and Molecular Biology
2002-06

Doctoral Thesis Defense Committee Member for:

Marc Teitelbaum
2025
Corey Chang, Ph.D., MD, NJMS MD/PhD program
2014
Kevin Hong Nguyen, Ph.D., Interdisciplinary Biomed. Sciences Prog.
2014
Lisa Hague, Ph.D. Biochemistry and Molecular Biology
2010
Gregor Balaburski, Ph.D. Orthopaedics
2005
Matt Hosler, MD, Ph.D. Biochemistry and Molecular Biology
2005
Mateusz Opyrchal, Ph.D. Microbiology and Molecular Genetics
2005
Naomi Bergman, Ph.D. Microbiology and Molecular Genetics
2004

C. Other instructional activities at UMDNJ

Participated in International Association of Medical Science Educators (IAMSE) Faculty Development Webinar Series

Compiled Biochemistry Department Ethics Guidelines for students.

Prepared written summaries of the characteristics of good multiple choice and NBME style questions for Molecular & Genetic Medicine faculty.

Participated in National Board of Medical Examiners (NBME) Item Writing Workshop: Constructing Better Quality Multiple-Choice Questions (MCQs) for the Basic and Clinical Sciences

Participated in AAMC Careers in Medicine Advising Workshop: Helping Students Find Their Fit
2011

CLINICAL RESPONSIBILITIES: N/A

GRANTS SUPPORT:

A. Principal Investigator:

Core Facility Utilization Voucher, Rutgers Office for Research “A Novel Imaging Method to Assess Pathological and Congenital Bone Changes” NJMS Histology Core and RUMIC \$5000
04/25/22 – 12/31/22

Core Facility Utilization Voucher, Rutgers Office for Research “Using a Novel Imaging Method to Assess Pathological and Congenital Bone Changes” RUMIC \$5000
03/22/21 – 12/31/21

National Heart, Lung, and Blood Institute, “Gene Regulatory Mechanisms that Repress BMP2 in Pathological Calcification”, 1R01HL134947 03S1, Diversity Supplement for Lindsey Hernandez \$57,962 total, (\$20,807 indirect costs - IDC) 09/01/17 - 07/31/20

National Heart, Lung, and Blood Institute, “Gene Regulatory Mechanisms that Repress BMP2 in Pathological Calcification”, 1R01HL134947, \$750,000 total, (\$441,882 indirect costs - IDC) 08/15/17 - 07/31/21 (no cost extension)

National Institute on Aging, “Regulation of BMP2 in CKD Induced Calcification in the Klotho Aging Model”, 1R56AG050762-01A1, \$250,000 total, (\$147,500 indirect costs - IDC) 09/15/16 - 08/31/18

Dean’s Biomedical Research Support Program, Core Facilities Matching Funds, “MicroRNA Profiles in Calcified Aorta”, \$3,000 (no indirect costs – IDC) 07/01/2016 - 6/30/2017

National Heart, Lung, and Blood Institute, “BMP2 Gene Regulation in Calcific Aortic Valve Disease”, 1R01HL114751, \$1,000,000 total, Multiple Principal Investigator with Douglas Mortlock, Ph.D, Vanderbilt University, \$500,000 to UMDNJ – NJMS (\$280,000 indirect costs - IDC) 08/23/2012 – 06/30/2017

Foundation of UMDNJ and Dean’s Biomedical Research Support Program, “BMP2 Repression and Embryogenesis and Adult Physiology”, #PC53-12, \$25,000 (no indirect costs – IDC) 04/01/2012-03/30/2014

Dean’s Biomedical Research Support Program, Core Facilities Matching Funds, “A Modified Allele for Conditionally Inducing BMP2”, \$3,000 (no indirect costs – IDC) 10/12/2011-6/30/2013

American Heart Association, Founder’s Affiliate, “Natural Repressors of BMP2 Synthesis”, #09GRNT2220251, \$180,000 (\$18,000 IDC) 7/1/2009-6/30/2012

NJ State Commission on Cancer Research, “Mycoplasma and BMP2 in Lung Cell Transformation”, #09-1132-CCR-EO, \$120,000 (\$12,000 IDC) 7/1/2008-6/30/2010

Council of Research Deans (CoRD), “Research Career Development Travel Award” \$1,500 (no IDC) 2008

Foundation of UMDNJ, “BMP2 RNA Binding Proteins”, \$50,000 (no IDC) 11/1/2006-10/31/2007

American Heart Association, Heritage Affiliate, “Retinoids and Bmp2 Expression in Embryos”, #0655881T, \$180,000 (\$18,000 IDC) 7/1/2006-6/30/2009

Foundation of UMDNJ, "Genetic Polymorphisms Influencing Bone Density in Mice" \$50,000 (no IDC)
7/1/2005-6/30/2006

Foundation of UMDNJ, "Bone Morphogenetic Protein 2 RNA processing", \$50,000 (no IDC)
7/1/2004-6/30/2005

March of Dimes, "Trapping Murine Retinoic Acid Response Elements (RAREs) Directly in Yeast", #1-FY00-381, \$167,770 (\$16,777 IDC)
7/1/2000-6/30/2004

National Institute of Child Health and Human Development, "Retinoic Acid-Regulated Genes and Embryos", R01 #HD31117, \$827,961(\$322,905 IDC)
2/1/2000-1/31/2006

American Heart Association, Florida Affiliate, Inc., "Induction of Embryonic Apoptosis by Retinoids and Bmp2 or 4", \$90,000
7/1/1997-6/30/1999

National Institute of Child Health and Human Development Research Supplements for Underrepresented Minorities for undergraduates Juan P. Richiusa and Gialinh T. Le, \$13,850
1995-1998

University of South Florida Presidential Young Faculty Award
"Apoptosis and Retinoid-regulated Differentiation", *Two awarded out of 38 proposals*, \$10,000
1995

National Institute of Child Health and Human Development, "Retinoic Acid-Regulated Genes and Embryos", R29 #HD31117, \$350,000
1994-2000

University of South Florida Research and Creative Scholarship Grant, "Inactivation of the BMP-2 and -4 genes in Embryonic Stem Cells", \$7,500
1993-1994

American Cancer Society, FL Div. Starter Grant, "Retinoic Acid-Regulated Genes and Differentiation", \$10,000
1993-1994

Leukemia Research Foundation, Inc. Research Grant, "Retinoic Acid-Regulated Genes and Differentiation", \$35,000
1993-1994

B. Co-Investigator

Council of Research Deans (CoRD) UMDNJ Team Science Initiative Grant with John Langenfeld, MD, UMDNJ – RWJMS, "The Role of Mycoplasma-induced Tumorigenesis", \$10,000 (no IDC)
2008-2009

as Mentor:

American Heart Association "Altered microRNAs in BMP2-mediated calcification in KLOTHO deficient mice", Postdoctoral Fellowship 20POST35210235, Ying Tang, \$135,352
2020-2021

NJ State Commission on Cancer Research "Alternate Polyadenylation of BMP2 mRNA in Cancer Cells", Postdoctoral Fellowship, Donglin Liu, transferred to Aaron Shatkin's lab due to visa issues because grant notice came too late, \$69,000
2005-2007

American Heart Association, Florida Affiliate, Inc., "Retinoic Acid Altered Expression of Bone Morphogenetic Protein 2", Predoctoral Fellowship, Kevin Abrams, \$33,500
2000-2002

Tharpe Scholarship, "Transcriptional Regulation of *Bmp2*", Kevin Abrams, \$4,000
2000

American Heart Association, Florida Affiliate, Inc., "Induction of Apoptosis in Pluripotent Embryonal Cells", Postdoctoral Fellow, Michele A. Glozak, Ph.D., \$73,500
1997-1999

American Heart Association, Florida Affiliate, Inc., "Retinoic Acid Regulation of the BMP2 Gene", Postdoctoral Fellow, Loree C. Heller, Ph.D., \$69,000
1995-1997

PUBLICATIONS:

A. REFEREED ORIGINAL ARTICLES IN JOURNALS

ORCID ID: 0000-0003-2258-9365

http://www.ncbi.nlm.nih.gov/sites/myncbi/1PGPXaKSz2-k_/bibliography/45552599/public/?sort=date&direction=ascending

1. Garsetti DE, Sahay K, Wang Y, **Rogers MB**. Sex and the basal mRNA synthesis machinery. *Wiley Interdiscip Rev RNA*. 2022 Oct 4; e1765. doi: 10.1002/wrna.1765. PMID: 36195437 DOI: 10.1002/wrna.1765
2. Salloum JS, Garsetti DE, **Rogers MB**. Genetic Background Influences the Impact of KLOTHO Deficiency. *Physiological Genomics*. 52, 512-516 (2020)
3. Tang Y, Shah TA, Yurkow EJ, **Rogers MB**. MicroRNA Profiles in Calcified and Healthy Aorta Differ: Therapeutic Impact of miR-145 and miR-378. *Physiological Genomics*. 52: 517–529, 2020.PMID: 32956022
4. Cottrell JA, Burgess D, Michaels S, **Rogers MB**. Common Cell Lines Used to Study Bone Morphogenetic Proteins (BMPs). *Methods Mol Biol* 1891:1-8. doi: 10.1007/978-1-4939-8904-1_1. (2019).
5. Shah TA and **Rogers MB**. Unanswered Questions Regarding Sex and BMP/TGF- β Signaling. *Journal of Developmental Biology*. 6, 14; doi:10.3390/jdb6020014 (2018)
6. Shah TA, Zhu Y, Shaikh NN, Harris MA, Harris SE, **Rogers MB**. Characterization of New Bone Morphogenetic Protein (Bmp)-2 Regulatory Alleles *Genesis*. Jul;55(7). doi: 10.1002/dvg.23035. (2017)
7. Fotinos, A, Fritz, DT, Lisica, S, Liu, Y, **Rogers, M. B**. Competing Repressive Factors Control Bone Morphogenetic Protein 2 (BMP2) in Mesenchymal Cells *Journal of Cellular Biochemistry*, 117:439–447 (2016)
8. **Rogers, M. B.**, TA Shah, NN Shaikh. Turning Bone Morphogenetic Protein 2 (BMP2) On and Off in Mesenchymal Cells. *Journal of Cellular Biochemistry*

- 116(10):2127-38 (2015)
9. Yutzey, KE, Demer, LL, Body, SC, Huggins, GS, Towler, DA, Giachelli, CM, Hofmann-Bowman, MA, Mortlock, DP, **Rogers, MB**, Sadeghi, MM, Aikawa, E. Calcific aortic valve disease: A consensus summary from Alliance of Investigators on Calcific Aortic Valve Disease, *Arteriosclerosis, Thrombosis and Vascular Biology*, 34(11):2387-93 (2014)
10. Fotinos, A, Nagarajan, N, Adriano S. Martins, AS, Fritz, DT, Garsetti, D, Lee, AT, Hong, CC, and **Rogers, MB**, Bone Morphogenetic Protein-focused Strategies to Induce Cytotoxicity in Lung Cancer Cells, *Anticancer Research*, 34 (5): 2095-2104 (2014)
11. Kruithof, BPT, Xu J, Fritz, DT, Cabral CS, Gaussin, V, and **Rogers, M. B.** An In Vivo Map of Bone Morphogenetic Protein 2 Post-transcriptional Repression in the Heart, genesis, *The Journal of Genetics and Development* 49:841–850. (2011)
One figure chosen for cover art.
12. Kruithof, BPT, Fritz, DT, Liu, Y, Garsetti, DE, Frank, DB, Pregizer, SK, Gaussin, V, Mortlock, DP, and **Rogers, M. B.** An Autonomous BMP2 Regulatory Element in Mesenchymal Cells, *Journal of Cellular Biochemistry* 112: 666 - 674. (2011) PMID: 21136487
13. Jiang, S, Chandler, RL, Fritz, DT, Mortlock, DP, **Rogers, MB** Repressive BMP2 Gene Regulatory Elements Near the BMP2 promoter, *Biochemical and Biophysical Research Communications* 392: 124 – 128. (2010)
14. Jiang, S, Fritz, DT, and **Rogers, M. B.** A Conserved Post-Transcriptional Bmp2 Switch in Lung Cells, *Journal of Cellular Biochemistry* 110: 509 – 521. (2010)
15. Devaney, J. M., Tosi, L. L., Fritz, D. T., Gordish-Dressman, H. A., Jiang, S., Orkunoglu-Suer, F. E., Gordon, A. H., Harmon, B. T., Thompson, P. D., Clarkson, P. M., Angelopoulos, T. J., Gordon, P. M., Moyna, N. M., Pescatello, L. S., Visich, P. S., Zoeller, R. F., Brandoli, C., Hoffman, E. P., **Rogers, M. B.** Differences in Fat and Muscle Mass Associated With a Functional Human Polymorphism in a Post-transcriptional BMP2 Gene Regulatory Element. *Journal of Cellular Biochemistry* 107: 1073 – 1082. (2009)
16. Liu D, Fritz, DT, **Rogers MB**, Shatkin, AJ (Species-specific cis-regulatory elements in the 3'UTR direct alternative polyadenylation of bone morphogenetic protein 2 mRNA. *Journal of Biological Chemistry* (283) 28010-28019. (2008)
17. Das, P., Doyle, T.J., Liu, D., Kochar, J., Kim, K.H., **Rogers, M.B.** Retinoic Acid Regulation of Eye and Testis-Specific Transcripts within a Complex Locus. *Mechanisms of Development*. 124: 137-145. (2007)
18. Han, K, Song, H, Moon, I, Augustin, R, Moley, K, **Rogers, MB**, H. Lim Utilization of DR1 as True RARE in Regulating the Ssm, a Novel Retinoic Acid-Target Gene in the Mouse Testis. *Journal of Endocrinology* 192(3):539-51. (2007)
19. Jiang S, Zhang S, Langenfeld J, Lo S.-C, **Rogers, MB** Mycoplasma Infection Transforms Normal Lung Cells and Induces Bone Morphogenetic Protein 2 Expression by Post-transcriptional Mechanisms *Journal of Cellular Biochemistry* 104(2): 580-594. (2007)
20. Xu J, **Rogers MB**. Modulation of Bone Morphogenetic Protein (BMP) 2 Gene Expression by Sp1 Transcription Factors. *Gene* 392: 221–229. (2007)
21. Hu J, Fritz DT, Tian B, **Rogers MB**. Using Emerging Genome Data to Identify Conserved Bone Morphogenetic Protein (Bmp)2 Gene Expression Mechanisms. *ACM First International Workshop on Text Mining in Bioinformatics (TMBIO2006) Proceedings*. ACM Press, New York, NY(2006)
22. Fritz DT, Jiang S, Xu J, **Rogers MB**. A Polymorphism in a Conserved Post-transcriptional Regulatory Motif Alters BMP2 RNA:Protein Interactions. *Molecular Endocrinology* 20: 1574-1586(2006)
23. Abrams, K.L., Xu J., Nativelle-Serpentini, C., Dabirshahsahebi, S., and **Rogers, M.B.** An Evolutionary and Molecular Analysis of Bmp2 Expression. *Journal of Biological Chemistry*. 279: 15916-28, pub. online 2/2/04. (2004)

24. Fritz DT, Liu D, Xu J, Jiang S, **Rogers MB**. Conservation of Bmp2 post-transcriptional regulatory mechanisms. *Journal of Biological Chemistry*. 279: 48950 - 48958. (2004)
25. Glozak, M.A., Li, Y., Reuille, R., Kim, K.H., Vo, M.N., and **Rogers, M.B.** Trapping and Characterization of Novel Retinoid Response Elements. *Molecular Endocrinology*, 17: 27-41 published on-line 10/3/02. (2003)
26. Glozak, M.A. and **Rogers, M.B.** Retinoic Acid- and Bone Morphogenetic Protein 4- Induced Apoptosis in P19 Embryonal Carcinoma Cells Requires p27. *Experimental Cell Research*. 268: 128-138. (2001)
27. Heller, L.C., Li, Y., Abrams, K.A. and **Rogers, M.B.** Transcriptional Regulation of the Bmp2 Gene: Retinoic Acid Induction in F9 Embryonal Carcinoma Cells and *Saccharomyces cerevisiae*. *Journal of Biological Chemistry*. 274: 1394-1400. (1999)
28. Li, Y, Glozak, M.A., Smith, S.M., and **Rogers, M.B.** The Expression and Activity of D-type Cyclins in F9 Embryonal Carcinoma Cells: Modulation of Growth by RXR-selective Retinoids. *Experimental Cell Research*. 253: 372-384. (1999)
29. Li, Y., MacLennan, A.J., and **Rogers, M.B.** A Putative G-Protein Coupled Receptor, H218, is Down-regulated During the Retinoic Acid-Induced Differentiation of F9 Embryonal Carcinoma Cells. *Experimental Cell Research*. 230: 320-325. (1998)
30. Glozak, M.A. and **Rogers, M.B.** BMP4 and RA-induced Apoptosis is Mediated through the Activation of Retinoic Acid Receptor α and γ in P19 Embryonal Carcinoma Cells. *Experimental Cell Research*. 242: 165-173. (1998)
31. **Rogers, M.B.**, Glozak, M.A., and Heller, L.C. Induction of Altered Gene Expression in Early Embryos. *Mutation Research*. 396: 79-95. (1997)
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B. BOOKS, MONOGRAPHS AND CHAPTERS

1. **Rogers, M.B. (Editor)** *Bone Morphogenetic Proteins Methods and Protocols* Springer series *Methods in Molecular Biology* Springer Nature, NY (2019)
2. Zeller, R. and **Rogers, M.** *In situ* hybridization to cellular RNA. *In Current Protocols in Pharmacology*. John Wiley & Sons, NY, A.3F.1-A.3F.14. (1999)
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C. PATENTS HELD: N/A

D. OTHER ARTICLES IN JOURNALS: REVIEWS

1. **Rogers, M.B.** Mycoplasma and cancer: in search of the link; *Oncotarget*, 2: 271 - 273. (2011) Commentary on: Barykova, YA, DY Logunov, MM Shmarov, AZ Vinarov, DN Fiev, NA Vinarova, IV Rakovskaya, PS Baker, I Shyshynova, AJ Stephenson, EA Klein, BS Naroditsky, AL Gintsburg, and AV Gudkov, Association of Mycoplasma hominis infection with prostate cancer. *Oncotarget*, 2: 289-97. (2011)
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5. **Rogers, M.B.** Retinoids: a Window into Vertebrate Development. *Journal of the Florida Medical Association*. 81: 553-556. (1994)

E. ABSTRACTS (published only)

1. **Rogers, M.B.** and Jiang, S. Switching from repression to activation: Post-transcriptional regulation of BMP2 synthesis. *Developmental Biology*. 319: 463, abstract #3. (2008)
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11. **Rogers, M.B.** Retinoic Acid and Bmp2 & 4 Regulated Differentiation of Embryonic Stem Cells and F9 Cells. *Developmental Biology*. 170: 747 (1995)

F. REPORTS:

1. Shah, T. A., Tang, Y., Yurkow, E. J., and Rogers, M. B. (2019) Post-Transcriptional Bone Morphogenetic Protein 2 (BMP2) Gene Regulation in Aorta. (<https://www.biorxiv.org/ed., BIORXIV/2019/735852>).

PRESENTATIONS:

A. Scientific (Basic Science):

Experimental Biology 2003- “Translating the Genome”, Apr. 13, 2003, San Diego, CA, Session Co-Chair, “*Vitamin A and Retinoids II*” Lecture: “*Trapping and Characterization of Novel Retinoid Response Elements*”

Cold Spring Harbor Apr. 2004 - Evolution of Developmental Diversity, “*A Conserved 3' Untranslated Element Controls Bmp2 Transcript Stability*”, Cold Spring Harbor, NY

FASEB Summer Research Conference – Retinoids, June 21, 2006, “*Retinoic Acid Regulation of BMP2*” Indian Wells, CA

Society for Developmental Biology 67th Annual Meeting, July 26-30, 2008, “*Switching from Repression to Activation: Post-Transcriptional Regulation of BMP2 Synthesis*” Philadelphia, PA

Weinstein Cardiovascular Development Conference, May 17, 2008, “*An Ultra-conserved Region in the Bone Morphogenetic Protein (BMP) 2 gene is a Post-transcriptional Repressor in the Developing Heart of the epicardial lineage and a subset of the neural crest lineage*” Houston, TX

Weinstein Cardiovascular Development Conference, May 7, 2009, “*An Ultra-conserved Region in the Bone Morphogenetic Protein (BMP) 2 3' Untranslated Region is a Gene Repressor In Vivo*” San Francisco, CA

Weinstein Cardiovascular Development Conference, May 5 - 8, 2011, “*Turning off Bone Morphogenetic Protein (BMP) 2*” Cincinnati, OH

Association of Biochemistry Course Directors (ABCD) meeting, May 5 - 9, 2013, “*Teaching of Biochemistry in Medical School – A few more steps along the pathway*” Santa Fe, NM

Weinstein Cardiovascular Development Conference, May 16 - 18, 2013, “*Controlling Bone Morphogenetic Protein 2 (BMP2) In Embryos and Calcifying Tissues*” Tucson, AZ

Grantee Meeting for Basic Research in CAVD Investigators Alliance, Sept. 20, 2013, “*BMP2 Gene Regulation in CAVD*”, Boston, MA

Grantee Meeting for Basic Research in CAVD Investigators Alliance, Nov. 15, 2014, “*BMP2 Gene Regulation in CAVD*”, Chicago, IL

2014 Scientific Sessions, American Heart Association, Nov. 15 – 20, 2014, “*Mechanisms that Repress Bone Morphogenetic Protein 2 (BMP2) In Mesenchymal Cells*” Chicago, IL

Weinstein Cardiovascular Development Conference, Apr. 30 – May 2, 2015, “*Characterization of a New Bmp2 Allele*” Boston, MA

Symposium on Open Access: *Perspectives in Biomedical and Health Sciences*, Oct. 20, 2015. *Panelist*, Rutgers NJMS, Newark NJ

Grantee Meeting for Basic Research in CAVD Investigators Alliance, Nov. 7, 2015, “*BMP2 Gene Regulation in CAVD*”, Orlando, FL

Weinstein Cardiovascular Development Conference, May 19 - 21, 2016, “*A New Hypermorphic Bmp2 Allele*” Durham, NC

11th International BMP Conference, Oct. 26 - 30, 2016, “*A New Hypermorphic Bmp2 Allele*” Boston, MA

Weinstein Cardiovascular Development Conference, May 4 - 6, 2017, “*Characterization of New Bone Morphogenetic Protein (Bmp)-2 Regulatory Alleles*” Columbus, OH

Invited seminar, Dec. 20, 2017, “*BMP2 Gene Regulation*”, Molecular Cell Biology, Leiden University Medical Center, Leiden, Netherlands

Weinstein Cardiovascular Development Conference, May 17 - 19, 2018, “*Post-Transcriptional Regulation of Bone Morphogenetic Protein 2 (BMP2): Embryos, Disease, and Sex*” Nara, Japan

RESOURCES PROVIDED TO THE SCIENTIFIC COMMUNITY:

A. Genetically Engineered Mouse Models (GEMM):

Bmp2 conditional allele (*Bmp2^{flU}*, MMRRC:042043) deposited in the Mutant Mouse Resource & Research Centers (MMRRC, <https://www.mmrrc.org>) repository

Bmp2 conditional allele (*Bmp2^{NeoUCS}*, MMRRC: 042279) deposited in the MMRRC

Two Congenic Klotho mouse strains sent to Ajay Sharma, B. Pharm., PhD, Associate Professor of Pharmacology, Chapman University School of Pharmacy

B. Public databases:

Microarray database GEO accession # GSE557487

RNA seq data:

GSE305136 - Effect of renal failure and sex on gene expression in mouse strain C57Bl/6J kidneys

GSE308235 - Effect of renal failure and sex on gene expression in mouse strain 129S1/SvImJ kidneys

GSE308890 - Effect of renal failure, sex, and BMP2 modulation on gene expression in mouse aorta