

***CURRICULUM VITAE
MATTHEW A. NUGENT***

Current Position: Dean and Professor of Biological Sciences

Towson University
Science Complex, Room SC 4203
8000 York Road
Towson, MD 21252
Tel: 410-704-2121
Email: mnugent@towson.edu

EDUCATION:

- 1979-1983 Brandeis University, B.A. May 1983
Major: Biochemistry
- 1984-1989 Brandeis University, Ph.D. February 1990
Graduate Department of Biochemistry
Thesis advisor: Dr. Michael Newman
- 1989-1992 Massachusetts Institute of Technology, Postdoctoral Fellowship
Department of Chemical Engineering, and Health Sciences and Technology
Postdoctoral Mentors: Drs. Robert Langer and Elazer Edelman

POSITIONS HELD (Primary academic appointments noted in BOLD):

- 2023-present Dean, Fisher College of Science and Mathematics, Towson University, Towson, MD**
- 2023-present Professor, Department of Biological Sciences, Towson University, Towson, MD**
- 2017-2023 Associate Dean for Research, Innovation and Partnerships, University of Massachusetts Lowell, Kennedy College of Sciences, Lowell, MA**
- 2013-2017 Department Chair of Biological Sciences, University of Massachusetts Lowell, Lowell, MA**
- 2013-2023 Professor, University of Massachusetts Lowell, Department of Biological Sciences, Lowell, MA**
- 2013-2015 Adjunct Professor, Boston University School of Medicine, Department of Biochemistry, Boston, MA
- 2006-2013 Professor: Boston University, Department of Biomedical Engineering, Boston, MA (Secondary Appointment)
- 2006-2012 Director of Research, Department of Ophthalmology, Boston University School of Medicine, Boston, MA
- 2004-2005 Project Coordinator for Oncology, Momenta Pharmaceuticals, Inc., Cambridge, MA
- 2003-2013 Professor: Boston University School of Medicine, Departments of Biochemistry and Ophthalmology, Boston, MA (Primary Appointment)**

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- 2001-2007 Program Director, Lung Connective Tissue-Responses to Injury and Repair, Boston University School of Medicine
- 1998-2003 Associate Professor: Boston University School of Medicine, Departments of Biochemistry and Ophthalmology, Boston, MA (Primary Appointment)**
- 1997-2005 Member: Program in Bioinformatics, Boston University, Boston, MA
- 1996-2013 Member: Massachusetts Institute of Technology, Center for Biomedical Engineering, Cambridge, MA
- 1995-2013 Member: Cell and Molecular Biology Program, Boston University School of Medicine, Boston, MA
- 1993-1998 Assistant Professor: Boston University School of Medicine, Departments of Biochemistry and Ophthalmology, Boston, MA (Primary Appointment)**
- 1993-2012 Research Affiliate: Harvard-Massachusetts Institute of Technology, Division of Health Sciences and Technology, Biomedical Engineering Center, Cambridge, MA
- 1989-1992 Postdoctoral Associate: Massachusetts Institute of Technology, Department of Chemical Engineering and Harvard-Massachusetts Institute of Technology, Division of Health Sciences and Technology, Cambridge, MA
- 1987-1989 Predoctoral Fellow: Roche Institute of Molecular Biology, Department of Biochemistry, Nutley, NJ
- 1984-1990 Graduate Student: Brandeis University, Graduate Department of Biochemistry, Waltham, MA

PREVIOUS LEADERSHIP EXPERIENCE:

Associate Dean for Research, Innovation and Partnerships, Kennedy College of Sciences, University of Massachusetts Lowell, 7/2017 – 7/2023

The Kennedy College of Sciences serves approximately 3,000 students (undergraduate and graduate) through more than 40 academic programs offered within six departments. Faculty members in the college are actively engaged in scientific research, with total annual funding expenditures of ~\$30 million. As the Associate Dean for Research, Innovation and Partnerships I work to identify and facilitate individual and collaborative research opportunities, cultivate relationships with funding agencies and corporate partners, lead regular events to enhance interdisciplinary research, oversee the graduate programs, and assist the Dean with faculty recruitment, retention and success. Since assuming this position in July 2017 progress has been in several areas as outlined below.

- Increased external research expenditures by ~70% from FY2017 to 2022.
- Established a College-wide faculty mentoring program that includes career workshops, peer mentoring, monthly “Pre-tenure Club” meetings and one-on-one mentoring.
- Chaired a task force to secure funds to expand core research facilities and build a multimodal imaging center at UMass Lowell.
- Developed and implemented a 10-year strategic plan to enhance research excellence in the College.
- Established new PhD programs in Applied Biology (2019) and Earth Systems Science (2021).
- Oversaw the approval and launching of 3 new Master’s degree options.

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- Launched three inter-school BS to MS Programs with Endicott College, St Anselm College and National Central University in Taiwan.
- Organized bi-annual “Conversation Starters” to bring researchers together to discuss common themes across disciplines.
- Established a College-wide Interdisciplinary Research Seed Grant program.
- Revised the new faculty search process to enhance recruitment of diverse faculty.
- Co-Chaired the Research Growth (R1) Commission to develop a strategy for the University to achieve and sustain Carnegie Research 1 status

Department Chair, Department of Biological Sciences, University of Massachusetts Lowell, 8/2013 – 6/2017

The Department of Biological Sciences is one of six Departments within the Kennedy College of Sciences. The Department serves approximately 600 undergraduates majors, and 75 graduate students pursuing M.S. and PhD degrees.

Upon my recruitment to UMass Lowell to serve as Department Chair in August of 2013, I initiated a comprehensive strategic planning process with participation of the faculty, staff and the Dean of the Kennedy College of Sciences. This led to the generation of a 5-year strategic plan to grow the size of the faculty, increase the Department’s research programs, improve academic excellence, enhance bioscience research throughout the University, develop new degree programs, and raise the visibility of the Department. Below are some accomplishments through the first phase of the plan:

- Hired 10 full-time faculty, increasing the faculty size from 14 to 23 (with 1 retirement).
- Increased undergraduate enrollment from 464 to 615
- More than doubled (>2.5-fold) the number of undergraduates participating in research
- Growth in total Departmental grant support by ~50% (including a doubling of NIH funding)
- Increase in total number of annual peer-reviewed publications by faculty from 29 to 64, with an averaged impact factor of 4.4
- Enhanced budgetary efficiency through faculty, staff and teaching assistant re-assignment such that overall costs per student was reduced while maintaining educational excellence.
- Helped established a new University core research facility, the Biomolecular Characterization Laboratory, and expanded existing Departmental core labs to enhance research productivity.

Director of Research, Department of Ophthalmology, Boston University School of Medicine, 2006 – 2012

The Department of Ophthalmology is comprised of a clinical division located within the Boston Medical Center and a research department within the Boston University School of Medicine. As research director I was responsible for overseeing the activities of the research department. This involved recruiting and mentoring new research faculty members, managing an annual discretionary Departmental research budget, annually preparing reports and proposals to the Massachusetts Lions Eye Research Fund, Inc. for Departmental support, and assigning research lab space. During my tenure as Director the number of research faculty increased from 3 to 7 and total external research funding increased ~400%.

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Program Director, Lung Connective Tissue-Responses to Injury and Repair (P01 HL46902), Department of Biochemistry, Boston University School of Medicine, 2001 – 2007

I was the program director (PD) for an NIH funded program project that included four research projects a technical core and an administrative core. The program had an annual budget of ~\$2 million and supported 1 full-time administrator, 5 full-time technical staff members, 6 faculty members, and 5-10 postdocs/PhD students. I was responsible for overall management of the Program, its scientific direction, and its budget. As a consequence of a strategic shift in funding priorities at the National Heart, Lung and Blood Institute, the Program was converted into separate R01 projects in 2007.

Project Coordinator, Oncology, Momenta Pharmaceuticals, Inc. 2004-2005

I assumed the role of Project Coordinator of Oncology at Momenta Pharmaceuticals, Inc. in Cambridge, MA while on sabbatical in the spring-summer of 2004 and continued in this role part-time through 2005. My role was to build a research program in oncology focused on the potential use of complex polysaccharides such as heparin and heparan sulfate for cancer treatment. When I assumed my position, the Oncology research group was comprised of 2 employees. At the completion of my tenure the Oncology group was expanded to 10, including a full-time director. During my sabbatical period we identified an early drug candidate, a modified low molecular weight heparin named *Necuparanib*, that was passed through phase 2 clinical trials. Momenta became a publically traded company that was purchased by Johnson & Johnson in 2020.

ACADEMIC AND PROFESSIONAL HONORS:

- | | |
|-----------|---|
| 2019 | Elected a Full Member of Sigma Xi, The Scientific Research Honor Society |
| 2018 | University of Massachusetts Lowell, Award for Faculty Mentoring Faculty |
| 2016 | University of Massachusetts Lowell, Special Recognition Award for contributions to research and creative work. |
| 2015-2106 | Wong Research Fund Award, Kennedy College of Sciences, University of Massachusetts Lowell |
| 2013 | Educator of the Year, Graduate Medical Sciences, Boston University School of Medicine |
| 2006 | Delegate of the US National Academy of Engineering at the first Indo-US Frontiers of Engineering Forum, Agra, India |
| 2002 | Gordon Conference on Proteoglycans “Best Presentation Award” |
| 1994-1997 | Whitaker Foundation Biomedical Engineering Research Award |
| 1994-1995 | American Cancer Society, Research Award |
| 1994 | Listed in Marquis Who's Who in Science and Engineering 2nd Edition |
| 1993-1995 | American Heart Association, Grant-In-Aid Award |
| 1993-1994 | Fight For Sight, Research Award |
| 1993-1994 | Eye Bank Association of America, Scientific Research Prize |
| 1990-1992 | NIH National Research Service Award, Individual Postdoctoral Fellowship, MIT. |
| 1987-1989 | Hoffman-LaRoche Graduate Research Fellowship, Roche Institute of Mol. Biol. |
| 1984-1987 | NIH Public Health Service Fellowship, Brandeis University. |
| 1980,1981 | Dean's List, Brandeis University. |
| 1980 | Earthwatch Research Scholarship, Pleasant Bay Marine Biol. Lab., Orleans, MA |
| 1979 | Bausch and Lomb Award for Scientific Achievement. |
| 1979 | Earthwatch Research Scholarship, Great Basin Desert, Reno, NV. |
| 1978 | Rensselaer Polytechnic Institute Math and Science Medal and Scholarship. |

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MEMBER OF PROFESSIONAL SOCIETIES:

2019-present American Association for the Advancement of Science
2013-present American Chemical Society
2005-present American Society for Matrix Biology
2004-present Biochemical Society
1996-present The American Society for Biochemistry and Molecular Biology
1994-present The American Society for Cell Biology
1992-2000 The Association for Research in Vision and Ophthalmology
1991-1998 New York Academy of Sciences
1991-1996 Materials Research Society
1989-2012 American Association for the Advancement of Science
1988-1989 Tissue Culture Association, Inc.

TEACHING EXPERIENCE:

2019-2023 Applied Biology I (BIOL.6060) at UMass Lowell
2016-2017 Professional Communication in Science and Technology (BIOL 6040) at UMass Lowell
2014-2017 Biochemistry II (BIOL.4200/5200) at UMass Lowell
2015 Seminar in Biomedical Engineering and Biotechnology (BMBT.6010) at UMass Lowell
2013-2017 Senior Seminar in Biology (BIOL.4510) at UMass Lowell
2013-2017 Graduate Colloquium in Biology (BIOL.6040) at UMass Lowell
2011-2012 Co-Director Foundations in Biomedical Sciences, Module I: Protein Structure, Catalysis and Interactions at Boston University
2011-2012 Lecture in Techniques in Biochemistry, Cell and Molecular Biology (BI777) at Boston University
2008-2011 Lecturer in Advanced Cell Biology (GMS CM753) at Boston University
2007-2013 Special Topics in Biomedical Engineering (BE790) at Boston University
2006-2013 Preceptor, Biomedical Engineering Senior Project (BE 466) at Boston University
2008 Co-course Director, Topics in Biochemistry (BI854) at Boston University
1998-2001 Course Director, Biochemistry and Cell Biology (MS127) at Boston University
1997-2000 Course Director, Critical Thinking in Cell and Molecular Biology (MS 761) at Boston University
1996-2006 Lecturer in Biology of Visual Systems in Health and Disease (ME 782) at Boston University
1995-2013 Lecturer in Biochemistry and Cell Biology (MS127) at Boston University
1994-2010 Lecturer in General Biochemistry (MED 755/756) at Boston University
1994-2010 Lecturer in Advanced Biochemistry; Receptors and Signaling (MED 856) at Boston University
1994-1995 Lecturer in Biochemical Aspects of Clinical/Research Problems (ME 753)
1993-2013 Lecturer in Biochemistry and Cell Biology (BI751) at Boston University
1991-1992 Lecturer in Topics in Biomedical Engineering at M.I.T.
1990 Teaching Aid in Advances in Controlled Release Technology at M.I.T.
1986 Teaching Assistant in Introductory Biochemistry (Biochemistry 100a) at Brandeis University.
1986 Teaching Assistant in Biochemical Thermodynamics (Biochemistry 42a) at Brandeis University.

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1983-1984 Proposed, organized and implemented the Watertown Science Enrichment Program for Watertown, MA public elementary schools.

COMMITTEE SERVICE

2023 Member, University Bargaining Team, Graduate Employees Organization
2022-2023 Member, Internal Oversight Board, NSF Research Traineeship Program, SWIMMER, UMass Lowell
2022-2023 Co-Chair, Research Level 1 Classification Planning Commission, UMass Lowell
2021-2023 Chair, Planning and Training for Faculty Research Infrastructure Needs Sub-Working Group, UMass Lowell
2021-2023 Co-Chair, Research, Kennedy College of Sciences, Strategic Planning Committee, UMass Lowell
2021 Member, Search Committee, Director of Libraries, UMass Lowell
2021 Chair, Search Committee, College-based Research Administrator, Kennedy College of Sciences, UMass Lowell
2021-2023 Member, Existing Practices Sub-Committee of the Gender-Sex Discrimination & Prevention (GSDP) Task Force
2021 Member, University Bargaining Team, Graduate Employees Organization
2020-2021 University Representative on The Applied Life Sciences Committee, Office of the President, University of Massachusetts, Boston, MA
2020-2023 Member, Research Support Committee, UMass Lowell
2019-2023 Team Leader, NECHE 2023 Mathematics Curriculum Task Force
2019-2023 Co-Chair, 2020 Innovative Research Pillar Steering Committee UMass Lowell
2018 Search Committee, Senior Associate to the Provost for Academic Communication and Faculty Success, UMass Lowell
2018-2023 Co-Chair, Grants Force, monthly internal grant review team, UMass Lowell
2018-2023 Member, Radiation Safety Committee, UMass Lowell
2018-2021 Registration Holder, Massachusetts State and DEA Controlled Substance License, UMass Lowell
2018-2023 Faculty Representative to the Federal Demonstration Partnership at the National Academy of Sciences
2018-2021 Steering Committee, Academia-Industry Relationship Forum, Massachusetts Biotechnology Council, Cambridge, MA
2018-2023 Faculty Diversity Recruitment Working Group, UMass Lowell
2018-2023 Chair, Kennedy College of Sciences, Interdisciplinary Seed Grant Committee
2018 Reviewer, Vice Chancellor for Research and Innovation Internal Seed Fund Awards, UMass Lowell
2018 Search Committee, Senior Research Administrator, Office of Research Administration, UMass Lowell
2018 Search Committee, Technical Program Manager of Life Sciences, UMass Lowell
2018 Search Committee, Executive Director of the Core Research Facilities, UMass Lowell
2017-2018 Chair, Special Team for Mathematics, NEASC Interim-Report Response, UMass Lowell
2017-2023 Chair, Graduate Coordinators Committee, Kennedy College of Sciences
2017-2023 Chair, Pre-Tenure Club, Kennedy College of Sciences
2017-2023 Chair, Research Council, Kennedy College of Sciences
2017-2023 Member, Associate Dean's Council, UMass Lowell

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2017-2020 Chair, UMass Lowell Imaging Center Working Group
2017-2018 Chair, Search Committee for Associate Dean for Research and Graduate Programs, Zuckerberberg College of Health Sciences
2017-2021 Member of the Faculty Honors Subcommittee of the UMass Lowell 2020 Committee
2017 Member, Graduate Student Research Guidelines Working Group, UMass Lowell
2017 Chair, Search Committee for Administrative Assistant I, Kennedy College of Sciences
2017 Chair, Search Committee for Administrative Assistant II, Kennedy College of Sciences
2016-2021 Co-Chair of the Research Infrastructure and Faculty Support subcommittee of the UMass Lowell 2020 Committee
2016-2017 Organizing Committee for New Department Chairs Workshop
2016 Search Committee, Associate Vice Chancellor, Research Administration and Institutional Compliance, University of Massachusetts Lowell
2016 Participant in the Faculty Development Committee's Promotion & Tenure workshops for tenure-track and non-tenure track faculty, University of Massachusetts Lowell
2016 Rank & Tenure Committee, University of Massachusetts Lowell
2016 Search Committee, Dean Kennedy College of Sciences, University of Massachusetts Lowell
2015-2017 Chancellor's Challenge Grant Review Committee, University of Massachusetts Lowell
2015-2016 Provost Search Committee, University of Massachusetts Lowell
2015-2017 Steering Committee, Bioscience/Olsen Hall Renovation Study, DCAMM Project No. UML 1501, University of Massachusetts Lowell
2015 Department of Pharmaceutical Sciences Chair Search Committee, University of Massachusetts Lowell
2015-2023 Biomolecular Characterization Laboratory, CRF, Scientific Advisory Committee, University of Massachusetts Lowell
2015-2023 Core Research Facilities Advisory Committee, University of Massachusetts Lowell
2013-2023 Review Committee for University Centers and Institutes, University of Massachusetts Lowell
2013-2017 New Faculty Search Committee, Department of Biological Sciences, University of Massachusetts Lowell
2013-2017 Personnel Committee, Kennedy College of Sciences, University of Massachusetts Lowell
2013-2017 Graduate Committee, Department of Biological Sciences, University of Massachusetts Lowell
2013-2017 Personnel Committee, Department of Biological Sciences, University of Massachusetts Lowell
2013-2023 Member, Kennedy College of Sciences Advisory Board
2012-2013 Academic Policies Committee, Division of Graduate Medical Sciences, Boston University School of Medicine
2012-2013 Committee Member for New Faculty Search, Department of Ophthalmology, Boston University School of Medicine
2011-2013 Foundations in Biomedical Sciences Curriculum Steering Committee, Boston University School of Medicine

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2010-2011	Integrated Curriculum Committee, Division of Graduate Medical Sciences, Boston University School of Medicine
2010	<i>Ad hoc</i> Committee to Investigate Incident of Potential Laboratory Exposure to Infections Agent, Boston Medical Center
2010	PhD Qualifying Exam Committee, Biomedical Engineering Department, Boston University
2010-2013	Chair, New Faculty Search Committee, Department of Biochemistry, Boston University School of Medicine
2008-2009	Search Committee Member for Director of the Pulmonary Center, Boston University School of Medicine
2008-2010	Vice Chair, Boston University, Institutional Biosafety Committee
2008-2009	Search Committee Member for Chair of the Department of Biochemistry, Boston University School of Medicine
2007-2008	Search Committee Member for Chair and Chief of the Department of Ophthalmology, Boston University School of Medicine
2007-2013	Chair, Department of Biochemistry Student Affairs Committee
2006-2010	Boston University Medical Campus, Faculty Affairs Committee
2006-2007	Search Committee for Associate Dean of Boston University School of Medicine
2004-2007	Boston University, Institutional Biosafety Committee
2004-2007	Boston University School of Medicine, Medical Education Committee
2002-2004	Boston University School of Medicine, Curriculum Committee
2002-2004	Boston University School of Medicine, Advisory Committee on Faculty Development
1999-2005	Boston University Faculty Council, Medical School Representative
1998-2009	Department of Biochemistry, Faculty Appointments and Promotions Committee
1998-2009	Department of Biochemistry, Executive Advisory Committee
1998-2003	Boston University School of Medicine, Medical Student Promotions Committee
1998-2002	Department of Biochemistry, Student Affairs Committee, Chair
1997-2013	Department of Biochemistry, Qualifying Exam Committee
1997-1998	Department of Biochemistry, Self-Evaluation Committee, Research sub-committee, Co-chair
1997-1998	Department of Biochemistry, Self-Evaluation Parent Committee
1996-1998	Department of Biochemistry, MD/Ph.D. Committee Co-chair

Ph.D. THESIS COMMITTEE MEMBERSHIP:

My lab has a long history of doctoral student training. Eighteen PhD students have completed their PhD dissertation research under my direction. The PhD students from my group have co-authored >70 peer-reviewed papers. I have also served on >125 PhD thesis advisory committees and chaired 24 of these. The majority of this service was through the Department of Biochemistry at the Boston University School of Medicine, the Department of Biomedical Engineering at Boston University, and the Biomedical Engineering and Biotechnology Program at UMass Lowell, with the major external organizations being Harvard University and the Massachusetts Institute of Technology where I serve(s/ed) on 15 committees.

First Reader (Primary Advisor)

	Biomedical Engineering and Biotechnology Program, University of Massachusetts Lowell
2020	Divya Tsiros
2020	Ibukun Zabroski
2021	Xiao Liu

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Department of Biochemistry, Boston University School of Medicine

1998	Michael Fannon	2006	Ceres Chua
1999	Gizette Sperinde	2008	Maria Mitsi
1999	Thomas Richardson	2010	Elma Kurtagic
2003	Edward Hsia	2015	Madelane Teran
2003	Adriene Goerges		

Department of Pathology and Laboratory Medicine, Boston University School of Medicine

2003 Chia Lin Chu

Department of Biomedical Engineering, Boston University

2013 Olga Sazonova

Department of Chemical Engineering, Massachusetts Institute of Technology

1998 Christopher Dowd

Molecular Cell Biology and Biochemistry Program, Boston University

2014 Brant Hubbard

Molecular Medicine Program, Boston University School of Medicine

2015 Kelsey Derricks

Committee Chairman

Department of Biochemistry, Boston University School of Medicine

2001	Heng Wu	2007	Bor-Tyn Lin
2001	Jonathan Hamm	2007	Sun Young Oh
2002	Emilios Tahinci	Pres	Ziyang Yu
2003	Hongwu Zheng	2010	Duane Oswald
2003	Jun Lu	2008	Anupma Agarwal
2005	Zhao Xu	2008	Christopher Sullivan
2005	Jun Shi	2010	Milka Koupenova
2005	Richard Mendelsohn	2009	Nathan Wigner
2006	Amrick Singh	2010	Erin Smith
2006	LingLing Yang	2014	Yu Huang
2015	Martin Minns	Pres	Larry Pessolano
2013	Shannon Carroll	2013	Ed Randles
2013	Anthony Jay	2013	Albert Lee

Department of Genetics and Genomics, Boston University School of Medicine

2007 Damien Slater

Department of Anatomy and Neurobiology, Boston University School of Medicine

1997 Michelle Hirsch

Second Reader

Department of Biochemistry, Boston University School of Medicine

1998	Kyriakos Kypreos	2005	Jianghuai Liu
1998	Deepanwita Prusty	2005	Cory Edgar
1999	John Lee	2005	Claudia Hofman
2000	Ligaya Stice	2007	Gabriel Gaidos
2001	Matthew Pavao	2008	Cynthia St. Hilaire
2001	Lori Tortorella	2011	Hicham Naimy
2002	Celcilia Roh		
2004	Gabriel Belfort		

Department of Pathology & Laboratory Medicine, Boston University School of Medicine

2004 Veronica Klepeis

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Reader

Applied Biology, Department of Biological Sciences, University of Massachusetts Lowell
Pres Ibtissem Derouiche

Biomedical Engineering and Biotechnology Program, University of Massachusetts Lowell

2017 Margery Pellitier

2020 Klaudia Szymczak

2021 John Lamb

2021 SaiLavanyaa Sundar

2022 Luc Francois

Department of Biochemistry, Boston University School of Medicine

1996 Yuka Vinagre 2018 Hejiao Bian

1997 Darius Marhamati 2010 Gregory Staples

2000 He-Jin Lee 2012 Amanuel Kehasse

2001 Ling Gu 2012 Nadezda Sargaeva

2005 Melanie Van Stry 2012 Robert Shine

2007 Shenghong Yang 2011 Kevin Anderson

2013 Chun Shao 2014 Samantha Hiemer

2013 Kathleen Tumelty

2013 Yuhuan Ji

2013 Kshitij Khatri

Department of Pathology & Laboratory Medicine, Boston University School of Medicine

2007 Jeffrey Sedita

Department of Genetics and Genomics, Boston University School of Medicine

2009 Gerald Stanvitch

Department of Physiology and Biophysics, Boston University School of Medicine

2004 Kathik Ganapathi

2012 Nick DeNunzio

Department of Molecular Medicine, Boston University School of Medicine

2008 William Chen

2009 Radwan Safa

2013 Vivian Tu

Department of Biomedical Engineering, Boston University

2002 Christine Gaudet 2013 Tuan Pham

2006 Soo Young Kim 2012 Keith Wong

2006 Ming Tang 2013 Daniel Backman

2011 Kimberly Zubris 2013 Kayle Shapero

2012 Michele Savery 2013 Brian Fallica

2012 Eunice Yi 2014 Samuel Polio

2012 Patrick Allen 2014 Kevin McHugh

2013 Casey Olson 2014 Joshua Kim

2012 Dewi Harjanto

Biological Engineering, Massachusetts Institute of Technology

2001 Chi-Pong Kwan

2009 Robin Prince

2012 Tharathorn Rimchala

Brian and Cognitive Sciences, Massachusetts Institute of Technology

2000 Asli Kumbasar

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Chemical Engineering, Massachusetts Institute of Technology

1997 Philip Kuhl

1998 Susan Hobbs

Health Sciences and Technology, Harvard-Massachusetts Institute of Technology

1995 David Wu

1997 CP Kwan

2006 Alisa Morss

2006 Aaron Baker

2009 Kha Le

Cell and Developmental Biology, Harvard University

2000 Yin-Shan Ng

2007 Arindel Maharaj

2013 Daniel Lee

Biological Chemistry and Molecular Pharmacology, Harvard University

2014 Cammi Valdez

University of New South Wales, Sydney, Australia

2001 Sarah Knox

GRADUATE STUDENT/POSTDOCTORAL RESEARCH SUPERVISED:

Boston University School of Medicine

1993-1998 Michael Fannon, Department of Biochemistry, Ph.D., Title: "Regulation of Basic Fibroblast Growth Factor Receptor Binding and Activation by Heparin and Heparan Sulfate"

1993-1996 Robert Levy, School of Medicine, M.D.

1993-1998 Christopher Dowd, Department of Chemical Engineering, MIT, Ph.D., Title: "Growth Factor Transport through the Extracellular Matrix"

1993-1995 Kimberly Forsten, Department of Biochemistry, Postdoctoral Fellow

1994-1999 Gizette Sperinde, Department of Biochemistry, Ph.D., Title: "Heparan Sulfate Proteoglycans Regulate the Intracellular Fate of Growth Factors"

1995-1996 Julia Lanciotti, Division of Medical Sciences, M.S., Title: "Genomic organization of human heparan N-sulfotransferase"

1996-1999 Thomas Richardson, Department of Biochemistry, Ph.D. Title: "Mechanisms of Fibroblast Growth Factor-2 Regulation by Heparan Sulfate Proteoglycans"

1996-1997 Francis Lau, Division of Medical Sciences, M.S., Title: "The effect of TGF- β on proteoglycan synthesis in corneal fibroblasts"

1997-2013 Jo Ann Buczek-Thomas, Department of Biochemistry, Postdoctoral Fellow

1998-2006 Anne Chau, Cell and Molecular Biology Program, Ph.D. candidate

1998-2003 Ceres Chua, Department of Biochemistry MD/Ph.D. Program, Ph.D. candidate

1998-2003 Chia Chu, Department of Pathology, Ph.D. Title: Proteoglycan regulation of heparin-binding growth factors in vascular smooth muscle cells"

1998-2002 Anand Kakkanatt, School of Medicine, MD

1997-1999 Christopher Brown, Department of Biochemistry, M.A., Title: "Characterization of Proteoglycans Produced by Cultured Corneal Fibroblasts"

1999-2003 Adrienne Goerges, Department of Biochemistry, Ph.D. Title: Modification of vascular endothelial growth factor interactions and activity by extracellular pH"

2000-2002 Paul Lin, Division of Graduate Medical Sciences, M.D./Ph.D., candidate

2000-2003 Edward Hsia, Department of Biochemistry, Ph.D. Title: "The role of nuclear heparan sulfate proteoglycans in the corneal stroma"

2002-2006 Lin Zhong, Department of Biochemistry, Postdoctoral Fellow

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- 2001-2002 Deana Shoykhet, Department of Biomedical Engineering, B.S. thesis.
- 2002-2013 Jean Spencer, Department of Biochemistry, Postdoctoral Fellow
- 2002-2003 Jamayla Culpepper, Virginia Union University, Undergraduate Fellow
- 2002-2003 Supriya Raman, Department of Electrical Engineering, M.S. Title: “Predictive data mining analysis of right handed parallel beta-helix proteins”
- 2001-2004 Raj Ashar, Department of Computer Science, M.S. Title: “Toward a geometric understanding of morphogenesis: Lung development as an iterative process”
- 2003-2005 Sarah Pretz, Department of Biomedical Engineering, M.S. Title: Controlled delivery of vascular endothelial growth factor regulated by extracellular pH”
- 2003-2008 Maria Mitsi, Department of Biochemistry, Ph.D. Title: “Heparin catalyzes conformational changes in fibronectin that enhance vascular endothelial growth factor binding”
- 2003-2004 Atish Jaiswal, Division of Graduate Medical Sciences, M.A., Title: “Elastase activity under various reaction conditions”
- 2004-2005 Paul Talusan, Division of Graduate Medical Sciences, M.A., Title: “Analysis of intimal proteoglycans in atherosclerosis-prone and atherosclerosis-resistant human arteries”
- 2005-2009 Elma Kurtagic, Department of Biochemistry, Ph.D. Title: “Neutrophil elastase cleaves vascular endothelial growth factor to generate a fragment with altered activity”
- 2005-2006 Ryan Hirschfeld, Division of Medical Sciences, M.A. Title: “Development of a new assay for growth factor binding to heparin and heparan sulfate”
- 2006-2011 Olga Sazonova, Department of Biomedical Engineering, Ph.D. Title: “Cell–cell interactions and ECM presentation mediate the effects of substrate stiffness on vascular smooth muscle cell behavior”
- 2007-2009 Michelle Walk, Department of Biochemistry, M.A.
- 2007 Lilly Singh, Division of Graduate Medical Sciences, M.A. Title: “The roles of the vasoactive intestinal peptide and substance P in pulmonary injury from ozone inhalation and asthma”
- 2009-2014 Brant Hubbard, Molecular & Cellular Biology and Biochemistry Program, Ph.D. Title: “Biochemical and mechanical cues tune fibronectin conformation”
- 2010-2015 Kelsey Derricks, Molecular Medicine, MD/Ph.D. Title: “Individual and population based VEGF-endothelial cell processing is modulated by extracellular matrix stiffness”
- 2010-2011 Parag Parekh, Masters in Medical Sciences, M.A.
- 2011-2015 Madelane Teran, Department of Biochemistry, Ph.D. Title: “Modulation of vascular endothelial growth factor receptor affinity by neuropilin-1 and heparan sulfate proteoglycans”
- 2012-2013 Andy Yi-Ming Cheng, BUSM, Seven-Year Medical Education Program, M.D.
- 2014-2015 Silvia Dragoni, Department of Biological Sciences, UMass Lowell, Postdoctoral Fellow
- 2014-2020 Divya Tsiros, Biomedical Engineering and Biotechnology, UMass Lowell, Ph.D. Title: “Co-receptors facilitate drug binding to vascular endothelial growth factor”
- 2015-2020 Ibukun Zabroski, Biomedical Engineering and Biotechnology, UMass Lowell, Ph.D. Title: “Lipid rafts colocalize with and influence the expression of vascular endothelial growth factor receptor 2”
- 2016-2018 Michael Caldwell, Department of Biological Sciences, UMass Lowell, M.S.
- 2017-2021 Xiao Liu, Biomedical Engineering and Biotechnology, UMass Lowell, Ph.D. Title: “Factors affecting methanogenic pathways in Alaskan peatlands across an ombrotrophic-minerotrophic gradient”

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MASTERS OF MEDICAL SCIENCES

I served as primary Academic Advisor to 12-15 students per year for the two-year M.A. program at BUSM for 15 years and was first or second reader of ~10 Masters theses per year from 1994-2013.

UNDERGRADUATE RESEARCH SUPERVISED

At Boston University, our lab was host to several undergraduate researchers through the undergraduate research opportunities program (UROP) as well as through an NSF funded Research Experiences for Undergraduates (REU) grant. Through my joint appointment in the Biomedical Engineering Department I served as a research advisor for several students working on their senior design project. At UMass Lowell my lab has hosted 10 undergraduates for various research experiences, including 2 students through the NSF funded Urban Massachusetts Louis Stokes Alliance for Minority Participation (UMLSAMP) program, and 4 senior honors thesis students.

INVITED LECTURES:

1. March 6, 1990 Tufts University School of Medicine, Boston, MA, Department of Anatomy and Cellular Biology. "Growth Regulation by TGF- β ."
2. March 7, 1990 Children's Hospital, Boston, MA, Department of Surgical Research: "Growth Regulation by TGF- β ."
3. July 26, 1991 Gordon Research Conference on Biocompatibility and Biomaterials: "Polymer Based Delivery Systems for Growth Factors."
4. November 4, 1991 Brown University, Providence, RI, Division of Biology and Medicine: "Polymer Based FGF Delivery Systems and Smooth Muscle Cell Proliferation."
5. December 6, 1991 Materials Research Society Fall Meeting, Symposium T: Tissue-Inducing Biomaterials: "Controlled Release of Fibroblast Growth Factor."
6. February 24, 1992 Massachusetts General Hospital-East, Charlestown, MA, Cutaneous Biology Research Center: "Regulation of bFGF by TGF- β and Proteoglycans"
7. March 16, 1992 Georgia Institute of Technology, Department of Biology, Atlanta, GA. Title: "Control of Cell Proliferation by Growth Factors and the Extracellular Matrix"
8. March 26, 1992 Johns Hopkins University, Department of Biomedical Engineering, Baltimore, MD. Title: "Growth Factors, the Extracellular Matrix and Tissue Engineering"
9. April 1, 1992 Brown University, Division of Biology and Medicine, Providence, RI. Title: "Controlled Release of Basic Fibroblast Growth Factor and Cell Growth Control"
10. July 13, 1992 Gordon Research Conference on Drug Carriers in Biology and Medicine: "Controlled Delivery of Polypeptide Growth Factors"
11. July 17, 1992 Enzytech Controlled Therapeutics, Cambridge, MA: "Controlled Release of Basic Fibroblast Growth Factor and Cell Growth Control."
12. March 12, 1993 Boston University School of Medicine, Vascular Biology Group, Department of Medicine, Boston, MA. Title: "Growth Factors and Proteoglycans in the Control of Vascular Cell Growth"
13. January 3, 1994 Boston University School of Medicine, Graduate Student Invitational Seminar Series, Boston, MA. Title: "Control of Vascular Smooth Muscle Cell Proliferation"

Nugent CV

14. July 9, 1996 Gordon Research Conference on Proteoglycans:
"bFGF-Heparan Sulfate Dynamics: A Role for Both Cell Surface and Extracellular
Proteoglycans in Controlling bFGF Binding and Activity."
15. September 9, 1996 Johnson & Johnson Wound Healing TRC, Skillman, NJ:
"Control of bFGF Binding, Transport and Activity by Heparan Sulfate"
16. October 13, 1996 The Second Annual International Conference on Local Cardiovascular
Drug Delivery: "Molecular Biology in Cardiovascular Drug Delivery."
17. December 12, 1996 Schepens Eye Research Institute, Cornea/Ocular Surface Seminar:
"Control of Growth Factor Activity by Proteoglycans"
18. March 28, 1996 Boston University School of Medicine, Department of Biochemistry,
Boston, MA. Title: "Growth Factor-Proteoglycan Dynamics"
19. Feb. 20, 1997 Harvard Medical School, Seminars in Vascular Biology:
"Regulation of bFGF Binding, Trafficking and Activity by Heparan Sulfate
Proteoglycans"
20. July 21, 1997 Gordon Research Conference on Biomaterials: Biocompatibility and Tissue
Engineering, Holderness School, NH. Title: "Fibroblast Growth Factors"
21. March 25, 1998 Massachusetts Institute of Technology, Division of Toxicology Seminar
Series, Cambridge, MA. Title: "Growth Factor-Proteoglycan Dynamics: Impact on
Biological Activity"
22. June 10, 1998 Gordon Research Conference on Basement Membranes, New England
College, Henniker, NH Title: "Heparan Sulfate Mediated Transport of Growth Factors
through Basement Membranes"
23. Oct. 6, 1998 Transcatheter Cardiovascular Therapeutics X, Molecular
Cardiology and Local Cardiovascular Drug Delivery, Washington DC. Title:
"Fundamentals of Molecular Biology"
24. Oct. 27, 1998 Boston University School of Medicine, Department of Biochemistry,
Boston, MA. Title: Growth Factor Transport through the Extracellular Matrix: Oh what a
Wicked Web"
25. Nov. 4, 1998 Massachusetts Institute of Technology, Langer Lab Research Seminar
Series, Cambridge, MA. Title: "Growth Factor Interactions with the Extracellular Matrix"
26. Nov. 12, 1998 Johns Hopkins University, Department of Biology, Baltimore, MD. Title:
"Growth Factor Interactions with the Extracellular Matrix"
27. October, 1999 Virginia Polytechnic Institute & State University, Department of Chemical
Engineering, Blacksburg, VA. Title: "Transport of Growth Factors through the
Extracellular Matrix: Implications for Drug Delivery and Tissue Engineering"
28. October, 1999 Virginia Polytechnic Institute & State University, Department of
Biochemistry and Biotechnology, Blacksburg, VA. Title: "Growth Factor Binding,
Trafficking, and Activity: The Complexities of Fibroblast Growth Factor"
29. Nov. 1, 1999 Boston Angiogenesis Meeting, Boston, MA. Title: Transport of
Angiogenic Factors through the Extracellular Matrix"
30. March 6, 2000 Department of Molecular and Cell Biology, Goldman School of Dental
Medicine, Boston, MA. Title: "Heparan Sulfate and Growth Factors: A Complex System
of Cellular Control"

Nugent CV

31. March 15, 2000 Cardiovascular Extracellular Matrix Program, Boston University, Boston, MA. Title: "Regulation of Vascular Smooth Muscle Cell Growth"
32. March 25, 2000 SCVIR 25th Annual Scientific Meeting, San Diego, CA. Title: "Control of Vascular Smooth Muscle Cell Proliferation: The Molecular Basis of Restenosis"
33. July 12, 2000 Gordon Research Conference on Proteoglycans, Proctor Academy, Andover, NH. Title: "Regulation of Growth Factor Transport and Processing by Heparan Sulfate Proteoglycans"
34. August 8, 2000 Gordon Research Conference on The Science of Adhesion, Tilton School, Tilton, NH. Title: "Growth Factor Interactions with Cells"
35. October 11, 2000 Thomas Jefferson University, Cardeza Foundation for Hematologic Research Seminar, Philadelphia, PA. Title: "Growth Factor-Proteoglycan Interactions: Regulation of Cell Function"
36. October 19, 2000 XIV International Congress of Eye Research, Sante Fe, NM. Title: "Regulation of Proteoglycan Expression: Impact on Growth Factor Binding and Activity"
37. June 27, 2001 28th International Symposium on Controlled Release of Bioactive Materials, San Diego, CA. Title: "Complex receptor/growth factor interactions governing endocytic trafficking and cell response"
38. September 21, 2001 The 2001 Biennial Cornea Research Conference, Boston, MA Title: "Modulation of Growth Factors in the Corneal Stroma by Heparan Sulfate Proteoglycans"
39. October 26, 2001 Avigen, Inc. Alameda, CA Title: "Heparan Sulfate Proteoglycans as Sites for Cellular Uptake of Extracellular Ligands"
40. February 28, 2002 Massachusetts Institute of Technology, Division of Bioengineering and Environmental Health, Cambridge, MA. Title: "Structure function relationships of glycosaminoglycans"
41. June 2, 2002 5th Annual Meeting of the GZG European Tissue Culture Society on Heterologous Cell Interactions & 3-D Cell Systems, Regensburg, Germany. Title: "Complex Growth Factor/Receptor Interactions and Control of Cell Proliferation"
42. June 26, 2002 Gordon Research Conference on Signal Transduction by Engineered Extracellular Matrices, Connecticut College in New London, CT. Title: "Control of Growth Factor Action by Proteoglycans in the ECM and on Cell Surfaces"
43. September 11, 2002 Mimeon, Inc., Cambridge, MA. Title: "New Insights into the Roles of Heparan Sulfate in Disease"
44. October 8, 2002 XV International Congress of Eye Research, Geneva, Switzerland, Title: "Extracellular pH modulates VEGF-heparan sulfate interactions and activity in vascular endothelial cells"
45. November 18, 2002 AHA Scientific Sessions 2002. Chicago, IL. Title: "Proteoglycans and Thrombosis"
46. May 6, 2003 Dartmouth Medical School, Lebanon, NH Title: "Dynamics of growth factor regulation in cells and the extracellular matrix." Vascular Biology Seminar Series.
47. March 3, 2004 Genecor International Inc., Palo Alto, CA. Title: "Control of growth factor storage, release and activity by the extracellular matrix"
48. October 19, 2004 Department of Molecular and Cell Biology, Boston University Goldman School of Dental Medicine, Boston, MA. Title: "Complexities and consequences of growth factor interactions with heparan sulfate"

Nugent CV

49. December 2, 2004 Boston Area Heparan Sulfate Group, Boston, MA Title: "Heparan sulfate modulation of VEGF-fibronectin interactions"
50. November 9, 2005 Massachusetts Institute of Technology, Cambridge, MA Title: "Storage and Release of Growth Factors from the Extracellular Matrix: Nature's Controlled Release System"
51. December 5, 2006 Harvard Medical School, Schepens Eye Institute, Boston, MA Title: "Interactions of Vascular Endothelial Growth Factor with the Extracellular Matrix: Regulated Information Transfer"
52. September 28, 2007 Biomedical Engineering Society Meeting, Los Angeles, CA Title: "Regulation of the Pulmonary Cell Response to Elastase Injury by Heparan Sulfate"
53. September 18, 2007 5th International Conference on Proteoglycans, Rio de Janeiro, Brazil Title: "Catalysis of Conformational Changes in Fibronectin by Heparin and Heparan Sulfate"
54. February 7, 2008 Vascular Biology Seminar, Harvard Medical School, Boston, MA Title: "A Catalytic Role for Heparin in the Extracellular Matrix: Regulation of VEGF-Fibronectin Interactions"
55. July 7, 2008 Gordon Research Conference on Proteoglycans, Proctor Academy, Andover, NH Title: "Catalytic mechanisms involving heparan sulfate-fibronectin interactions"
56. March 23, 2009 Condensed Matter Seminar Series, Department of Physics, Virginia Polytechnic Institute & State University, Blacksburg, VA Title: "Extracellular Communication: Growth Factor Dynamics in Tissue Injury and Repair"
57. August 26, 2009 Grand Rounds, Boston Medical Center, Department of Ophthalmology, Boston, MA Title: "The Many Faces of Heparin"
58. October 22, 2009 Biological Engineering Department, MIT, Cambridge, MA Title: "Extracellular Communication: Growth Factor Dynamics in Tissue Injury and Repair"
59. April 13, 2010 Translational Research in Biomaterials Program, Biomedical Engineering Department, Boston University, Boston, MA Title: "Sweet Matrix: How complex sugars modulate extracellular matrix function"
60. August 3, 2010 Merrimack Pharmaceuticals, Inc. Cambridge, MA Title: "'Complex regulation of FGF binding and activity by heparan sulfate proteoglycans"
61. October 27, 2010 American Society of Matrix Biology Annual Meeting, Charleston, SC Title: "Control of Endothelial Progenitor Cell Differentiation on Fibronectin by Heparin/Heparan Sulfate"
62. April 25, 2011 Momenta Pharmaceuticals, Inc. Cambridge, MA Title: "Peeling the Heparan Sulfate Onion: Sequences, Domains, and Activities"
63. June 21, 2011 Department of Biomedical Engineering, Boston University, Boston, MA Title: "Extracellular Communication: Growth Factor Dynamics in Tissue Injury and Repair"
64. October 17, 2011 7th International Conference on Proteoglycans, Sydney, Australia Title: "Fibronectin, Perlecan and the VEGF/FGF2 Nexus in Vascular Biology"
65. April 24, 2012 Bedford High School, Bedford, MA Title: "What Does a Scientist Do?"
66. April 26, 2012 Eyes to the Brain Seminar Series, Boston University, Boston, MA Title: "How the Extracellular Matrix Controls VEGF"

Nugent CV

67. June 25, 2012 FASEB Ressearch Conference on Smooth Muscle, Snowmass, CO Title: “Extracellular Matrix-Cell and Cell-Cell Interactions Control Smooth Muscle Cell Response to Substrate Stiffness”
68. July 10, 2012 Gordon Research Conference on Proteoglycans, Andover, NH Title: “Computational Analysis of Heparan Sulfate-Protein Binding Specificity”
69. December 5, 2012 Department of Biological Sciences, University of Massachusetts at Lowell, Lowell, MA Title: “Extracellular Communication: Growth Factor-Extracellular Matrix Dynamics”
70. January 16, 2013 Boston Glycobiology Discussion Group, Boston College, Newton, MA Title: “Computational Analysis of Heparan Sulfate-Protein Binding Specificity”
71. January 30, 2013 Pulmonary Research Center, Boston University School of Medicine, Boston, MA Title: “Growth Factor-Extracellular Matrix Dynamics”
72. April 3, 2013 Momenta Pharmaceuticals, Inc. Cambridge, MA Title: “VEGF, Endothelial Cells, and Angiogenesis: Activities, Assays, and Ideas”
73. April 8, 2013 ACS Symposium on Heparin: Challenges and Opportunities for a Biological Drug, New Orleans, LA Title: “Computational Analysis of Heparan Sulfate Fibronectin Binding: Impact on VEGF Deposition in the Extracellular Matrix”
74. July 8, 2014 Gordon Research Conference on Proteoglycans. Andover, NH Title: “Dynamic regulation of VEGF signaling by co-receptors and the extracellular matrix”
75. October 16, 2014 Clinical Lab and Nutritional Sciences Fall Colloquium, University of Massachusetts Lowell, Lowell, MA Title: “Growth Factor-Extracellular Matrix Dynamics in Vascular Biology”
76. December 4, 2015 15th Anniversary Sukant Tripathy Annual Memorial Symposium, Lowell, MA Title: “Extracellular Matrix Dynamics: Implications for Treating Human Disease”
77. February 23, 2016 Boston Glycobiology Discussion Group meeting, Boston, MA. Title: “The Wondrous World of VEGF Regulation by Heparan Sulfate”
78. October 12, 2017 Biochemistry Student Seminar, UMass Lowell. Title: “Sweet Cues: How Complex Sugars Rule the World (of VEGF)”
79. March 20, 2019 Conversation Starter on Probability and Statistics, UMass Lowell. Title: “Growth Factors and Their Receptors: What’s the Chance That a Cell Will Divide?”
80. July 6, 2020 Master Class, UMass Lowell. Title: “Let’s stick together: The role of molecular interactions in COVID-19”
81. April 1, 2021 The Kennedy College of Sciences Lecture Series on Science and Society, UMass Lowell. Title: “The Science of COVID-19 and its Vaccines”
82. October 27, 2021 Conversation Starter on Infectious Disease, UMass Lowell. “The Many Fascinating and Frustrating Faces of the Spike Protein”
83. February 23, 2023 Boston University ARROWS Lunch & Learn Series. “The Pre-Tenure Club: A program for faculty success in STEM”

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SYMPOSIUM SESSION CHAIR:

- December 4, 1991 Collagen-based Scaffolds, Materials Research Society Fall Meeting, Boston, MA
- October 13, 1996 Molecular Biology Workshop, The Second Annual International Conference on Local Cardiovascular Drug Delivery, Cambridge, MA
- March 21, 1997 Growth Factor and Cell Matrix Interactions and Signaling, East Coast Connective Tissue Society Seventeenth Annual Meeting, Boston, MA
- October 6-7, 1998 Fundamentals of Molecular Biology, Breakout Sessions II and III, Molecular Cardiology and Local Cardiovascular Drug Delivery Mini Symposium at Transcatheter Cardiovascular Therapeutics X, Washington, DC
- June 26-27, 2001 Intracellular Trafficking, 28th International Symposium on Controlled Release of Bioactive Materials, San Diego, CA
- June 2, 2002 Biomaterials for 3-D Cell Culture and Tissue Engineering, 5th Annual Meeting of the GZG European Tissue Culture Society on Heterologous Cell Interactions & 3-D Cell Systems, Regensburg, Germany.
- October 17, 2011 Angiogenesis, Cardiovascular Biology and Pathology, 7th International Conference on Proteoglycans, Sydney, Australia.
- November 3, 2011 Models of Angiogenesis, Boston Angiogenesis Meeting 2011, Cambridge, MA.
- July 10, 2016 Technology Advances and State-of-the-Art Methods for Proteoglycan Research. 19th Gordon Research Conference on Proteoglycans, Andover, NH.
- July 12, 2022 Proteoglycans in Regenerative Medicine. Gordon Research Conference on Proteoglycans, Andover, NH

MEETING CHAIR

- November 8, 2012 14th Annual Boston Angiogenesis Meeting, Boston, MA
(www.bu.edu/bam2012)

JOURNAL REFEREE

Editor – Special Issue

2019 – 2020 – Cells: Fibronectin in Health and Disease

Associate Editor

2021 – present - Networks in the Respiratory System

Editorial Board Member

2004 - 2008 – Biochemical Journal

2013 – 2018 – Journal of Biological Chemistry

2021 – present – Cells

Reviewer:

Atherosclerosis

FASEB Journal

Science

Journal of Cell Biology

Journal of Biomedical Materials Research

Molecular Pharmacology

Nature Biotechnology

Biochemistry

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Biomaterials	Oncogene
Investigative Ophthalmology and Visual Science	Tissue Engineering
Experimental Eye Research	Biochemical Journal
The Journal of Biological Chemistry	Journal of Theoretical Biology
Proceedings of the National Academy of Sciences USA	Journal of the National Cancer Institute
Cancer Research	Proteome Science
Circulation Research	British Journal of Cancer
Journal of Cellular Physiology	Matrix Biology
Bio/Technology	Blood
Investigative Ophthalmology & Visual Science	PLoS Computational Biology
	PLoS ONE
	Biophysics Journal

GRANT REVIEWER

1998-2000 Cancer Research Campaign (London, UK) for Programme and Research Grants.

2000 Wellcome Trust (London, UK) Programme Grants, Research Grants, and Training Grants

2001 Special Emphasis Panel Review Committee to review a Program Project application for the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)

2003 *Ad hoc* member Biochemistry Study Section National Institutes of Health

2004 Special Emphasis Panel Review Committee (NIDDK/NIH): Innovative Partnerships in Type 1 Diabetes Research.

2005 Review Committee member (NCI/NIH) ZRG1 ONC-K 03

2006 Special Emphasis Panel Review Committee to review a Program Project application for the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)

2006-2011 Study Section Member American Cancer Society, Cell Structure and Metastasis Committee

2008 Grant Reviewer, Kentucky Science and Engineering Foundation

2009 Vice Chair, American Cancer Society, Cell Structure and Metastasis Committee

2007 *Ad hoc* Reviewer for the National Science Foundation Faculty Early Career Development (CAREER) Program

2007 Reviewer - Biotechnology and Biological Sciences Research Council, United Kingdom - Biochemistry and Cell Biology Committee

2010 Cancer Research UK – program grant reviewer

2012 *Ad hoc* member Intercellular Interactions (ICI) study section, National Institutes of Health

2012–2016 Reviewer, Skolkovo Institute of Science and Technology and MIT, SkTech Research Center Proposals

2013 Reviewer for Fonds National de la Recherche Luxembourg CORE Research Grants

2013 Study Section Member American Cancer Society, Cell Structure and Metastasis Committee

2015 Reviewer for the Danish Council for Independent Research, DFF-MOBILEX Mobility Grant Program

Nugent CV

2016 Macromolecular Structure and Function B (MSFB) study section member for the National Institutes of Health *ad hoc* member

2018 Macromolecular Structure and Function B (MSFB) study section member for the National Institutes of Health *ad hoc* member

2020 Macromolecular Structure and Function B (MSFB) study section member for the National Institutes of Health *ad hoc* member

2022 Review Committee Member, UMass Center for Clinical and Translational Science Pilot Project Program (PPP)

2023 Macromolecular Structure and Function B (MSFB) study section member for the National Institutes of Health *ad hoc* member

RESEARCH SUPPORT:

Generated ~ \$20,000,000 in research grant support (Nugent lab share). Participated in generating ~ \$30,000,000 in total research grant support, and ~\$20,000,000 in graduate student/postdoctoral training grant support.

1. American Heart Association Massachusetts Chapter 13-522-923 (Principal Investigator)
Title: Control of vascular smooth muscle cell proliferation by heparin-binding growth factors
Dates: 07/01/93 - 06/30/95
Direct Cost: \$60,000
Total Cost: \$72,000
2. Fight For Sight, Inc. GA93046 (Principal Investigator)
Title: Regulation of basic fibroblast growth factor in the anterior chamber of the eye
Dates: 07/01/93 - 06/30/94
Direct Cost: \$10,000
Total Cost: \$11,000
3. Eye Bank Association of America (Principal Investigator)
Title: Growth factor delivery for corneal endothelial wound healing
Dates: 07/01/93 - 06/30/94
Direct Cost: \$9,000
Total Cost: \$10,000
4. American Cancer Society IRG-97 R (Principal Investigator)
Title: Regulation of angiogenesis by heparan sulfate proteoglycans
Dates: 01/01/94 - 12/31/94
Direct Cost: \$13,000
Total Cost: \$13,000
5. The Whitaker Foundation (Principal Investigator)
Growth Factor Transport Through Basement Membrane
Dates: 12/01/94 - 11/30/97
Direct Cost: \$179,921
Total Cost: \$224,901

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6. National Institutes of Health R01EY11004 (Principal Investigator)
Title: Regulation of extracellular matrix in the cornea
Dates: 7/1/96 - 6/30/00
Direct Cost: \$607,275
Total Cost: \$986,822
7. National Institutes of Health R01HL56200 (Principal Investigator)
Title: Control of vascular smooth muscle cell proliferation
Dates: 12/1/96 - 11/30/00
Direct Cost: \$466,976
Total Cost: \$758,836
8. National Institutes of Health P01HL46902 (Principal Investigator, Project 2)
Title: Lung connective tissue – Response to Injury and Repair
Dates: 12/1/96 - 11/30/01
Direct Cost Project 2: \$614,125
Total Cost Project 2: \$997,953
Direct Cost Program: \$3,270,443
Total Cost Program: \$5,314,447
9. Corning, Inc. (Principal Investigator)
Title: Growth Factor Biochemistry
Dates: 10/1/97 - 9/30/98
Direct Cost: \$10,000
Total Cost: \$10,000
10. National Institutes of Health S10 RR12852 (Co-Principal Investigator)
Title: Leica TCS NT Confocal Microscope
Dates: 04/01/98 - 03/31/99
Direct Cost: \$269,270
Total Cost: \$269,270
11. National Institutes of Health R01HL56200 (Principal Investigator)
Title: Control of vascular smooth muscle cell proliferation
Dates: 1/1/01 - 6/30/05
Direct Cost: \$800,000
Total Cost: \$1,300,000
12. National Institutes of Health P01HL46902 (Principal Investigator, Program;
Project Leader, Project 2; Core Leader, Core A)
Title: Lung connective tissue – Response to Injury and Repair
Dates: 12/1/01 - 11/30/07
Direct Cost Project 2: \$982,725
Total Cost Project 2: \$1,596,928
Direct Cost Core A: \$1,582,390
Total Cost Core A: \$2,571,384
Direct Cost Program: \$5,936,464
Total Cost Program: \$9,646,754

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13. National Institutes of Health R03 EY14007 (Principal Investigator)
Title: Nuclear localization of heparan sulfate proteoglycans
Dates: 4/01/02 – 3/31/05
Direct Cost: \$450,000
Total Cost: \$731,250
14. National Institutes of Health P01 HL47049 (Co-investigator)
Title: FGF10 regulation of lung branching morphogenesis
Dates: 04/01/02 – 03/31/07
Direct Cost: \$1,423,000
Total Cost: \$2,312,375
Direct Cost Nugent: \$250,000
Total Cost Nugent: \$406,250
15. National Institutes of Health R21 EB00988 (Co-investigator)
Title: Repair of tissue elastin with recombinant tropoelastin
Dates: 12/01/02 – 11/30/06
Direct Cost: \$450,000
Total Cost: \$731,250
Direct Cost Nugent: \$100,000
Total Cost Nugent: \$162,500
16. National Institutes of Health R01HL56200 (Principal Investigator)
Title: Growth Factors in Vascular Biology
Dates: 12/1/96 -6/30/10
Direct Cost: \$900,000
Total Cost: \$1,462,500
17. Massachusetts Lions Eye Research Fund (Principal Investigator)
Eye Research
Dates: 5/30/06-6/1/12 (annually reviewed)
Direct Costs: \$1,050,000
18. National Institutes of Health P41RR010888 (Sub-Project PI)
Title: Heparin Modulation of VEGF Binding to Fibronectin
Dates: 7/1/06-6/30/07
Direct Costs: \$21,409
19. National Institutes of Health R01HL088572 (Principal Investigator)
Title: Elastase Injury of Pulmonary Extracellular Matrix
Dates: 12/01/07 – 11/30/13
Direct Cost: \$1,250,000
Total Cost: \$2,031,250
20. National Institutes of Health R01HL098950 (Co-investigator)
Title: Post-biosynthetic Remodeling of Heparan Sulfate
Dates: 12/1/09-11/30/14
Direct Costs: \$1,250,000
Direct Cost Nugent: \$250,000
Total Cost Nugent: \$406,250

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21. National Institutes of Health P41RR010888 (Sub-Project PI)
Title: Structure-Function Relationships of Heparan Sulfate in Vasculogenesis
Dates: 7/1/10 – 6/30/12
Direct Cost: \$21,072

22. American Health Assistance Foundation M2012014 (Principal Investigator)
Title: VEGF-ECM Interactions in Choroidal Neovascularization
Dates: 7/1/12 – 10/30/14
Direct Cost: \$100,000
Total Cost: \$120,000

23. National Institutes of Health R15GM120702 (Principal Investigator)
Title: Modulating Protein Activity with Heparan Sulfate
Dates: 9/1/16 – 8/31/19
Direct Cost: \$250,000
Total Cost: \$366,600

24. National Science Foundation 1304804 (Principal Investigator)
Title: Collaborative Research: Effects of Trophic Status Alterations on Pathways of Mercury Methylation in Northern Wetlands
Dates: 7/1/13 – 06/30/19
Direct Costs: \$300,000
Total Costs: \$441,707

Student Training Funding:

- | | |
|---|----------------------|
| 5 T32 HL007969 (PI: Ravid)
NIH/NHLBI
Training Cardiovascular Biology: Predoctoral | 7/1/2003 – 6/30/2008 |
| 2 T32 HL007035 (PI: Center)
NIH/NHLBI
Biology of the Lung: A Multidisciplinary Program | 7/1/2006 – 6/30/2011 |
| 5 T32 AG000115 (PI: Polgar)
NIH/NIA
Pre- and Postdoctoral Training in Biochemistry of Aging | 5/1/2002 – 4/30/2007 |
| 1 T32 EB006359 (PI: Grinstaff)
NIH/NIBIB
Translational Research in Biomaterials | 9/1/2009 – 8/31/2014 |

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CONSULTING EXPERIENCE:

1993-1996	Alcon, Inc., Forth Worth, TX
1997-1998	Corning, Inc., Corning, NY
1997	Transkaryotic Therapies, Inc., Cambridge, MA
2002-2008	Momenta Pharmaceuticals, Inc. Cambridge, MA
2003-2004	Sandoz, Inc., Princeton, NJ
2005-2014	Gerson Lehrman Group, New York, NY
2005-2010	Vista Research, Society of Industry Leaders, Hightstown, NJ
2006-2007	LANCOME International, Paris, France
2008-2012	Pervasis Therapeutics, Inc., Cambridge, MA
2008-2009	Arnold and Porter, LLC, New York, NY
2009-2010	Semprus BioSciences, Inc., Cambridge, MA
2011-2016	Merrimack Pharmaceuticals, Inc., Cambridge, MA
2012-2016	Permeon Biologics, Inc., Cambridge, MA
2013- 2017	Momenta Pharmaceuticals, Inc. Cambridge, MA
2018-2020	Kramer Levin Naftalis & Frankel LLP, New York, NY
2017-2018	Difference Maker <i>Mentor</i> , Clot Catch, UMass Lowell
2020-2021	Momenta Pharmaceuticals, Inc., Cambridge, MA
2021	Johnson & Johnson Jansen, Cambridge, MA
2021	ProteinQure, Inc., Toronto, ON, Canada

PUBLICATIONS:

Citations:

Analysis of citations since 1990:

Sum of the Times Cited: 8469

h-Index: 56

i10-Index: 99

i100-Index: 22

Current Status: <http://scholar.google.com/citations?hl=en&user=h2feWL0AAAAJ>

* Cited > 100 times

** Cited > 200 times

*** Cited > 300 times

**** Cited >400 times

***** Cited >500 times

***** Cited >600 times

1. Newman, M.J., Lane, E.A., Nugent, M.A., and Racker, E. Induction of anchorage-independent growth by epidermal growth factor and altered sensitivity to type beta transforming growth factor in partially transformed rat kidney cells. (1986) *Cancer Res.* 46, 5842-5850. PMID: 3019539
2. Biswas, C., and Nugent, M.A. Membrane association of collagenase stimulatory factor(s) from B-16 melanoma cells. (1987) *J. Cell. Biochem.* 35, 247-258. PMID: 2826506
3. Nugent, M.A., Lane, E.A., Keski-Oja, J., Moses, H.L., and Newman, M.J. Growth stimulation, altered regulation of epidermal growth factor receptors, and autocrine transformation of spontaneously transformed normal rat kidney cells by transforming growth factor- β . (1989) *Cancer Res.* 49, 3884-3890. PMID: 2786745

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4. Nugent, M.A., and Newman, M.J. Inhibition of normal rat kidney cell growth by transforming growth factor- β is mediated by collagen. (1989) *J. Biol. Chem.* 264, 18060-18067. PMID: 2553700
5. Newman, M.J., Lane, E.A., Iannotti, A.M., Nugent, M.A., Pepinsky, R.B., and Keski-Oja, J. Characterization and purification of a secreted plasminogen activator inhibitor (PAI-1) induced by transforming growth factor- β 1 in NRK cells. (1990) *Endocrinology* 126, 2936-2946. PMID: 2190800
6. Edelman, E.R., and Nugent, M.A. Controlled release of basic fibroblast growth factor. (1991) *Drug News and Perspectives* 4, 352-357.
- ***7. Edelman, E.R., Nugent, M.A., Smith, L.T., and Karnovsky, M.J. Basic fibroblast growth factor enhances the coupling of intimal hyperplasia and proliferation of vasa vasorum in injured rat arteries. (1992) *J. Clin. Invest.* 89, 465-473. PMID: 1371124
8. Nugent, M.A., Langer, R., Chen, O., and Edelman, E.R. Controlled release of fibroblast growth factor: Activity in cell culture. (1992) *Mater. Res. Soc. Symp. Proceed*, 252, 273-284.
9. Nugent, M.A., and Edelman, E.R. Transforming growth factor b1 stimulates the production of basic fibroblast growth factor binding proteoglycans in Balb/c3T3 cells. (1992) *J. Biol. Chem.* 267, 21256-21264. PMID: 1400436
- **10. Nugent, M.A., and Edelman, E.R. Kinetics of basic fibroblast growth factor binding to its receptor and heparan sulfate proteoglycan: A mechanism for cooperativity. (1992) *Biochemistry* 31, 8876-8883. PMID: 1390674
- ***11. Edelman, E.R., Nugent, M.A., and Karnovsky, M.J. Perivascular and intravenous administration of basic fibroblast growth factor: Vascular and solid organ deposition. (1993) *Proc. Natl. Acad. Sci. USA* 90, 1513-1517. PMID: 8434012
- *12. Nugent, M.A., Karnovsky, M.J., and Edelman, E.R. Endothelial-derived heparan sulfate shows coupled inhibition of bFGF binding and mitogenesis in vascular smooth muscle cells. (1993) *Circulation Res.* 73, 1051-1060. PMID: 8222077
- *13. Sasisekharan, R., Moses, M.A., Nugent, M.A., Cooney, C.L., and Langer, R. Heparinase inhibits neovascularization. (1994) *Proc. Natl. Acad. Sci. USA* 91, 1524-1528. PMID: 7509076
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