

CURRICULUM VITAE

PROFESSOR PRABHAS V. MOGHE

Vice Chancellor for Research & Innovation

&

Distinguished Professor

Department of Biomedical Engineering
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EDUCATION AND ACADEMIC TRAINING

Harvard Medical School Massachusetts General Hospital	Postdoc Research	1995	Bioengineering
University of Minnesota	Ph.D.	1993	Chemical Engineering (<i>Bioengineering</i>)
University of Bombay (UDCT)	B. S. <i>Distinction</i>	1988	Chemical Engineering

PROFESSIONAL EXPERIENCE

2018-	<i>Vice Chancellor for Research and Innovation</i> , Rutgers University – New Brunswick
2014-18	<i>Research Director</i> , Rutgers Engineering–Biomedical and Health Sciences Alliances and Partnerships
2013-	<i>Distinguished Professor</i> , Department of Biomedical Engineering, Department of Chemical and Biochemical Engineering, Rutgers University, NJ.
2012-4	<i>Vice-Chair</i> , Department of Biomedical Engineering, Rutgers University, Piscataway, NJ
2008-	Adjunct Professor of Surgery, Robert Wood Johnson Medical School, University of Medicine and Dentistry of New Jersey, New Brunswick, NJ.
2007-11	<i>Director</i> , Rutgers-UMDNJ Graduate Program in Biomedical Engineering
2007-	<i>Professor</i> , Department of Chemical and Biochemical Engineering, Department of Biomedical Engineering, Rutgers University, Piscataway, NJ.
2008-	<i>Director and Principal Investigator</i> , NSF-Sponsored Rutgers Integrative Graduate Educational and Research Traineeship (IGERT) Program on Stem Cell Science and Engineering
2003-9	<i>Director and Principal Investigator</i> , NSF-Sponsored Rutgers Integrative Graduate Educational and Research Traineeship (IGERT) Program on Biologic Interfaces
2003-	<i>Project Director</i> , <i>In Situ Profiling of Cell Dynamics on Polymeric Materials</i> , NIH-Sponsored P41 Center at Rutgers, “Integrated Technologies for Polymeric Biomaterials”.
2001-3	<i>Undergraduate Program Director</i> , Department of Biomedical Engineering, Rutgers University, Piscataway, NJ.
2001-	<i>Associate Professor</i> , Department of Chemical and Biochemical Engineering, Department of Biomedical Engineering, Rutgers University, Piscataway, NJ.

1995- *Assistant Professor*, Department of Chemical and Biochemical Engineering, Rutgers University, Piscataway, NJ.

ADMINISTRATIVE EXPERIENCE

Research Director, Rutgers School of Engineering (SoE), 2014-Present

Appointed by the *Dean of School of Engineering*, Rutgers, Professor Moghe serves as the *Research Director* for *SoE Alliances and Partnerships with Health and Biomedical Sciences*. In this role, he is spearheading new programmatic linkages between bioengineers and stakeholders in the newly formed *Rutgers Biomedical Health Sciences (RBHS)*, including the *Rutgers Cancer Institute of New Jersey*, the *Rutgers Brain Health Institute*, the *Ernest Mario School of Pharmacy*, and the *Robert Wood Johnson Medical School*. He also represents the Dean of SoE at the Annual Big-Ten Plus Institutions' Meetings of Research Deans. He is also a part of the CIC workshop on Academic Leadership for 2015-2016. Additionally, he works closely with the *Dean of the School of Arts and Sciences (SAS)* to foster collaborative synergies.

Strategic Planning Committee, Chemical & Biochemical Engineering, 2014-2016

As a member of the Strategic Planning group that works with the Chair of Chemical & Biochemical Engineering, Professor Moghe contributed toward the development of a strategic plan that would be aligned with the framework of the School of Engineering's strategic plan for excellence. The plan is comprised of key elements related to: Student Learning; Faculty Excellence; Research; Industry; Alumni; and Infrastructure

Research Innovation Subcommittee, Chemical & Biochemical Engineering 2015-2016

The goal is to identify strategies for high innovative research paradigms with collaborative enterprise. A new faculty research interchange was initiated.

Faculty Promotion Committee, Chemical & Biochemical Engineering, 2014-2016

Professor Moghe is a part of the group that advises the Chair of Chemical & Biochemical Engineering regarding promotion and mentoring of faculty, nominating faculty for internal and external awards, and recognition of students, administrators, and faculty activities.

Executive Committee, 2014-Present; Vice Chair of Biomedical Engineering, Rutgers, 2012-14

Professor Moghe assists the Chair of Biomedical Engineering with strategic planning and hiring; previously he teamed up with the *Chair of Biomedical Engineering* to represent the Department at professional events and to address a number of strategic initiatives at the Department, including faculty recruitment, industrial advisory board membership, faculty mentoring, and departmental interactions with the Dean's office.

Director and PI of NSF IGERT Programs on Biointerfaces, Stem Cell Science/Engineering, 2003-2015

Professor Moghe developed a new vision for two successive research and educational training programs which were reviewed and funded by the NSF IGERT, encompassing over 30 faculty participants from life sciences, physical sciences and engineering. These programs supported the funding, curriculum, and research mentoring of over 56 PhD trainees to date, and also secured a *President's Diversity in Leadership Award* for establishment of diversity infrastructure.

Director of Joint Graduate Biomedical Engineering Program, 2007-2011

Professor Moghe was elected as the Director of the joint graduate program between Rutgers and the University of Medicine and Dentistry of New Jersey (UMDNJ). He spearheaded new graduate curriculum and training activities, revamped student research review procedures, and fundraising for graduate student support. He also directed two NSF IGERT programs that brought

to Rutgers funding for over \$7M. He also represented Engineering at the campus-wide Graduate Executive Council where policy issues impacting the Graduate School are discussed and implemented.

Undergraduate Program Director, Biomedical Engineering, 2001-2003

Professor Moghe represented the leadership of the *Undergraduate Program in Biomedical Engineering* at the Whitaker Foundation Site Visit, which secured a Special Development Award that led to the establishment of the Biomedical Engineering Department and a 80,000 square feet building at Rutgers. Consequently, he directed the Undergraduate Program, revamping the curriculum, introducing several disciplinary tracks, and Honors Academy. The program has now grown to graduate over 130 students each year and is one of the most selective undergraduate majors on the campus.

FUND-RAISING EXPERIENCE

Federal Agencies (for Research, Education, and Translation)

Professor Moghe has raised over \$15M in federal grant funding from agencies like the United States Department of Health and Health Services (DHHS)- the National Institutes of Health, the National Science Foundation (NSF), the American Heart Association (AHA).

He is serving or has served as a PI on two \$6.8M NSF IGERT awards (2003-2015), two \$5M NIH R01 projects (2010-2018), a CORE director on a \$6M NIH P41 Resource Center for Polymeric Biomaterials (2013-2018), Co-director on a \$2M NIH T32 Project (network of Rutgers, Mayo Clinic, Case Western Reserve University, Harvard Medical School, Princeton University and Boston University), a \$1 M NSF NIRT (Nanoscale Interdisciplinary Research Team) project between Rutgers and Princeton.

Professor Moghe has participated in larger scale initiatives related to NSF MRSEC and ERC applications from Rutgers. He served as an institutional advisor for the Rutgers ERC on Structured Organic Composites (PI: F. Muzzio) and is currently advising on sustainability mechanisms for the ERC. He spearheaded as a PI on a \$25M Science and Technology Center (STC) Initiative related to Rutgers, Princeton University, and University of Pennsylvania. This blueprint was assembled by the three Universities and reviewed by the National Science Foundation, and invited for a full proposal that was competitively reviewed. This initiative will be updated on an ongoing basis for further competitions.

Professor Moghe is partnering with the new Deans of Robert Wood Johnson Medical School (Dr. Sherine Gabriel, the new Dean of RWJMS, who recently arrived from the Mayo Clinic), Dr. Sally Radovick, and Dr. Celine Gelin, to assemble competitive teams for larger DoD, NIH, and NSF grant initiatives. He will be representing the School of Engineering's advanced technologies while advising Reynold A. Panettieri, Jr., MD at the Rutgers Biomedical Health Science (RBHS) for a prospective Clinical Translational Science Award (CTSA).

Entrepreneurship

Professor Moghe has raised \$1M for translational research related to therapeutics for heart disease. He was the co-inventor of *nanolipoblockers*, an invention that was funded by the Wallace H. Coulter Foundation as a Biomedical Engineering Translational Research Award. He is the co-inventor on another technology, Rare Earth Visions, for new-generation imaging agents. Two spin-out ventures are emerging from Dr. Moghe's IP portfolio, related to healthcare technologies.

School of Engineering Strategic Development

Professor Moghe has contributed toward the development of a comprehensive School of Engineering Strategic Excellence Plan at Rutgers, which was established by the Dean. He served on the Research Implementation Committee, which was tasked with the internal assessment of research and infrastructural strengths and the prioritization of research initiatives that will enhance the School of Engineering's visibility and reputation in academia, local industry and the State of New Jersey. He has also assisted the Dean in several initiatives related to fundraising, including hosting endowed alumni for development efforts. The Rutgers School of Engineering received one of its named donors for a new building recently. Professor Moghe has presented on behalf of the School of Engineering to the University's Board of Governors.

Professor Moghe was one of the 3 core faculty from Engineering who presented a plan to the Whitaker Foundation for the development of Biomedical Engineering. He directed the establishment of a new Undergraduate Program and represented this proposal at a site visit from the Foundation. This proposal was awarded a Special Development Award (\$5M), which was matched by a \$34M commitment from Rutgers to build a 80,000 square feet building dedicated to Biomedical Engineering.



University-Industry Alliances

Professor Moghe is working with the Office of Research and Economic Development and participating on a number of Rutgers-industry alliances, which are funding research collaborations between diverse companies (like Baxter, J&J, Colgate, Becton Dickinson, etc.) with Rutgers.

He has raised over \$1 M for a High Resolution Microscopy Facility for Biomaterials at Rutgers School of Engineering, which is a cost recharge center that serves academia and local industrial users. The facility received a R&D Excellence Award from the New Jersey Center for Biomaterials. He is the Director for this facility and has raised NIH funds to co-sponsor upgrades to the facility. Several leading industrial clients including Merck, Johnson & Johnson, Celgene, Musculoskeletal Transplant Foundation, Insmad, 3-D BioTek, etc. are regular members of this facility.

PROFESSIONAL SERVICE ACTIVITIES

- Member, School of Engineering Faculty Compensation Committee, Rutgers, 2016-
- Chair, School of Engineering Research Planning Group, Rutgers University
- Member, School of Engineering Dean Evaluation Group, Rutgers University
- Member, Vice President-Research-Molecular Imaging Advisory Group, Rutgers University
- Member, Cellular and Molecular Pharmacology Graduate Program, Robert Wood Johnson Medical School, New Brunswick, NJ.
- Elected Member, Graduate Executive Council, Graduate School-New Brunswick, Rutgers, 2012
- Elected Member, School of Engineering Dean Search Committee, Rutgers University, 2008
- Invited Member, School of Pharmacy Dean Search Committee, Rutgers University, 2007
- Member, Appointments and Promotions Committee, School of Engineering, Rutgers University

- Member, Graduate Executive Council, Graduate School-New Brunswick, Rutgers
- Director, NSF IGERT (Integrative Graduate Education and Research Traineeship) on Biointerfaces, 2003-
- Co-Director, Rutgers Nanomedicine Initiative, Institute of Advanced Materials, Devices, Nanotechnology, 2007-
- Operations Advisory Group, Center for Biomaterials, 2002-4
- Graduate Director, Rutgers-UMDNJ Joint Graduate Program in Biomedical Engineering, 2007-11
- Member of Various Rutgers Departmental Committees (Chair Search; Curriculum Review; BME Executive Group; Merit Review Committee) and School Committees (Scholastic Standing Committee; Appointments & Promotions)

HONORS AND AWARDS

- 2015 *Fellow of Biomedical Engineering Society (BMES)*
- 2013 *Distinguished Professorship*, Rutgers University
- 2012 *Fellow of Biomaterials Science and Engineering*, International Societies of Biomaterials (Conferred at the World Biomaterials Congress, China, May 2012)
- 2012 First School of Engineering Faculty of the Year Award, Rutgers University
- 2011 Excellence in Teaching Award in Biomedical Engineering, Engineering Governing Council, Rutgers
- 2009 Excellence in Teaching Award in Chemical & Biochemical Engineering, Engineering Governing Council, Rutgers
- 2008 Fellow, Institute for Business, Engineering, Science, and Technology (BEST), Rutgers
- 2008 Excellence in Teaching Award, Engineering Governing Council, Rutgers
- 2008 Director and Principal Investigator, Rutgers NSF IGERT Program on Integrated Science and Engineering of Stem Cells
- 2007 Invited Scholar: Institute for Teaching and Mentoring, Compact for Faculty Diversity, Washington DC.
- 2006 Fellow, American Academy of Nanomedicine (AANM)
- 2006 Leader in Diversity Award, Rutgers University
- 2004 Elected Fellow, American Institute of Medical and Biological Engineering
- 2003 Director and Principal Investigator, Rutgers NSF IGERT Program on Biointerfaces
- 2003 Future Leaders in Biomedical Engineering, Whitaker Foundation Workshop
- 2000 Teaching Excellence Award - Dept. of Chemical & Biochemical Eng, Rutgers
- 1999 Rutgers FASIP Award for Teaching, Research, and Service (*Ranked First*)
- 1999 American Heart Association Grant-in-Aid Award
- 1998 National Science Foundation CAREER Award

PEER REVIEWED JOURNAL PUBLICATIONS

1. Kantamneni H, Zevon M, Donzanti MJ, Zhao X, Sheng Y, Barkund SR, McCabe LH, Banach-Petrosky W, Higgins LM, Ganesan S, Riman RE, Roth CM, Tan MC, Pierce MC, Ganapathy V and **Moghe PV**, Surveillance nanotechnology for multiorgan cancer metastases. *Nature Biomedical Engineering* 1, 993-1003 (2017) doi:10.1038/s41551-017-0167-9
2. Kim JJ, Devita MS, Kulesa A, Bennett NK, Chahar S, Viswanath S, Lee EA, Jung G, Shao PP, Childers EP, Liu S, Garcia BA, Becker ML, Hwang NS, Madabhushi A, Verzi MP, and **Moghe PV**. High Content Optical Nanoscopy of Stem Cell Phenotypes: Textural Fingerprinting of Epigenetic Marks. *Scientific Reports* 7, 39406 (2017) doi:10.1038/srep39406 (2017).

3. Liu E, Vega SL, Bennett NK, Arvind V, Bushman J, Sung HJ, Becker ML, Vidi PA, Lelievre S, Kohn J, and **Moghe PV**. Nuclear Mitotic Apparatus Molecule (NuMA) Organization as a Single Cell Phenotypic Classifier. *Exp Cell Res* 2017 Feb 1;351(1):11-23. doi: 10.1016/j.yexcr.2016.12.018
4. Chmielowski RA, Abdelhamid DS, Faig JJ, Petersen LK, Gardner CR, Uhrich KE, Joseph LB, **Moghe PV**. Athero-inflammatory nanotherapeutics: Ferulic acid-based poly(anhydride-ester) nanoparticles attenuate foam cell formation by regulating macrophage lipogenesis and reactive oxygen species generation. *Acta Biomater*. 2017 May 15. pii: S1742-7061(17)30311-2. doi: 10.1016/j.actbio.2017.05.029.
5. Bennett NK, Chmielowski R, Abdelhamid DS, Faig JJ, Francis N, Baum J, Pang ZP, Uhrich KE, **Moghe PV**. Polymer brain-nanotherapeutics for multipronged inhibition of microglial α -synuclein aggregation, activation, and neurotoxicity. *Biomaterials*. 2016 Oct 4;111:179-189. doi: 10.1016/j.biomaterials.2016.10.001.
6. Kwan WL, Bennett NK, Skepper JN, Martynyuk N, Wijeyekoon R, **Moghe PV**, Williams-Gray CH, and Baker R. α -Synuclein pre-formed fibril impairs blood-brain barrier tight junction protein expression without affecting cerebral endothelial permeability. *Exp. Neurology* 2016 Nov;285(Pt A):72-81.
7. Kilian KA, **Moghe PV**. High throughput strategies for the design, discovery, and analysis of biomaterials. *Acta Biomater*. 2016 Apr 1;34:v-vi. doi: 10.1016/j.actbio.2016.03.019.
8. Francis NL, Bennett NK, Halikere A, Pang ZP, and **Moghe PV**. Self-Assembling Peptide Nanofiber Scaffolds for 3-D Reprogramming and Transplantation of Human Pluripotent Stem Cell-Derived Neurons. *ACS Biomaterials Sci & Eng* 2016, 2 (6), pp 1030–1038
9. Carlson AL, Bennett NK, Francis N, Halikere A, Clarke S, Moore JC, Hart RP, Paradiso K, Wernig M, Kohn J, Pang Z, and **Moghe PV**. Generation and Brain–Transplantation of 3-D Microscale Networks of Reprogrammed Human Neurons. *Nature Communications* 2016 Mar 17;7:10862. doi: 10.1038/ncomms10862.
10. Bennett NK, Dhaliwal A, and **Moghe PV**. High throughput and high content microenvironment screens for stem cell regenerative biology. Invited Review. *Current Pharmacology Reports*. June 2016, Volume 2, [Issue 3](#), pp 142–151.
11. Dhaliwal A, Brenner M, Wolujewicz P, Zhang Z, Mao Y, Batish M, Kohn J, **Moghe PV**. Profiling stem cell states in three-dimensional biomaterial niches using high content image informatics. *Acta Biomater*. 2016 Nov;45:98-109. doi: 10.1016/j.actbio.2016.08.052.
12. Zhang Y., Li Q., Welsh W.J., **Moghe P.V.** and Uhrich K.E. Micellar and Structural Stability of Nanoscale Amphiphilic Polymers: Implications for Anti-atherosclerotic Bioactivity. *Biomaterials*. 2016 84:230-40.
13. Chan J., Lewis D.R., Petersen L.K., **Moghe, P.V.**, and Uhrich, K.E. Amphiphilic Macromolecule Nanoassemblies Suppress Smooth Muscle Cell Proliferation and Platelet Adhesion. *Biomaterials*. 84:219-29. doi: 10.1016/j.biomaterials.2015.12.033.
14. Higgins LM, Zevon M, Ganapathy V, Sheng Y, Tan MC, Riman RE, Roth CM, **Moghe PV**, Pierce MC. Line-scanning confocal microscopy for high-resolution imaging of upconverting rare-earth-based contrast agents. *J. Biomed. Opt.* 2015 20(11):110506.
15. Lewis DR, Petersen LK, York AW, Chae HB, Zablocki KR, Joseph LB, Uhrich KE, Haser PB, **Moghe PV**. Nanotherapeutics for Inhibition of Atherogenesis and Modulation of Inflammation in Atherosclerotic Plaques. *Cardiovasc. Research* 2015 Oct 14, pii: cvv237, PMID 26472131.
16. Zevon M, Kantamneni H, Ganapathy V, Kim P, Riman RE, Roth CM, and **Moghe PV**. CXCR-4 targeted short-wave infrared emitting nanoprobe for enhanced deep tissue imaging and micrometastatic lesion detection *Small* 2015 doi: 10.1002/sml.201502202.
17. Ganapathy V, **Moghe PV**, and Roth CM. Targeting tumor metastases: Drug delivery mechanisms and technologies. *J. Controlled Release* 2015 219:215-23.
18. Lewis DR, Petersen LK, York AW, Zablocki KR, Joseph LB, Kholodovych V, Prud'homme RK, Uhrich KE, and **Moghe PV**. Sugar-based amphiphilic nanoparticles arrest atherosclerosis in vivo. *Proc Natl Acad Sci U S A*. 2015 Mar 3;112(9):2693-8.
19. Abdelhamid DS, Zhang Y, Lewis DR, **Moghe PV**, Welsh WJ, and Uhrich KE. Tartaric acid-based amphiphilic macromolecules with ether linkages exhibit enhanced repression of oxidized low density lipoprotein uptake. *Biomaterials*. 2015 Jun;53:32-9. doi: 10.1016/j.biomaterials.2015.02.038.
20. Martin AA, Tomasini M, Kholodovych V, Gu L, Sommerfeld SD, Uhrich KE, Murthy NS, Welsh WJ, **Moghe PV**. Carbohydrate-derived amphiphilic macromolecules: a biophysical structural characterization and analysis of binding behaviors to model membranes. *J Funct Biomater*. 2015 Apr 8;6(2):171-91. doi: 10.3390/jfb6020171.

21. Vega SL, Dhaliwal A, Arvind V, Patel PJ, Beijer NR, de Boer J, Murthy NS, Kohn J, **Moghe PV**. Organizational metrics of interchromatin speckle factor domains: integrative classifier for stem cell adhesion & lineage signaling. *Integr Biol (Camb)*. 2015 Apr 7;7(4):435-46. doi: 10.1039/c4ib00281d.
22. Shreiber DI, **Moghe PV**, and Roth CM. Multidisciplinary “Boot Camp” Training in Cellular Bioengineering to Accelerate Research Immersion for REU Participants. *Advances in Engineering Education*. Summer Issue 2015, 1-15
23. Faig A, Petersen LK, **Moghe PV**, Uhrich KE. Impact of hydrophobic chain composition on amphiphilic macromolecule antiatherogenic bioactivity. *Biomacromolecules*. 2014 Sep 8;15(9):3328-37.
24. Petersen LP, York AY, Lewis DR, Ahuja S, Uhrich KE, Prud'homme R, and **Moghe PV**. Modular Nanolipoblockers for Tunable Scavenger Receptor Inhibition: Therapeutic Biomaterials for the Management of Atherosclerosis. *Mol Pharm*. 2014 Aug 4;11(8):2815-24. doi: 10.1021/mp500188g. Epub 2014 Jul 9.
25. Cherry J, Bennett N, Schachner M, **Moghe PV**. Neural Stem Cell Adhesion and Differentiation on Polymeric Substrates is Influenced by Cooperative Display of L1 and N-cadherin. *Acta Biomaterialia* 2014 Oct;10(10):4113-26. doi: 10.1016/j.actbio.2014.06.001. Epub 2014 Jun 7.
26. Landers J, Turner J, Heden G, Carlson A, Bennett NK, **Moghe PV**, and Neimark A. Carbon Nanotube Composite Scaffolds as Multifunctional Substrates for In Situ Actuation of Differentiation of Human Neural Stem Cells. *Advanced Health Care Materials* doi: 10.1002/adhm.201400042 (2014).
27. Vidi P, Liu J, Jayaraman S, Dorfman G, Salles D, Gray M, Abad P, **Moghe PV**, Irudayaraj MK, Wiesmuller L, and Lelievre SA. The Nuclear Mitotic Apparatus Protein (NuMA) is essential for the accumulation of the ISWI ATPase SNF2h at DNA breaks. *Nucleic Acids Res*. 2014 Apr 20.
28. Naczynski D, Tan MC, Riman R, and **Moghe PV**. Rare Earth Nanoprobes for Functional Biomolecular Imaging and Theranostics. *J. Materials Chemistry B*. (2014). 2: 2958-73
29. Naczynski D, Tan MC, Zevon M, Wall B, Kohl J, Kulesa A, Chen S, Riman R, Roth CM, and **Moghe PV**. Rare-earth doped nanoparticles as bioactive probes for shortwave infrared in vivo imaging. *Nature Communications* 4:2199. doi: 10.1038/ncomms3199. (2013).
30. Lewis DR, Kholodovych V, Tomasini MD, Abdelhamid D, Petersen LP, Uhrich KE, Welsh WJ, and **Moghe PV**. *In Silico* Design of Anti-Atherogenic Biomaterials: Structure-Activity Models of Amphiphilic Macromolecules. *Biomaterials* 34(32):7950-9 (2013).
31. Poree D, Zablocki K, **Moghe PV**, and Uhrich KE. Nanoscale Amphiphilic Macromolecules with Variable Lipophilicity and Stereochemistry Modulate Inhibition of Oxidized Low-Density Lipoprotein Uptake. *Biomacromolecules* 14(8):2463-9. (2013).
32. Tan MC, Naczynski D, **Moghe PV**, and Riman RE. Engineering the design of brightly emitting nanostructured photonic composites. *Australian J. Chemistry* 66: 1008-1020 (2013).
33. Lee YJ, Vega S, Patel PJ, Aamer KH, **Moghe PV**, and Cicerone M. Label-free optical classification of differentiation lineages of human mesenchymal stem cells by broadband coherent anti-Stokes Raman scattering microscopy. *Tissue Engineering Methods C*. PMID: 24224876 (2013).
34. Tomasini MD, **Moghe PV**, and Tomassone SM. Coarse Grained Molecular Dynamics of Engineered Macromolecules for the Inhibition of Oxidized Low Density Lipoprotein Uptake by Macrophage Scavenger Receptors. *Biomacromolecules* 14(8):2499-509. (2013).
35. Swarnapalli I, Paladini BJ, Naczynski DJ, **Moghe PV** and Fabris L. Dimeric Gold Nanoparticle Assemblies as Tags for SERS-Based Cancer Detection. *Advanced HealthCare Materials* (2(10):1370-6. (2013).
36. Cui MJ, Zevon M, Naczynski D, Roth CM, and **Moghe PV**. Multifunctional Albumin Nanocarriers for Cooperative, Intratumoral Delivery: *Advanced Healthcare Materials* (2(9):1236-45. (2013).
37. Vega S, Liu E, Parth PJ, Kulesa A, Yanrui M, Becker M, **Moghe PV**. High Content Imaging-Based Screening of Microenvironment-Induced Changes in Stem Cells. *J. Biomolec. Screen*. 17: 1151-62 (2012).
38. Carlson AL, Florek CA, Kim JJ, Neubauer T, Moore JC, Cohen RI, Kohn J, Grumet M and **Moghe PV**. Microfibrous substrate geometry as a critical trigger for organization, self-renewal, and differentiation of human embryonic stem cells within synthetic 3-dimensional microenvironments. *FASEB J*. 26: 3240-51 (2012).
39. Cherry JF, Carlson AL, Benarba FL, Verma D, Loers G, Kohn J, Schachner M and **Moghe PV**. Oriented, Multimeric Biointerfaces of the L1 Cell Adhesion Molecule: An Approach to Enhance Neuronal and Neural Stem Cell Functions on 2-D and 3-D Polymer Substrates. *Biointerphases*. 7: 22 (2012).

40. York AW, Zablocki KR, Lewis DR, Gu L, Uhrich KE, Prud'homme RK and **Moghe PV**. Kinetically Assembled Nanoparticles of Bioactive Macromolecules Exhibit Enhanced Stability and Cell-Targeted Biological Efficacy. *Advanced Materials*. 24:733-9. (2012).
41. Moore RN, Cherry J, Grumet M, and **Moghe PV**. E-cadherin expressing feeder cells promote restriction of neural lineage of human embryonic stem cells. *Stem Cells Dev*. 21: 30-41 (2012).
42. Vidi PA, Chandramouly G, Gray M, Wang L, Liu E, Kim JJ, Roukos V, Bissell MJ, **Moghe PV** and Lelièvre SA. Interconnected Contribution of Tissue Morphogenesis and the Nuclear Protein NuMA to DNA Damage Response. *J. Cell Science*. 125:350-61 (2012).
43. Hehir S, Plourde NM, Poree DE, Welsh WJ, **Moghe PV** and Uhrich KE. Carbohydrate Composition of Amphiphilic Macromolecules Influences Physicochemical Properties and Binding to Atherogenic Scavenger Receptor A. *Acta Biomaterialia* 8: 3956-62 (2012).
44. Gu L, Zablocki K, Lavelle L, Bodnar S, Halperin F, Harper I, **Moghe PV** and Uhrich KE. Impact of ionizing radiation on physicochemical and biological properties of an amphiphilic macromolecule. *Polymer Degradation and Stability*. 96: 1686-89 (2012).
45. Iverson NM, Plourde NM, Sparks SM, Wang J, Patel EN, Shah PS, Lewis DR, Zablocki KR, Nackman GB, Uhrich KE and **Moghe PV**. Dual use of amphiphilic macromolecules as cholesterol efflux triggers and inhibitors of macrophage athero-inflammation. *Biomaterials*. 32: 8319-27 (2011).
46. Sharma RI, Schwarzbauer JE, and **Moghe PV**. Nanomaterials can dynamically steer cell responses to biological ligands. *Small* 7: 242-51 (2011).
47. Lewis DR, Kamisoglu K, York AW and **Moghe PV**. Polymer-based therapeutics: nanoassemblies and nanoparticles for management of atherosclerosis. *Wiley Interdiscip Rev Nanomed Nanobiotechnol*. 23(4):400-20 (2011).
48. McNamara LE, Sjöström T, Kim JJ, Liu E, Gordonov S, **Moghe PV**, Meek RM, Oreffo RO, Su B, Dalby MJ. Skeletal stem cell physiology on functionally distinct titania nanotopographies. *Biomaterials*. 32:7403-10 (2011).
49. Liu E, Gordonov S, Treiser MD, and **Moghe PV**. Parsing the early cytoskeletal and nuclear organizational cues that demarcate stem cell lineages. *Cell Cycle* 9: 2108-2117 (2010).
50. Iverson NM, Sparks SM, Demirdirek B, Uhrich KE and **Moghe PV**. Controllable inhibition of cellular uptake of oxidized low-density lipoprotein: Structure-function relationships for nanoscale amphiphilic polymers. *Acta Biomaterialia*. 6: 3081-91 (2010).
51. Naczynski D, Andelman T, Riman RI, Roth CM and **Moghe PV**. Albumin Nanoshell Encapsulation of Near Infrared Excitable Rare Earth Nanoparticles Enhances Biocompatibility and Enables Targeted Cell Imaging. *Small*. 6:1631-40 (2010).
52. Sung HJ, Luk A, Murthy NS, Liu E, Jois M, Joy A, Bushman J, **Moghe PV** and Kohn J. Poly(ethylene glycol) as a sensitive regulator of cell survival fate on polymeric biomaterials: the interplay of cell adhesion and oxidant signaling mechanisms. *Soft Matter*, 6, 5196-5205 (2010).
53. Treiser MD, Yang E, Gordonov S, Cohen DM, Androulakis IP, Kohn J, Chen CS, and **Moghe PV**. Cytoskeleton-based forecasting of stem cell lineages. *Proc. Natl. Acad. Sci. USA* 107: 610-615 (2010).
54. Johnson PA, Luk A, Demtchouk A, Patel H, Sung H-J, Treiser MD, Gordonov S, Sheihet L, Bolikal D, Kohn J and **Moghe PV**. Incorporation of Anionic Charge, Poly(ethylene glycol), and Iodinated Tyrosine within Tyrosine-derived Polycarbonates: Effects on Smooth Muscle Cell Adhesion, Proliferation, and Motility. *J. Biomed. Mater. Res*. 93: 505-514 (2010).
55. Rossi MP, Xu J, Schwarzbauer J, **Moghe PV**. Plasma-micropatterning of albumin nanoparticles: Substrates for enhanced cell-interactive display of ligands. *Biointerphases* 5: 105-13 (2010).
56. Andelman T, Gordonov S, Busto G, **Moghe PV** and Riman R. Synthesis and Cytotoxicity of Y₂O₃ nanoparticles of varied morphologies. *Nanoscale Res. Lett*. 5: 263-273 (2010).
57. Moore RN and **Moghe PV**. Expedited Growth Factor-Mediated Specification of Human Embryonic Stem Cells Toward the Hepatic Lineage. *Stem Cell Research* 3: 51-62 (2009).
58. Liu E, Treiser MD, Patel H, Sung HJ, Roskov KE, Kohn J, Becker ML and **Moghe PV**. High-content profiling of cell responsiveness to graded substrates based on combinatorially variant polymers. *Combinatorial Chemistry and High. Throughput Screening*. 12: 646-55 (2009).

59. Sung HJ, Chandra P, Treiser MD, Liu E, Iovine CP, **Moghe PV** and Kohn J. Synthetic polymeric substrates as potent pro-oxidant versus anti-oxidant regulators of cytoskeletal remodeling and cell apoptosis. *J. Cell Physiol.* 218(3):549-57 (2009).
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108. **Moghe PV** and Tranquillo RT. Stochastic Model of Chemoattractant-Receptor Dynamics in Leukocyte Chemosensory Movement, *Bull. Math. Biol.* 56: 1041- 1093 (1994)

INVITED TALKS AND SEMINARS

INTERNATIONAL VENUES: KEYNOTE & INVITED TALKS

1. Moghe PV. What is good for the heart is good for the brain: Polymer Nanotherapeutics. Indian Institute of Sciences (IISc), Bangalore, India (Feb 2017)
2. Moghe PV. What is good for the heart is good for the brain: Polymer Nanotherapeutics. Council for Scientific and Industrial Research: National Chemical Laboratories (NCL), India (Feb 2017)
3. Moghe PV. What is good for the heart is good for the brain: Polymer Nanotherapeutics. Indian Institute of Science Education and Research, Pune, India (Feb 2017)
4. Moghe PV. Parsing cellular fate-switching mechanotriggers using high content imaging. *Royal Society Workshop on Mechanobiology*, Chichley Hall, United Kingdom, April 2015.
5. Moghe PV. *Keynote Presentation* "Information Processing: BioMateriomics/High Throughput Screening of Biomaterials" at the *Materiomics International Conference and Workshop* at the *Dutch Royal Academy of Sciences* in Amsterdam, Holland, April 2011.
6. Moghe PV, Engineered Macromolecules as Multifunctional Therapeutics for Cardiovascular Disease, *National Chemical Laboratories and Indian Institute of Science Education and Research*, Pune, India, *Invited Presentation on Advanced Biomaterials*, June 2012.
7. Moghe PV, 3-D Synthetic Microenvironments for Self-Renewal of Human Embryonic Stem Cells and Directed Neural Differentiation, *World Biomaterials Congress*, Chengdu, People's Republic of China, June 2012.
8. Moghe PV, "Parsing Stem Cell Behaviors on Complex Biomaterials via High Content Imaging", *International Society for Stem Cell Research (ISSCR) Annual Meeting*, Philadelphia, USA, June 2011.
9. Moghe PV et al., Ultrasensitive Image-Based Profiling to Forecast Stem Cell Fate and Identify Cellular Heterogeneity, *International Society for Stem Cell Research (ISSCR) Annual Meeting*, Toronto, Canada, June 2011.
10. Moghe PV et al., Multifunctional Rare-Earth Doped Nanoparticles in Encapsulated Albumin Nanocarriers for Tumor Targeting, *European Materials Research Society (EMRS) Meeting*, Bio-Nano-2011, Nice, France, May 2011.

11. Moghe PV. “Biodynamic Nanointerfaces for Engineering Cell Motility”, *International Symposium “Interface Biology of Implants”*, Rostock-Warnemuende, Germany, May 2003.
12. Moghe PV. “Nanoscale Biodynamic Interfaces with Polymers for Enhanced Cell Motility”, *Institute for Biomedical Engineering, ETH, Zurich*, Switzerland, May 2003.

KEYNOTE & INVITED PRESENTATIONS AT DOMESTIC MEETINGS

16. Moghe PV. *Bioactive Polymers Aimed at the Ground Zero of Atherosclerosis & Heart Disease*. Invited Plenary Talk: International Symposium of the International Society for Biomedical Polymers and Polymeric Biomaterials, Woodbridge, NJ, August 2016.
17. Moghe PV. Early detection and longitudinal imaging of cancer micrometastases using biofunctionalized rare-earth albumin nanocomposites. **Micro- and Nanotechnology Sensors, Systems, and Applications VII** conference Symposium: SPIE Defense + Security, 17 - 21 April 2016, Baltimore, MD.
18. Moghe PV. *Bioactive Materials Aimed at the Ground Zero of Atherosclerosis*. New Jersey Symposium on Biomaterials and Regenerative Medicine, New Brunswick, NJ, November 2015.
19. Moghe PV. Nanomedicine and Cancer Surveillance: New Paradigm for Micro-metastasis Detection and Profiling. Cancer Institute of New Jersey Symposium, April 2015.
20. Moghe PV. The Emergence of Nanomedicine: Nanolipoblockers as a Disruptive Paradigm of Therapeutic Materials? Department of Chemical Engineering, Arizona State University, Tempe, November 2014.
21. Moghe PV. *Shine The Light: Predicting Cell Fates on Biomaterials*. New Jersey Symposium on Biomaterials. October 2014.
22. Moghe PV. *Profiling Stem Cells Using Cell Structural Signatures*. NSF Stem Cell Workshop, Napa Valley, CA, July 2013.
23. Moghe PV, NanoLipoBlockers: Engineered Biomaterials as Multimodal Therapeutic Models for Cardiovascular Disease. *Keynote Presentation on Engineered Nanosystems and Nanomaterials* at the *Nano Drug Delivery International Symposium*, USA, October 2012.
24. Moghe P.V. Novel Nanomaterials for Near Infrared and Shortwave Infrared Imaging: Applications to Tissue Targeting and Disease Profiling. *Keynote Presentation in Biomedical Imaging: From Biomaterials to Cells to Tissues, NJ Biomaterials Symposium*, New Brunswick, NJ, October 2012.
25. Moghe P.V. School of Engineering *Keynote Faculty of the Year Presentation* to the School of Engineering Dean’s Industrial Advisory Board: “*Nuggets from the Moghe Foundry: Nanomaterials for Biomedicine*”. May 2012.
26. Moghe P.V. High Content Imaging for Profiling of Stem Cell Fates, Invited Plenary Talk at the *New Jersey Biannual Symposium on Biomaterials Science and Regenerative Medicine*, in New Brunswick, NJ, October 2010.

27. Moghe P.V. Nanolipoblockers: Multifunctional Nanoscale Polymers for Management of Atherosclerosis. *Keynote Presentation in the Polymer Therapeutics Session. Conference on Polymers in Medicine and Biology*, Sonoma, June 14-17, 2009.
28. Moghe P.V. Nanolipoblockers: Multifunctional Biomaterials for Management of Atherosclerosis. Invited Keynote Speaker. *Tenth Biannual New Jersey Biomaterials Symposium for Regenerative Medicine*. New Brunswick, NJ, October 2008.
29. Moghe, P.V. "Engineering dynamics of nanoscale biointerfaces for enhanced cell motility and matrix assembly". Invited Plenary Talk, *Nanobiotechnology Symposium*, Annual AIChE Meeting, Salt Lake City, UT, November 2007.
30. Moghe, P.V. "NanoLipoBlockers: Nanotechnology for Potential Treatment of Atherosclerosis", Invited Keynote Speaker, Symposium on Cardiovascular Medicine, *Second Annual Meeting of the Academy of Nanomedicine*, National Academy of Sciences, Washington DC, September 2006.
31. Moghe, P.V. "NanoLipoBlockers for Controlled Lipoprotein Uptake", Plenary Speaker, *Greater Garden State Alliance for Nanotechnology*, Princeton University, June 2006.

INVITED SEMINARS & PRESENTATIONS AT ACADEMIC INSTITUTIONS

32. Moghe P.V. *Nanotechnology aimed at the Ground Zero of Atherosclerosis and Heart Disease*. Fischell Department of Bioengineering, University of Maryland, April 2017.
33. Moghe P.V. *What's good for the heart is good for the brain: Polymer Nanotherapeutics*. Department of Chemical Engineering, Virginia Tech, Blacksburg, April 2017.
34. Moghe P.V. *What's good for the heart is good for the brain: Polymer Nanotherapeutics*. Department of Chemical Engineering, University at Buffalo (SUNY), Buffalo, April 2017.
35. Moghe P.V. *What's good for the heart is good for the brain: Polymer Nanotherapeutics*. Department of Chemical & Biological Engineering, Princeton University, Princeton, April 2017.
36. Moghe P.V. *What's good for the heart is good for the brain: Polymer Nanotherapeutics*. Department of Biomedical Engineering, Carnegie Mellon University, Princeton, February 2017.
37. Moghe P.V. *Envisioning Rutgers: Becton Dickinson Partnerships Biomaterials & Biomedical Devices*, Rutgers University Foundation, November 2016.
38. Moghe P.V. **Nanolipoblockers:** Bioactive Nanomaterials Aimed At The Ground Zero Of Atherosclerosis & Heart Disease. Research Innovation Showcase, Cardiovascular Symposium, Robert Wood Johnson Medical School, New Brunswick, NJ, October 2016.
39. Moghe P.V. *The Emergence of Nanomedicine: Nanolipoblockers as a Disruptive Paradigm of Therapeutic Materials?* Arizona State University School of Biological and Health Systems Engineering, Ira A. Fulton Schools of Engineering, Tempe, AZ, November 2014.
40. Moghe P.V. Road-mapping publications. NIH T32 Program on Regenerative Medicine Annual Immersion Day, Piscataway, NJ, June 2014.

41. Moghe P.V. The Emergence of Nanomedicine: *Nanolipoblockers as a Disruptive Paradigm of Therapeutic Materials?* Boston University Department of Biomedical Engineering, April 2014.
42. Moghe P.V. Leadership in Biomedical Engineering: Background and Personal Perspectives, Boston University, April 2014.
43. Moghe P.V. The emergence of nanomedicine: nanolipoblockers as a disruptive paradigm of therapeutic materials? Vanderbilt Institute of Nanoscale Science and Engineering Colloquium, *Vanderbilt University*, October 2013
44. Moghe P.V. Advances in Imaging of Cell-Biomaterial Interactions, Keynote Presentation, *NIH P41 RESBIO Workshop*, Piscataway, New Jersey, October 2013.
45. Moghe P.V. Transformative Technologies: Profiling Stem Cells using Structural Signatures. *National Science Foundation Workshop on Stem Cell Science and Engineering, CA*, July 2013
46. Moghe P.V. Forecasting and Steering Stem Cell Fates In Engineered Microenvironments, Stem Cell Engineering Seminar Series, Department of Biomedical Engineering, *George Institute of Technology*, Atlanta, April 2013
47. Moghe P.V. NanoLipoBlockers: Engineered Biomaterials as Multimodal Therapeutic Models for Cardiovascular Disease. Department of Biomedical Engineering, *Rensselaer Polytechnic Institute*, Troy, NY, October 2012.
48. Moghe P.V. NanoLipoBlockers: Engineered Biomaterials as Multimodal Therapeutic Models for Cardiovascular Disease. Department of Bioengineering, *Illinois Institute of Technology*, Chicago, IL, October 2012.
49. Moghe P.V. From Nanomedicine to Stem Cell Technologies: Vignettes from the Moghe Laboratory. *Rutgers University Bioengineering Society*. March 2012.
50. Moghe P.V. NanoLipoBlockers: Engineered Biomaterials as Multimodal Therapeutic Models for Cardiovascular Disease. Department of Bioengineering, Rice University, October 2011.
51. Moghe P.V. NanoLipoBlockers: Engineered Biomaterials as Multimodal Therapeutic Models for Cardiovascular Disease. Department of Biomedical Engineering, City University of New York, November 2011.
52. Moghe P.V. NanoLipoBlockers: Engineered Biomaterials as Multimodal Therapeutic Models for Cardiovascular Disease. Department of Bioengineering, Pennsylvania State University, September 2011.
53. Moghe P.V. Nanolipoblockers: Bioactive Devices for Cardiovascular Disease. Coulter College, Fort Lauderdale, FL, July 2011.
54. Moghe P.V. Profiling Stem Cell Behaviors in Complex Microenvironments, Invited Presentation, Boston Biomethods Conference, Harvard Medical School, Boston, MA, May 2011.
55. Moghe P.V. Nanolipoblockers: Multifunctional Nanoscale Polymers for Management of Atherosclerosis. Invited Speaker: *American Chemical Society, Polymers in Science and Medicine Meeting*, California, June 2009.

56. Moghe P.V. Biomaterials and Stem Cells: Updates and Opportunities. *Focus Group Meeting, Institute of Advanced Materials and Devices and Nanotechnology (IAMDN)*. May 2009.
57. Moghe P.V. Three Dimensional Biorelevant Imaging and Analysis of Cell-Biomaterial Interactions. 3-D Biotek, LLC, North Brunswick, NJ, April 2009.
58. Moghe P.V. NanoParticle-Based Biointerfaces: Engineering Matrix Assembly and Cell Dynamics. New Jersey Institute of Technology Seminar in Biomedical Engineering, February 2009.
59. Moghe P.V. Nanoparticle-Based Biointerfaces: Engineering Matrix Assembly and Cell Dynamics. Department of Chemical and Life Sciences Engineering, Virginia Commonwealth University, Richmond, VA, November 2008.
60. Moghe P.V. Parsing Stem Cell Fates on Biomaterials, Synthetic Biology Seminar Series. Department of Biochemistry, UMDNJ, Piscataway, NJ, December 2008.
61. Moghe P.V. Engineering dynamics of nanoscale biointerfaces for enhanced cell motility and matrix assembly. Department of Chemical Engineering, Columbia University, New York, NY, April 2008
62. Moghe, P.V. Best Practices for Graduate Programs in Sciences and Engineering, Invitation for Panel Participation from Acting Dean, Graduate School-New Brunswick, Rutgers University, Feb 2008.
63. Moghe, P.V. "Working toward synergistic programs across departments, schools, commercialization", New Jersey Center for Biomaterials Tenth Anniversary, November 2007.
64. Moghe, P.V. "Panel on Broadening Participation", Invited Presentation, National Science Foundation IGERT PI's Meeting, Washington DC, May 2007.
65. Moghe, P.V. "Nanoscale Engineering of Cell-Interactivity of Materials", Princeton Institute for the Science and Technology of Materials (PRISM), Princeton University, Spring 2007.
66. Moghe, P.V. "Nanoscale Materials for Cellular and Matrix Engineering", *North-East Alliance for Graduate Education of the Professoriate (NE-AGEP)*, University of Puerto Rico, Mayaguez, February 2006.
67. Moghe, P.V. "Experiences of a Graduate Education and Research Training Program at Rutgers", *Rutgers University Board of Trustees Advisory Group*, Winants Hall, New Brunswick, NJ, November 2005.
68. Moghe, P.V. "Best Practices and Challenges Facing the IGERT Training Programs", *Howard University-National Science Foundation Meeting*, November 2005.
69. Moghe, P.V. "Nanoscale Biointerfaces for Engineering Cellular Behavior", Laboratory for Surface Modification, Department of Physics and Astronomy, *Rutgers University*, Piscataway, NJ, October 2005.
70. Moghe, P.V., "Nanoscale Biointerfaces for Matrix and Cellular Engineering", Annual Whitaker Nanobioengineering Symposium, *Center for Biological and Environmental Nanotechnology, Rice University*, Houston, TX, Fall 2005.
71. Moghe, P.V., "Nanoscale Design of Matrix Biology for Cellular Bioengineering", Department of Chemical and Biomolecular Engineering, *Cornell University*, Ithaca, NY, Fall 2005

72. Moghe, P.V. "Nanoscale Biointerfaces for Cell and Matrix Bioengineering", *Avon Inc.*, NY, April 2005.
73. Moghe, P.V., "Biophysical and Biochemical Approaches for Differentiation of Liver and Liver-Like Stem Cells", *Louisiana State University*, Department of Mechanical Engineering, Baton Rouge, LA, April 2005.
74. Moghe, P.V. "Bioinspired Nanotechnology for Cellular and Matrix Bioengineering", Department of Bioengineering, *Rice University*, December 2004.
75. Moghe, P.V., "Nanoscale Cellular Dynamics via Nanoscale Engineered Matrix", Plenary Talk on "Cell-Biomaterials Interactions: Opportunities for Biomaterials Scientists", *New Jersey Symposium on Biomaterials*, New Brunswick, NJ, October 2004.
76. Moghe, P.V., "Biodynamic Nanointerfaces for Engineering Cell Motility", *World Biomaterials Congress*, Sydney, Australia, May 2004.
77. Moghe, P.V., "Nanoscale Substrates for Cellular Activation of Motility", *Drexel University*, Department of Chemical and Biochemical Engineering, Philadelphia, April 2004.
78. Moghe, P.V. "Engineering Cell Function via Ligand/Polymer Microscale and Nanoscale Interfaces", Plenary Speaker, IEEE North-East Bioengineering Symposium, Newark, NJ, March 2003.
79. Moghe, P.V. "Engineering Cell Motility Through Nano/Microscale Biointerfaces" Departmental Faculty Seminar, Department of Chemical Engineering, *University of Southern California, Los Angeles*, CA, September 2002.
80. Moghe, P.V. "Microengineering Cell Functional Fate on PEG-based Biomaterials", *Biomaterials Workshop of the Center for University of Massachusetts Industry Research on Polymers (CUMIRP) and the Polymer Science and Engineering (PSE)*, Amherst, MA, May 2002.
81. Moghe, P.V. "In Situ Profiling of Cell Behavior on Materials", Techvest Third Annual Conference on Tissue Repair, Replacement and Regeneration, New York, NY, October 2001.
82. Moghe, P.V. "Engineering Cell Fates on Polymer Substrates", Tissue Engineering Seminar, *National Institutes of Health Tissue Engineering Training Program, Rutgers*, Piscataway, NJ, October 2001.
83. Moghe, P.V. "Cell Engineering at Ligand-Polymer Microinterfaces", DuPont Experimental Station, Wilmington, DE, August 2001.
84. Moghe, P.V. "Engineering Cell Functions at Ligand-Polymer Microinterfaces," Invited Lecture at the Department of Chemical Engineering, *University of Notre Dame*, IA, November 2000.
85. Moghe, P.V. "Switching Cell Functional Fates on Polymer Substrates", Invited Seminar at the *5th New Jersey Symposium on Biomaterials Science*, Somerset, NJ, November 2000.
86. Moghe, P.V. "Engineering Cell Responses on Ligand/Polymer Microinterfaces," Invited Lecture at the Department of Chemical and Biochemical Engineering, *University of Iowa*, Iowa City, November 2000.
87. Moghe, P.V. "Cellular Engineering on Ligand Borne Microstructures". Invited Seminar at the Department of Chemical Engineering, *University of West Virginia*, Morgantown, WV, September 2000.

88. Moghe, P.V. "Switching Cell Functional Fates on Polymer Substrates," Invited Lecture at The National Institutes of Standards and Technology & Center for Biomaterials Joint Workshop on *Critical Issues in Designing and Characterizing Polymers for Medical Applications*, New Brunswick, NJ, June 2000.
89. Moghe, P.V. "Microengineering Cellular Migration on Synthetic Polymers - Role of Substrate Topography", *National Chemical Laboratories*, Pune, India, June 1999.
90. Moghe, P.V. "Control of Cellular Migration on Tissue Analog Polymers - Role of Matrix Conditioning", *National Center for Cell Sciences*, Pune, India, June 1999.
91. Moghe, P.V. "Microarchitecture of Material Interfaces for Tissue Engineering", Department of Chemical, Biochemical, and Materials Engineering, *Steven Institute of Technology*, May 1999.
92. Moghe, P.V. "Microengineering Cellular Footprints on Tissue Analog Polymers," Department of Chemical Engineering, Center for Biomedical Engineering, *City College of the City University of New York (CUNY)*, March 30, 1999.
93. Moghe, P.V. "Microengineering Cellular Footprints on Tissue Analog Polymers," Department of Chemical Engineering, *University of Colorado*, Boulder, March 18, 1999.
94. Moghe, P.V. "Microengineering Cellular Adhesion and Migration on Biopolymers," *National Science Foundation Workshop on Biology/Math/Computation/Physical Sciences Interface*, Piscataway, NJ, March 7, 1999.
95. Moghe, P.V. "Microarchitecture of Polymeric Tissue Analogs," *National Chemical Laboratory (NCL)*, Pune, India, July 1997.
96. Moghe, P.V. "Analysis and Design of Matrix Microstructure in Tissue Engineering," *Third Annual New Jersey Symposium on Biomaterials and Medical Devices*, New Brunswick, NJ, November 1996.
97. Moghe, P.V. "Cellular Interactions with Microenvironment-Applications to Tissue Engineering," *Rutgers University*, Piscataway, NJ, February 1995.
98. Moghe, P.V. "Stochastic Dynamics of Leukocyte Chemotactic Responses." *Proceedings of the International Federation of Automatic Control*, Galveston, TX. March 1994
99. Moghe, P.V. "Novel Analysis of Leukocyte Chemotaxis," *Harvard Medical School, Shriners Burns Institute*, Boston, MA, June 1993.
100. Moghe, P.V. "Phenomenological and Mechanistic Studies of Cellular Migration," Department of Chemical Engineering, *Texas A&M University*, College Station, TX, May 1993.

MEETING PROCEEDINGS/ABSTRACTS

101. Neal Bennett, Rebecca Chmielowski, Nicola L. Francis, Kathryn Uhrich, Jean Baum, and Prabhas V. Moghe. Synthetic nanoparticles to regulate synuclein trafficking and reduce microglial activation. BMES Meeting, Minneapolis, October 2016.

102. Harini Kantamneni, Margot A. Zevon, Laura Higgins, Derek Adler, Xinyu Zhao, Sheng Yang, Mei Chee Tan, Mark Pierce, Richard Riman, Vidya Ganapathy, Charles M. Roth, Prabhas V. Moghe. Optical imaging and Surveillance of multi-organ metastatic lesions *in-vivo* using Rare Earth Albumin Nanocomposites. BMES Meeting, Minneapolis, October 2016.
103. Margot Zevon, Vidya Ganapathy, Harini Kantamneni, Laura M. Higgins, Yang Sheng, Mei Chee Tan, Richard E. Riman, Charles M. Roth, Mark C. Pierce, and Prabhas V. Moghe. Cancer-Targeted Short-Wave Infra-Red Emitting Rare-Earth Albumin Nanocomposites for Lesion Mapping and Deep-Tissue Imaging. World Biomaterials Congress, Montreal, Canada, May 2016.
104. Laura M. Higgins, Margot Zevon, Vidya Ganapathy, Harini Kantamneni, Yang Sheng, Mei Chee Tan, Richard E. Riman, Charles M. Roth, Prabhas V. Moghe, Mark C. Pierce. High-Resolution Imaging of Molecularly Targeted Rare-Earth Based Nanocomposites. OSA Biomedical Optics Conference (Translating Biomedical Optics), December 2015.
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221. Chang, C., Schloss, R.S., and Moghe, P.V., "Receptor Specific Manipulation of Leukocyte Chemosensory Migration on Vascular Prosthetic Biomaterial", *AICbE Meeting*, Dallas, TX, November 1999.
222. Semler, E.J., Ranucci, C.S., and Moghe, P.V., "Mechanochemical Control of Hepatocyte Aggregation Toward Selective Induction/Repression of Liver-Specific Function", *AICbE Meeting*, Dallas, TX, November 1999.
223. Tziampazis, E., Kohn, J., and Moghe, P.V., "Use of PEG Microdomains on Biopolymers to Regulate Adsorbed Protein Bioactivity and Cell Adhesion and Migration", *AICbE Meeting*, Dallas, TX, November 1999.
224. Tjia, J.S., Aneskievich, B., and Moghe, P.V., "Cell Migration on Synthetic Polymers Through Secondary Cell Derived Matrix Conditioning", *AICbE Meeting*, Dallas, TX, November 1999.
225. Brieva, T. and Moghe, P.V., "Engineering Liver-Specific Functions and Morphogenesis in a Heterocellular Culture Model: Role of a Model Cell-Cell Adhesion Molecule, E-cadherin", *AICbE Meeting*, Dallas, TX, November 1999.
226. Tjia, J.S., Aneskievich, B.J., and Moghe, P.V., "Induction of Cell Migration on Synthetic Polymer Substrates through Tailored Cell-Substrate Matrix Reciprocity", *Annual Fall Meeting of the Biomedical Engineering Society (BMES) and 21st Annual International Conference of the Engineering in Medicine and Biology Society (EMBS)*, Atlanta, GA, October 1999.
227. Tziampazis, E., Cassaday, J.A., Kohn, J. and Moghe, P.V., "Selective Regulation of Protein Bioactivity and Cell Adhesion and Migration via PEG Microdomains on Biopolymers", *Annual Fall Meeting of the Biomedical Engineering Society (BMES) and 21st Annual International Conference of the Engineering in Medicine and Biology Society (EMBS)*, Atlanta, GA, October 1999.
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232. Choi, K., Ranucci, C.S., and Moghe, P.V., "Role of Polymer Matrix Structure in Aggregation of Cultured Hepatocytes," *Rutgers University Undergraduate Research Fellows Poster Exhibition*, New Brunswick, May 1999.
233. Schloss, R.S., Chang, C.C., and Moghe, P.V. Fluid Flow Exposure Intrinsically Triggers Leukocyte Polarization and Migration on Vascular Analogs in a Substrate-Specific Manner, *Tissue Engineering* 4(4): 478 (1998).
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235. Tjia, J.S., Aneskievich, B.J. and Moghe, P.V. Induction of Keratinocyte Motility via Matrix Conditioning of PLGA Substrates. *Tissue Engineering* 4(4): 485 (1998).
236. Ranucci, C.S. and Moghe, P.V. The Role of Matrix Microstructure of a Non-Physiological Polymer in Directing Hepatocyte Aggregation and Functions. *Tissue Engineering* 4(4): 487 (1998).
237. Schloss, R.S., Chang, C.C., and Moghe, P.V. Physiologic Fluid Flow can Affect the Behavior of Biomaterial-adherent Neutrophils. *AIChE Annual Meeting*, Session 281 on Biorheology and Biomechanics, Miami Beach, FL, November 1998.
238. Ranucci, C.S., Kauffman, F.C., and Moghe, P.V. Role of Polymeric Matrix Microstructure in Engineering Hepatic Tissue Analogs. Paper 269a in Session on Advances in Tissue Engineering, *AIChE Annual Meeting*, Miami Beach, FL, November 1998.
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240. Semler, E.J., Ranucci, C.S., and Moghe, P.V. Kinetic Rate Processes of Hepatocyte Motility/Aggregation on Biopolymeric Substrates, Paper 285g in Session on Cell-cell and Cell-Biomaterial Interactions, *AIChE Meeting*, Miami Beach, FL, November 1998.
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242. Tziampazis, E., Kohn, J., and Moghe, P.V. The Role of Physiological Conditioning of the In Vitro Evaluation of Biomaterials: Use of PEG-containing Polycarbonates in Dermal Analogs. 284g in Session on Interactive Biomaterials, *AIChE Meeting*, Miami Beach, FL, November 1998.

243. Tziampazis, E. and Moghe, P.V. Molecular Modeling of Oxygen Transport in Nonvascularized Transplants: Role of Oxygen Carriers *Trans. Soc. Biomaterials*, Minneapolis, MN, Vol. XXI, p. 168, Annual Meeting of Society for Biomaterials, CA, April 1998
244. Tjia, J.S., Semler, E.J. and Moghe, P.V. Novel Characterization of Surface and Bulk Microstructure of Biopolymeric Scaffolds *Trans. Soc. Biomaterials*, Minneapolis, MN, Vol. XXI, p. 168, Annual Meeting of Society for Biomaterials, San Diego, CA, April 1998
245. Tjia, J.S., Aneskievich, B.J. and Moghe, P.V. Analysis of Keratinocyte Adhesion on Synthetic and Natural Biopolymeric Substrates. *Trans. Soc. Biomaterials*, Minneapolis, MN, Vol. XXI, p. 39, Annual Meeting of Society for Biomaterials, San Diego, CA, April 1998
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247. Moghe, P.V. Role of Polymer Matrix Microarchitecture in Tissue Engineering. *Fourth New Jersey Symposium on Biomaterials and Medical Devices*, New Brunswick, NJ, November 1997.
248. Schloss, R.S. and Moghe, P.V. Effect of fluid flow on morphology and stress response of adherent macrophages. *Fourth New Jersey Symposium on Biomaterials*, New Brunswick, NJ, Nov 1997.
249. Tziampazis, E. and Moghe, P.V. Facilitating Oxygen Delivery to Artificial Tissues: A Theoretical Evaluation. *Fourth New Jersey Symposium on Biomaterials*, New Brunswick, NJ, Nov. 1997.
250. Chang, C.C., and Moghe, P.V. In Situ Morphological Quantitation of Leukocyte Adhesion to Vascular Biomaterial Surfaces. *Proc. Topical Conference on Biomaterials, Carriers for Drug Delivery, and Scaffolds for Tissue Engineering*, p. 166-168, AIChE, November 1997.
251. Tjia, J.S., Aneskievich, B.J., and Moghe, P.V. Morphological and Ultrastructural Characterization of Keratinocyte Adhesion on Synthetic and Natural Biopolymer Substrates. *Proc. Topical Conference on Biomaterials, Carriers for Drug Delivery, and Scaffolds for Tissue Engineering*, p. 213-215, AIChE Annual Meeting, Los Angeles, CA, November 1997.
252. Schloss, R.S., Vitolo, J.S., and Moghe, P.V. Development of a Model System to Evaluate the Effect of Fluid Flow on Biomaterial-Adherent Leukocytes. *Proc. Topical Conference on Biomaterials, Carriers for Drug Delivery, and Scaffolds for Tissue Engineering*, p. 58-60, AIChE Annual Meeting, CA, November 1997.
253. Semler, E.J., Tjia, J.S. and Moghe, P.V. Novel Spatio-Temporal Analysis of Polymer Surface Microstructure: Effect of Scaffold Fabrication and Degradation. *Proc. Topical Conference on Biomaterials, Carriers for Drug Delivery, and Scaffolds for Tissue Engineering*, p. 93-95, Los Angeles, CA, November 1997
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- 257.Tjia, J.S., Semler, E.J., and Moghe, P.V. Novel analyses of bulk and topological microstructure of biodegradable polymeric tissue analogs. *ASME/AICbE/ASCE Summer Bioengineering Conference*, Sunriver, OR. June 1997.
- 258.Moghe, P.V. Semler, E.J., Tjia, J.S. Quantitation of tissue analog microstructure using confocal microscopy. *Annual meeting of the Tissue Engineering Society*, Orlando, FL. December 1996.
- 259.Coger, R.N., Moghe, P.V. Yarmush, M.L., and Toner, The relation between cell and matrix movement as hepatocytes aggregate. *Tissue Engineering Society*, Orlando, FL. December 1996.
- 260.Chang, C.C., Lieberman, S.M., and Moghe, P.V. Analysis and Control of Leukocyte Motility on Artificial Vascular Graft Biomaterials Third Annual *New Jersey Symposium on Biomaterials and Medical Devices*, New Brunswick, NJ. November 1996.
- 261.Tjia, J.S. and Moghe, P.V. Analysis of Polymer Topography using Confocal Microscopy-Potential for Degradation Mapping. *AICbE Annual Meeting*, Chicago, IL. November 1996.
- 262.R.N. Coger, Moghe, P.V. Yarmush, M.L., Toner, M. The dynamics of hepatocyte aggregation on extracellular matrix substrates. *AICbE Annual Meeting*, Chicago, IL. November 1996.
- 263.Moghe, P.V. Tompkins, R.G., Yarmush, M.L., Toner, M. Role of cell-matrix adhesion receptor distribution in function of collagen-sandwiched hepatocytes. *AICbE Annual Meeting*, Chicago, IL. November 1996.
- 264.Moghe, P.V. Ezzell, R.M., Tompkins, R.G., Yarmush, M.L., Toner, M. Role of cell-matrix adhesion receptor distribution in the function of collagen-sandwiched hepatocytes. *Biomedical Engineering Society Annual Meeting*, College Park, PA. October 1996.
- 265.Coger, R.N., Moghe, P.V. Yarmush, M.L., Toner, M. Biophysical effects of the extracellular matrix on cellular organization. *Biomedical Engineering Society Annual Meeting*, PA, October 1996.
- 266.Moghe, P.V. Ezzell, R.M., Toner, M., Tompkins, R.G., Yarmush, M.L. Role of culture matrix configuration and composition on long-term hepatocyte polarity and function. *American Institute of Chemical Engineers (AIChE) Annual Meeting*, Miami Beach, FL. November 1995
- 267.Moghe, P.V. Ezzell, R.M., Toner, M. Tompkins, R.G., Yarmush, M.L. Role of integrin binding and distribution in differentiation of hepatocytes in sandwich cultures. *American Society of Cell Biology Annual Meeting*, Washington D.C. December 1995
- 268.Moghe, P.V., Ezzell, R.M., Toner, M., Tompkins, R.G., Yarmush, M.L. Hepatocyte function and polarity in collagen and Matrigel cultures: Implications for optimal ECM design. *American Society of Cell Biology Annual Meeting*, San Francisco, CA. December 1994
- 269.Moghe, P.V. and Tranquillo, R.T. Leukocyte migration in a novel fibrin gel assay. *U.S. Biomedical Engineering Society Meeting*, Memphis, TN. October 1993

270. Moghe, P.V. and Tranquillo, R.T. Stochastic model for receptor dynamics in leukocyte chemosensory movement. *U. S. Biomedical Engineering Society Annual Meeting*, Memphis, TN. October 1993
271. Moghe, P.V., Alt, W. and Tranquillo, R.T. Models of receptor mediated leukocyte motility. *U.S. Biomedical Engineering Society Meeting*, Salt Lake City, UT. Oct. 1992.
272. Moghe, P.V. and Tranquillo, R.T. An analytical quantification of stochasticity in membrane-localized ligand-receptor-G protein dynamics in neutrophil leukocytes. *AIChE Annual Meeting*, Session: "Biological Membrane Processes", Miami Beach, FL. November 1992
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274. Moghe, P.V. and Tranquillo, R.T. Stochastic Model for leukocyte chemotaxis incorporating receptor dynamics *AIChE Annual Meeting*, Los Angeles, CA. November 1991.

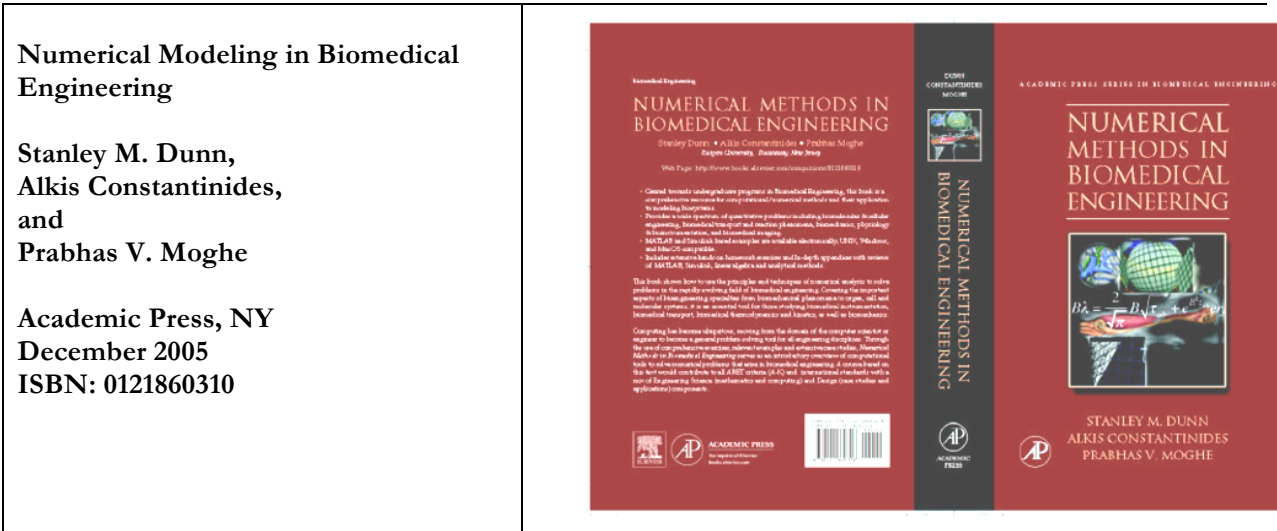
BOOK AUTHORSHIP

Numerical Methods in Biomedical Engineering

Stanley M. Dunn, Alkis Constantinides, and Prabhas V. Moghe

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JOURNAL EDITORIAL BOARD

Acta Biomaterialia (Elsevier; 2004-)

Journal of Functional Biomaterials (MDPI, AG, Switzerland; 2009-)

Journal of Biotechnology and Biomaterials (Omics Publishing Group; 2009-)

Journal of Tissue Science and Engineering (Omics Publishing Group; 2009-)

RESEARCH ADVISORY ACTIVITIES (1995-2016)

Postdoctoral Researchers

1. David Gray (Ph.D., MIT) (2017-Present)
2. Vinay Bhardwaj (Ph.D. Florida International U.) (2016-Present)
3. Daniel R. Lewis (Ph.D. Rutgers U.) (2014-2016) Research Associate, Columbia University, NY.
4. Nicola Francis (Ph.D., Drexel U.) (2013-Present)
5. Anandika Dhaliwal (Ph.D., UCLA) (2013-Present)
6. Vidya Ganapathy (Ph.D., U. Southern California) (2013-Present)
7. Michael Tomasini (Ph.D., Rutgers U.) (2012-2013), Rockefeller University
8. Latrisha Petersen (Ph.D., Iowa State U.) (2012- 2015), Johnson & Johnson, NJ
9. Fan Claire Wei (Ph.D. U. Texas) (2011-Present), SUNY, Buffalo, NY.
10. Adam York (Ph.D., U. Southern Mississippi) (2010-2013; Joint with Robert Prud'homme, Princeton University); Life Technologies, OR.
11. Craig Griffith (Ph.D. University of California, Irvine) (2008-2011), Becton Dickinson, Inc., MD.
12. Tamar Andelman (Ph.D. Columbia University) (jointly supervised with Dr. Richard Riman) (2007-2010). Research Fellow, Princeton University.
13. Maria Pia Rossi (Ph.D., Drexel University) (2006-8), Senior Research Scientist, L'Oreal, Inc., NJ

14. Hak-Joon Sung (Ph.D., Emory-Georgia Institute of Technology, GA) (2006-2009), Research Assistant Professor (jointly supervised with Dr. Joachim Kohn); Currently Assistant Professor, Department of Biomedical Engineering, Vanderbilt University.
15. Robert Dubin (Ph.D., City University of New York, NY) (2004- 2006), Research Scientist (jointly supervised with Dr. Joachim Kohn)
16. Patrick Johnson (Ph.D., Columbia University) (2004-2006), NIH T32 Postdoctoral Fellow. Current Position: Tenure-Track Assistant Professor, Department of Chemical & Petroleum Engineering, University of Wyoming.
17. Marian Pereira (Ph.D., University of Rochester) (2003-2005), NIH T32 Postdoctoral Fellow. Current Position: Research Scientist II, Celgene Corporation, NJ
18. Evangelos Tziampazis (Graduate Program in Chemical Engineering, Georgia Tech.) (97-99), Research Assistant Professor, University of Michigan Medical School, MI.
19. Rene S. Schloss (Ph.D, Harvard) (1997-2001), Postdoctoral Research Associate. Current Position: Research Assistant Professor, Department of Biomedical Engineering, Rutgers

Graduate Researchers

Total Doctoral Theses Supervised As Primary Advisor To Date: 27

PhD's graduated to date as Primary Advisor: 24

Charlie Chang (B.S., Rutgers; PhD received January 2000)

Thesis: *Analysis and Control of Leukocyte Motility on Prosthetic Vascular Biomaterials.*

Colette S. Ranucci (B.S., Rutgers; PhD received January 2000)

Thesis: *Substrate topography driven hepatocellular morphogenesis and function*

Jane S. Tjia (B.S., MIT; MA; PhD received September 2000)

Thesis: *Analysis of Phagokinetically Coupled Epidermal Cell Migration at Ligand-Polymer Interfaces.*

Thomas Brieva (B.S., Rutgers; PhD received May 2003)

Thesis: *Hepatocellular Engineering Via Cell-cell Adhesion Molecules*

Eric J. Semler (B.S., Rutgers; PhD received Dec 2003)

Thesis: *Mechanochemical Control of Morphogenesis and Function of Cultured Hepatocytes.*

Evangelia Chnari (B.S., University of Athens, Greece; PhD received October 2005)

Thesis: *Biomaterials for Modulation of Leukocyte Interactions with Low Density Lipoprotein (LDL)*

Anouska Dasgupta (B.S., Massey University, New Zealand; PhD received October 2005)

Thesis: *Hepatocellular and Stem Cell Engineering via Cadherin Based Molecular Strategies*

Ram I. Sharma (B.S., Rutgers; PhD received October 2006)

Thesis: *Cell Motility on Ligand Presenting Biodynamic Nanosubstrates*

Jinzhong Wang (PhD received October 2007; coadvised with Prof. Kathryn Uhrich)

Thesis: *Evaluation of Novel Polymers as Drug Carriers and Atherosclerosis Treatments*

Yong Ho Bae (MS received October 2005)

Thesis: *In Situ Profiling of Cells on Polymeric Biomaterial Substrates*

Rebecca Hughey Moore (B.S., University of Rochester, NY; PhD received May 2008)

Thesis: *Molecular and Microscale Engineering for Liver Specification of Embryonic Stem Cells*

Matthew D. Treiser (B.S., Columbia University, NY; PhD received Spring 2009; MD/PhD Candidate)

Thesis: *High Content Imaging for Profiling Cellular Interactions with Polymeric Biomaterials*

Nicole Iverson (B.S., University of Minnesota, MN; PhD received January 2010)

Thesis: *Nanoscale Multifunctional Macromolecules for Inhibition of Atherogenesis*

Nicole Plourde (B.S., University of Massachusetts, Amherst, MA; PhD October 2010)

Thesis: *Engineered nanoparticles for binding to scavenger receptors and blockage of LDL uptake.*

Er Liu (B.S., Wuhan Technological University, China; PhD received January 2011)

Thesis: *Cellular interactions with substrates based on combinatorially designed polymers.*

Dominik J. Naczynski (B.S., Cornell U., PhD received September 2012) (coadvised with Prof. Charles Roth)

- Thesis: Designing Multifunctional Albumin Nanoparticles for Targeted Tissue Imaging and Drug Delivery.*
Jocie Cherry (B.S., St. Louis University, MO; PhD completed October 2013)
Thesis: Stem Cell Differentiation on Biofunctionalized Nanoparticle Substrates
- Aaron Carlson (B.S. Duke University, NC; PhD October 2013)
Thesis: Three-dimensional substrates for stem cell growth and differentiation.
- Daniel Lewis (B.S. Columbia University, NY; PhD completed December 2013)
Thesis: Nanoscale biomaterials for engineering of inflammation and metabolic diseases.
- Sebastian Vega (B.S. Carnegie Mellon U., Pittsburgh, PA; PhD completed Spring 2014)
Thesis: Investigation of Stem Cell Interactions with Polymeric Biomaterials using Imaging and Systems Biology
- Adriana Martin (B.S. Bloomfield College, NJ) (Joint with W. Welsh) PhD completed Spring 2014
Thesis: (PhD Feb 2015) Engineered macromolecules: Interactions with Synthetic and Cellular Membranes and Bioactivity
- Joseph Kim (B.S. Rutgers University; MS, UMDNJ; PhD completed May 2015)
Doctoral Thesis: Linking high dimensional organization of chromatin and stem cell phenotypes and plasticity
- Margot Zevon (B.S. U. Rochester) (Coadvised with Prof. Charles Roth) (PhD completed May 2016)
Doctoral Thesis: Short wave infrared imaging probes for multispectral disease profiling.
- Neal Bennett (B.S. Princeton U.) (PhD completed Oct 2016)
Doctoral Thesis: Studies of bioactive scaffolds for neural stem cell reprogramming and transplantation.
- Rebecca Chmielowski (B.S., Rutgers U.) (Ph.D completed Dec 2017)
Thesis: Bioactive Nanoparticles for Multimodal Repression of Atherosclerotic Signaling
- Ricky Li (M.S. Northwestern U.) (MS, January 2017)
Thesis: Studies of Nanotherapeutics for In-lesion Management of Atherosclerosis
- Harini Kantamneni (M.S., Rutgers U.) (Ph.D. expected May 2019) (joint w/ Charlie Roth)
Thesis title: Design of short wave infrared light-emitting phosphors as a diagnostic tool for metastatic surveillance and molecular fingerprinting of cancerous lesions
- Prakhar Mishra (M.S., University of Pennsylvania) (Ph.D. expected May 2019)
Thesis title: Imaging-Based Profiling Stem Cell Lineage Dynamics using Mechanosensitive Fluororeporters
- Nanxia Zhao (B.S., University of California, Berkeley) (Ph.D. expected May 2020)
Thesis Title: Biomaterials for Microglial Therapeutics and Neuronal Transplantation

ADVISORY ACTIVITY ON GRADUATE THESIS COMMITTEES (>55 doctoral students)

Partial Recent listing: Trevan Locke, Michelle Sempkowski, Manjari Bhamidpati, Shuang Chen, Joseph Fantuzzo, Laura Higgins, Ana Gomez, Ian Gaudet, Melissa Przyborowski, Michael Tomasini, Lavanya Peddada, Jeremy Scheff, Aina Andrianarijaona, Panagiota Foteinou, Carolyn Waite, Danielle Macario, Daniel Haders, Jinzhong Wang, Kenya Whitaker, Sumati Sundaram, Michelle Burley, Lu Tian, Susan Maskery, Shireesha Goshike, Joseph Freeman, Elizabeth Liss, Sascha Abramson, Deanna Thompson, Hsin-Chien Tai, Thomas Craig Seamans, Albert Alexander, Aquanette Burt, Seshu Pedapudi, Pamela R. Wright, Petra Archibald, Howard Levene

SELECTED RESEARCH GRANTS (Only post-2003 listed; To-Date Total funding: > \$14M)

10/15-9/18	National Institutes of Health (NIH) NINDS 1R21NS095082-01 Nanofibrous Scaffolds for Transplantation of Human Dopaminergic Neurons Role: PI Total Amount: \$455,000
5/14-4/18	National Institutes of Health (NIH) NIBIB R01: Nanoprobes for Optical Imaging & Disease Tracking Award Number: 1R01EB018378-01 Role: PI (mPIs: R. Riman, C. Roth) Total Amount: \$2,200,000
4/13-3/18	National Institutes of Health P41 RESBIO: Integrated Resources for Polymeric Biomaterials NIBIB EB001046 P41 Core PI: P. Moghe Core Amount: \$ 1,000,000; Total Project Amount: >\$6M
5/12-4/18	National Institutes of Health (NIH) T32: Translational Research in Regenerative Medicine NIBIB Role: Co-PI (with J. Kohn; A. Windebank, Mayo Clinic) Total Amount: \$ 1,470,000
4/11 – 3/17	National Institutes of Health National Heart, Lung, and Blood Institute (NHLBI) R01: Synthetic Counterligands for Inhibition of Atherosclerosis. Award Number: 5R01HL107913 Role: PI (mPI: K.E. Uhrich) Total Amount: \$ 2,300,000
6/13-5/15	New Jersey Commission on Spinal Cord Research (NJSCR) Engineering Reprogrammed Neurons on Transplantable Scaffolds for Management of Spinal Cord Injury Role: PI Total Amount: \$200,000
9/12-8/15	National Science Foundation (NSF) Engineered Anisotropic Biphasic Nanoparticles for Bio-Therapeutic and Pharmaceutical Technologies Role: Co-PI (with M. Tomassone) Total Amount: \$396,364
4/12-3/14	National Institutes of Health NIBIB R21: Albumin-Encapsulated Rare Earth Nanoprobes for Multifunctional Tissue Imaging

Role: PI (mPI's: R.I. Riman; C.M. Roth)
Total Amount: \$420,000

9/11 – 8/14 Wallace H. Coulter Foundation
Biomedical Engineering Translational Research Award
Role PI
Total Amount: \$320,000

12/09-12/11 NJ Department of Health and Senior Services
New Jersey Commission on Spinal Cord Research
Exploratory Research Grant
Award Number: 10-3090-SCR-E-0
Nanobioactive scaffolds for management of spinal cord injury.
Role: PI
Amount: \$200,000

7/09-6/11 National Institutes of Health
National Heart, Lung, and Blood Institute
American Recovery Award (ARRA)
Nanoscale Receptor Blockers for Inhibition of Atherosclerosis.
Role: PI
Amount: \$289,521

9/09–8/14 National Science Foundation
Innovation through Institutional Integration (I3)
NSF DUE 0930134
Institutionalizing the IGERT Innovations at Rutgers
Role Co-PI (PI: P. Furmaski)
Amount: \$1,000,000

9/09-8/10 National Science Foundation
Division of Materials Research
Acquisition of a State-of-the-Art X-Ray Photoelectron
Spectrometer
Role: Co-PI (PI: R. Bartynski)
Amount: \$ 547,279

9/09-9/12 National Science Foundation
Research Experience for Undergraduates Site (REU)
Cellular Bioengineering: From Biomaterials to Stem Cells
Role: Co-PI (PI: C.M. Roth)
Amount: \$300,000

4/09-3/11 National Institutes of Health
National Heart, Lung, and Blood Institute (NHLBI)
1R21HL093753-01
Nanoscale Receptor Blockers for Inhibition of Atherosclerosis.
PI: P. Moghe
Amount: \$416,619

9/08-8/15 IGERT on Integrated Science and Engineering of Stem Cells
National Science Foundation

- PI: P. Moghe
Amount: \$3,200,000
- 9/08-8/13 New Jersey Commission on Science and Technology
Edison Excellence Matching Grant
IGERT on Integrated Science and Engineering of Stem Cells
PI: P. Moghe
Amount: \$100,000
- 4/08-3/13 National Institutes of Health
P41 RESBIO: Integrated Resources for Polymeric Biomaterials
NIBIB EB001046 P41
Core PI: P. Moghe
Amount: \$ 1,000,000
- 10/07-9/09 New Jersey Commission on Science and Technology
Stem Cell Core Grant
Human Embryonic Stem Cells and Neural Transplantation
Project PI: P. Moghe
Amount: \$442,000
- 7/07-6/10 American Heart Association Heritage Grant in Aide
Multifunctional Nanoscale Biomaterials for Inhibition of
Atherogenesis
PI: P. Moghe
Amount: \$200,000
- 9/06 – 8/12 National Science Foundation BES 0609000
Nanoscale Interdisciplinary Research Team (NIRT)
Nanoscale Ligand Display for Cell Super-Activation and Cytointernalization
PI: P. Moghe
Amount: \$ 1,000,000
- 9/06 - 8/11 National Institutes of Health T32 EB005583-06
National Institute of Biomedical Imaging and Bioengineering
(NIBIB)
Postdoctoral Training Program on TIssue Engineering & Biomaterials Science
Co-PI: P. Moghe (PI: J. Kohn)
Amount: \$ 1,800,000
- 7/05 – 6/10 National Science Foundation
Northeast Alliance for Graduate Education and the Professoriate (AGEP)
Role: Engineering Coordinator, Rutgers University
Amount: \$ 660,000 (PI: P. Furmanski)
- 7/04 – 6/07 The American Heart Association
Heritage Affiliate Grant in Aid
Nanoscale Macromolecules for Lipoprotein Binding and Cellular Clearance
PI: P. Moghe
Amount: \$ 198,000
- 3/04 – 12/05 The Whitaker Foundation

Teaching Materials Program
Numerical Methods for Biomedical Engineers
(Contract: Academic Press)
Co-PI: P. Moghe (PI: S.M. Dunn)
Amount: \$ 135,000

10/03 –9/08

National Science Foundation DGE 0333196
Integrated Graduate Education & Research Traineeship (IGERT)
On Integratively Engineered Biointerfaces
PI: P. Moghe
Amount: \$ 3,610,000

Updated 1/16/2018