

CURRICULUM VITAE

PRABHAS V. MOGHE

Executive Vice President for Academic Affairs



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CAREER ASPIRATION

As a dynamic and collaborative thought-leader and change-maker, Dr. Moghe aspires to provide intellectual leadership and strategic direction in stewarding and elevating a research-intensive university as it pursues its academic mission related to inclusive student excellence, research and innovations for the societal good, and institutional and reputational impacts via alumni, community, global, and industry engagement.

CAREER CAPSULE

As the *Chief Academic Officer/Executive Vice President*, Dr. Moghe, a tenured distinguished Professor in the School of Engineering, is the second ranking administrative leader at Rutgers, the State University of New Jersey, after the President. As EVPAA/CAO, he is charged with upholding and enhancing the academic standing of the institution. In this role he represents the institution on the Board of Directors for the *Big Ten Academic Alliance*. Prior to this role, he served as the *Provost and Executive Vice Chancellor* for Rutgers University-New Brunswick, which is currently ranked in the top-15 public universities nationally (USNWR, 2023). Leading up to this role, he served as the inaugural *Vice Chancellor for Research and Innovation*. Altogether, he has accumulated over six years' experience in executive roles overseeing the institution. He has acquired skills and expertise in leveraging strategic relations with varied stakeholders, including the *Board of Governors, Board of Trustees, the Faculty/Student/Staff Senate, Rutgers University Foundation* and local and global alumni, and several industrial alliances and philanthropic and state/federal agencies. In working through transitions of a number of institutional leaders and challenges arising from the pandemic and labor matters at Rutgers, Dr. Moghe has demonstrated steadfast and resilient leadership through a strategic pulse on communications and engagement that have strengthened the institutional fabric of governance, transparency, and accountability. Dr. Moghe has led major diversity programs and institutes to excellence and also launched large interdisciplinary strategic roadmaps for academic and research convergence at Rutgers. Dr. Moghe's initiatives have impacted the creation of new institutes and programs in the fields of climate sciences, brain health, data sciences and computing sciences, advanced manufacturing, socially cognizant robotics, health disparities, and the humanities. Under his and the President's leadership, Rutgers rankings and research output, now nearing \$1B a year, rose to historically high levels, undergirded by strong student success and faculty scholarship outcomes.

ACADEMIC ACCOMPLISHMENTS

Short Biography: Prabhas Moghe obtained his PhD in Chemical Engineering (Bioengineering) at the University of Minnesota and completed postdoctoral training at Harvard Medical School/Massachusetts General Hospital prior to joining the Rutgers faculty in 1995. He is currently Distinguished Professor in Biomedical Engineering, and Chemical and Biochemical Engineering at Rutgers. Professor Moghe's research efforts have been focused on cellular engineering and nanomedicine. An elected International Fellow of Biomaterials Science and Engineering, Fellow of the Biomedical Engineering Society (US) and Fellow of the American Institute of Medical and Biological Engineering, Professor Moghe was appointed in October 2020 as the EVPAA/Chief Academic Officer for Rutgers University, a role in which he oversees the academic, research and innovation mission for the University.



Short narrative of research and scientific accomplishments

Dr. Moghe's major contributions are in the areas of biomaterials for disease profiling and new nanoscale therapeutics for the management of cardiovascular and brain health. He has also advanced the understanding of how cellular systems interact with synthetic, engineered biomaterials using a more rigorous approach to structure-function relations and high content imaging of cellular phenotype and mechanosensitive proteins. *Four areas of research are summarized below.*

(1) Nanotechnology for New Window of Cancer Imaging:

Dr. Moghe has pioneered the design and application of a new class of biologically compatible and disease targeted, short-wave infrared light emitting nanoprobes for the tracking, detection and metastasis surveillance, and stratification of cancers. Moghe's team has demonstrated that intravenously injected rare-earth-doped albumin-encapsulated nanoparticles emitting short-wave infrared light (SWIR) can detect targeted metastatic lesions in vivo, allowing for the longitudinal tracking of multi-organ metastases. Ten publications in this area, include *Nature Communications* & *Nature Biomedical Engineering*, with an overall impact over 1500 citations. This work, continuously funded by NSF, NIH, and translational and philanthropic foundations, has also led to multiple patents and the licensing of a new start-up venture.

(2) Nanotherapeutics for Atheroinflammation underlying cardiovascular disease

Lipid-rich plaques in major blood vessels further exacerbate the lipid burden and risk of heart attacks or stroke. In a series of 15 publications, including *PNAS*, *Advanced Materials*, *Cardiovascular Research*, and cited over 1000 times, Moghe and coworkers have identified the design principles necessary to prevent oxidized lipid uptake and suppress scavenger receptor expression in macrophages, switching them to an "atheroprotective" phenotype. Such synthetic nanomedicines could be used to potentially treat acute coronary syndrome, a major unmet need in cardiovascular diseases. This work has also produced several patents and is currently being explored in the area of brain health.

(3) Brain Nanotherapeutics for Parkinsons' & Alzheimers' Diseases.

In a more recent research direction since 2016, Dr. Moghe and his collaborators have advanced a new class of amphiphilic macromolecules whose nanoscale fabrication into kinetically trapped assemblies can be used to target scavenger receptors on glial cells, which are the prevalent inflammatory blood cells in the brain, and ameliorate aggregation and clearance dynamics of proteins (alpha synuclein and beta-amyloid), which is a critical trigger for toxicity for neurons, a key disease risk factor for Alzheimer's Disease and Parkinsons' syndromes.

(4) *Elucidating stem cell form and forecasting function using high content image informatics:*

The sustained development and validation of [bioactive materials](#) relies on technologies that can sensitively discern cell response dynamics to biomaterials, while capturing cell-to-cell heterogeneity and preserving cellular native phenotypes. Moghe and coworkers have authored over 20 publications, including *PNAS*, *FASEB J.*, and *Scientific Reports*, related to the application of a novel high content image informatics platform to classify emergent human stem cell phenotypes in a diverse range of 3-D biomaterial scaffolds with high sensitivity and precision, and track cell responses to varied external stimuli.

Narrative of academic and research honors and awards:

Appointed as *Distinguished Professor* in the School of Engineering at Rutgers in 2013, Dr. Moghe has made many contributions to interdisciplinary graduate education, biomedical and health sciences, and nanomedicine. His research has led to innovations in cancer detection and potential nanotechnology therapies for brain degenerative disorders like Parkinson's disease. He has directed two National Science Foundation-sponsored graduate training programs spanning 12 years—in biologic interfaces and in stem cell science and engineering. He has been named a fellow of the Biomedical Engineering Society, the American Institute of Medical and Biological Engineering, and the International Union of Societies for Biomaterials Science and Engineering.

Prof. Moghe's research has been funded by over \$20M over the past two decades through federal, state, and private foundations and has led to the authorship of over 130 peer-reviewed journal publications, and completion of over 29 PhD theses, multiple patents and IP filings, and a major book, which have produced nearly 7500 citations (GS), with an h-index of 44 and h10 index of 108 as of February 2024.

ACADEMIC ROLES AND LEADERSHIP

- 2020- *Executive Vice President for Academic Affairs**, Chief Academic Officer, Rutgers University
- 2019-20 *Provost; Executive Vice Chancellor for Research & Academic Affairs*, Rutgers – New Brunswick
- 2018-19 *Vice Chancellor for Research and Innovation*, Rutgers University – New Brunswick
- 2014-18 *Research Director*, Rutgers Engineering–Biomedical and Health Sciences Alliances and Partnerships
- 2013- *Distinguished Professor*, Department of Biomedical Engineering, Department of Chemical and Biochemical Engineering, Rutgers University, NJ.
- 2012-4 *Vice-Chair*, Department of Biomedical Engineering, Rutgers University, Piscataway, NJ
- 2008- Adjunct Professor of Surgery, Robert Wood Johnson Medical School, Rutgers Biomedical Health Sciences (RBHS), New Brunswick, NJ.
- 2007-11 *Director*, Rutgers-UMDNJ Graduate Program in Biomedical Engineering
- 2007-13 *Professor*, Department of Chemical and Biochemical Engineering, Department of Biomedical Engineering, Rutgers University, Piscataway, NJ.
- 2008-13 *Director and Principal Investigator*, NSF-Sponsored Rutgers Integrative Graduate Educational and Research Traineeship (IGERT) Program on Stem Cell Science and Engineering
- 2003-9 *Director and Principal Investigator*, NSF-Sponsored Rutgers Integrative Graduate Educational and Research Traineeship (IGERT) Program on Biologic Interfaces
- 2001-3 *Undergraduate Program Director*, Department of Biomedical Engineering, Rutgers University, Piscataway, NJ.
- 2001-7 *Associate Professor*, Department of Chemical and Biochemical Engineering, Department of Biomedical Engineering, Rutgers University, Piscataway, NJ.
- 1995-01 *Assistant Professor*, Department of Chemical and Biochemical Engineering, Rutgers University, Piscataway, NJ.

EDUCATION AND ACADEMIC BACKGROUND

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

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*
- 2007 *Invited Scholar: Institute for Teaching and Mentoring, Compact for Faculty Diversity, Washington DC.*
- 2006 *Leader in Diversity Award, Rutgers University*

* *Second ranking administrative officer after the President*

2004	<i>Elected Fellow, American Institute of Medical and Biological Engineering</i>
2003	<i>Future Leaders in Biomedical Engineering, Whitaker Foundation Workshop</i>
2000	<i>Teaching Excellence Award - Dept. of Chemical & Biochemical Eng, Rutgers</i>
1999	<i>Rutgers FASIP Award for Teaching, Research, and Service (Ranked First)</i>
1999	<i>American Heart Association Grant-in-Aid Award</i>
1998	<i>National Science Foundation CAREER Award</i>

RESEARCH, TEACHING & INNOVATION ACTIVITIES

A. PEER REVIEWED JOURNAL PUBLICATIONS

1. Siebert JN, Shah JV, Zhao X, He S, Riman RE, Tan MC, Pierce MC, Lattime EC, Ganapathy V, **Moghe PV**. Immune Targeted Optical Nanoprobes for Detection of the Lung PreMetastatic Niche in Breast Cancer. *In Preparation* (2024).
2. Siebert JN, Shah JV, Zhao X, He S, Riman RE, Tan MC, Pierce MC, Lattime EC, Ganapathy V, **Moghe PV**. Optical Imaging of the Breast Tumor Immune Environment for Immunotherapy Response Prediction by Rare Earth Nanoprobes. *In Preparation* (2024).
3. Stoeber J, Williams JK, **Moghe PV**, and Baum J. Tannic Acid Inhibits-Synuclein Amyloid Fibril Formation via Binding to the Monomer N-terminal Domain. *Biomolecules*. In Review (2024).
4. Gebril HM, Aryasomayajula A, Pang ZP, Uhrich KA, **Moghe PV**. Microglial targeted nanoparticles for inhibition of neuroinflammation in Alzheimer's Disease. *Translational Neurodegeneration*. 13(2): 2024 <https://doi.org/10.1186/s40035-023-00393-7>
5. Shah JV, Siebert JN, Zhao X, He S, Riman RE, Tan MC, Pierce MC, Lattime EC, Ganapathy V, **Moghe PV**. Shortwave infrared-emitting nanoprobes for targeting and imaging cytotoxic T lymphocytes in murine mammary fat pad tumor models. *Advanced Nanobiomed Research*. <https://doi.org/10.1002/anbr.202300092>. (2023)
6. Zhao N, Francis NL, Song S, Kholodovych V, Calvelli HR, Hoop CL, Pang ZP, Baum J, Uhrich KE, and **Moghe PV**. CD36-Binding Amphiphilic Nanoparticles for Attenuation of Alpha Synuclein-Induced Microglial Activation. *Advanced Nanobiomed Research* 2(6): 2100120 (2022).
7. Gonda A, Zhao N, Shah JV, Siebert JN, Gunda S, Inan B, Kwon M, Libutti SK, **Moghe PV**, Francis NL, Ganapathy V. Extracellular Vesicle Molecular Signatures Characterize Metastatic Dynamicity in Ovarian Cancer. *Front Oncol* 2021 Nov 18;11:718408. doi: 10.3389/fonc.2021.718408.
8. Mishra P, Cohen RI, Zhao N, **Moghe PV**. Fluorescence-based actin turnover dynamics of stem cells as a profiling method for stem cell functional evolution, heterogeneity and phenotypic lineage parsing. *Methods*. 2021 Jun;190:44-54. doi: 10.1016/j.ymeth.2020.05.020.
9. Bobadilla Mendez C, Gonda A, Shah JV, Siebert JN, Zhao X, He S, Riman RE, Tan MC, **Moghe PV**, Ganapathy V, and Pierce MC. Short-wave infrared emitting nanocomposites for fluorescence-guided surgery. *IEEE J Sel Top Quantum Electron* 2021; 27(5):1-7.
10. Zhao N, Francis NL, Calvelli HR, and **Moghe PV**. Microglia-targeting nanotherapeutics for neurodegenerative diseases. *APL Bioengineering* 2020 Sep 8;4(3):030902. doi: 10.1063/5.0013178.
11. Shah JV, Gonda A, Pemmaraju R, Subash A, Bobadilla Mendez C, Berger B, Zhao X, He S, Riman RE, Tan MC, Pierce MC, Moghe PV, Ganapathy V. Shortwave Infrared-Emitting Theranostics for Breast Cancer Therapy Response Monitoring. *Front Mol Biosci* 2020 Oct 6;7:569415. doi:10.3389/fmolb.2020.569415
12. Kantamneni, H., Barkund S, Donzanti M, Martin D., Zhao X, He S., Riman RE, Tan MC, Pierce MC, Roth CM, Ganapathy V, and **Moghe PV**. Shortwave infrared emitting multicolored nanoprobes for biomarker-specific cancer imaging in vivo. *BMC Cancer* 2020 Nov 10;20(1):1082. doi: 10.1186/s12885-020-07604-8.
13. Omary MB, Eswaraka J, Kimball SD, **Moghe PV**, Panettieri RA Jr, Scotto KW. The COVID-19 pandemic and research shutdown: staying safe and productive. *J Clin Invest*. 2020 Jun 1;130(6):2745-2748. doi: 10.1172/JCI138646.

14. Zhao N, Yang X, Calvelli HR, Cao Y, Francis NL, Chmielowski RA, Joseph LB, Pang ZP, Urich KE, Baum J, **Moghe PV**. Antioxidant Nanoparticles for Concerted Inhibition of α -Synuclein Fibrillization, and Attenuation of Microglial Intracellular Aggregation and Activation. *Front Bioeng Biotechnol*. 2020 Feb 21;8:112. doi: 10.3389/fbioe.2020.00112.
15. Francis NL, Zhao N, Calvelli HR, Saini A, Gifford JJ, Wagner GC, Cohen RI, Pang ZP, **Moghe PV**. Peptide-Based Scaffolds for the Culture and Transplantation of Human Dopaminergic Neurons. *Tissue Eng Part A*. 2020 Feb;26(3-4):193-205. doi: 10.1089/ten.TEA.2019.0094. Epub 2019 Oct 17.
16. Mishra P, Martin DC, Androulakis IP, **Moghe PV**. Fluorescence Imaging of Actin Turnover Parses Early Stem Cell Lineage Divergence and Senescence. *Sci Rep*. 2019 Jul 17;9(1):10377. doi: 10.1038/s41598-019-46682-y.
17. Zhao Z, Kantamneni H, He S, Pelka S, Venkataraman AS, Kwon M, Libutti SK, Pierce M, **Moghe PV**, Ganapathy V, Tan MC. Surface-Modified Shortwave-Infrared-Emitting Nanophotonic Reporters for Gene-Therapy Applications. *ACS Biomater Sci Eng*. 2018 Jul 9;4(7):2305-2363.
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19. Vega SL, Arvind V, Mishra P, Kohn J, Sanjeeva Murthy N, **Moghe PV**. Substrate micropatterns produced by polymer demixing regulate focal adhesions, actin anisotropy, and lineage differentiation of stem cells. *Acta Biomater*. 2018 Aug;76:21-28.
20. Higgins LM, Ganapathy V, Kantamneni H, Zhao X, Sheng Y, Tan MC, Roth CM, Riman RE, **Moghe PV**, Pierce MC. Multiscale optical imaging of rare-earth-doped nanocomposites in a small animal model. *J Biomed Opt*. 2018 Mar;23(3):1-4.
21. Merolli A, Fung S, Murthy NS, Pashuck ET, Mao Y, Wu X, Steele JAM, Martin D, **Moghe PV**, Bromage T, Kohn J. "Ruffled border" formation on a CaP-free substrate: A first step towards osteoclast-recruiting bone-grafts materials able to re-establish bone turn-over. *J Mater Sci Mater Med*. 2018 Mar 21;29(4):38. doi: 10.1007/s10856-018-6046-4.
22. Moretti A, Li Q, Chmielowski R, Joseph LB, **Moghe PV**, Urich KE. Nanotherapeutics Containing Lithocholic Acid-Based Amphiphilic Scorpion-Like Macromolecules Reduce In Vitro Inflammation in Macrophages: Implications for Atherosclerosis. *Nanomaterials* (Basel). 2018 Feb 2;8(2). pii: E84. doi: 10.3390/nano8020084.
23. 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
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31. 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.
32. 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.
33. 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.
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36. 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.
37. Lewis DR, Petersen LK, York AW, Chae HB, Zablocki KR, Joseph LB, Urich 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.
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39. Ganapathy V, **Moghe PV**, and Roth CM. Targeting tumor metastases: Drug delivery mechanisms and technologies. *J. Controlled Release* 2015 219:215-23.
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43. 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.
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45. Faig A, Petersen LK, **Moghe PV**, Urich KE. Impact of hydrophobic chain composition on amphiphilic macromolecule antiatherogenic bioactivity. *Biomacromolecules*. 2014 Sep 8;15(9):3328-37.
46. Petersen LP, York AY, Lewis DR, Ahuja S, Urich 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.

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49. 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.
50. 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
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B. INVITED TALKS AND SEMINARS

INTERNATIONAL VENUES: KEYNOTE & INVITED SCIENTIFIC RESEARCH 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 PV. 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 PV "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 PV "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 PV "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 PV. *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 PV. 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 PV 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 PV "Working toward synergistic programs across departments, schools, commercialization", New Jersey Center for Biomaterials Tenth Anniversary, November 2007.
64. Moghe PV "Panel on Broadening Participation", Invited Presentation, National Science Foundation IGERT PI's Meeting, Washington DC, May 2007.
65. Moghe PV "Nanoscale Engineering of Cell-Interactivity of Materials", Princeton Institute for the Science and Technology of Materials (PRISM), Princeton University, Spring 2007.
66. Moghe PV "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 PV "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 PV "Best Practices and Challenges Facing the IGERT Training Programs", *Howard University-National Science Foundation Meeting*, November 2005.
69. Moghe PV "Nanoscale Biointerfaces for Engineering Cellular Behavior", Laboratory for Surface Modification, Department of Physics and Astronomy, *Rutgers University*, Piscataway, NJ, October 2005.
70. Moghe PV, "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 PV, "Nanoscale Design of Matrix Biology for Cellular Bioengineering", Department of Chemical and Biomolecular Engineering, *Cornell University*, Ithaca, NY, Fall 2005
72. Moghe PV "Nanoscale Biointerfaces for Cell and Matrix Bioengineering", *Avon Inc.*, NY, April 2005.
73. Moghe PV, "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 PV "Bioinspired Nanotechnology for Cellular and Matrix Bioengineering", Department of Bioengineering, *Rice University*, December 2004.

75. Moghe PV, "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 PV, "Biodynamic Nanointerfaces for Engineering Cell Motility", *World Biomaterials Congress*, Sydney, Australia, May 2004.
77. Moghe PV, "Nanoscale Substrates for Cellular Activation of Motility", *Drexel University*, Department of Chemical and Biochemical Engineering, Philadelphia, April 2004.
78. Moghe PV "Engineering Cell Function via Ligand/Polymer Microscale and Nanoscale Interfaces", Plenary Speaker, IEEE North-East Bioengineering Symposium, Newark, NJ, March 2003.
79. Moghe PV "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 PV "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 PV "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 PV "Engineering Cell Fates on Polymer Substrates", Tissue Engineering Seminar, *National Institutes of Health Tissue Engineering Training Program, Rutgers*, Piscataway, NJ, October 2001.
83. Moghe PV "Cell Engineering at Ligand-Polymer Microinterfaces", DuPont Experimental Station, Wilmington, DE, August 2001.
84. Moghe PV "Engineering Cell Functions at Ligand-Polymer Microinterfaces," Invited Lecture at the Department of Chemical Engineering, *University of Notre Dame*, IA, November 2000.
85. Moghe PV "Switching Cell Functional Fates on Polymer Substrates", Invited Seminar at the *5th New Jersey Symposium on Biomaterials Science*, Somerset, NJ, November 2000.
86. Moghe PV "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 PV "Cellular Engineering on Ligand Borne Microstructures". Invited Seminar at the Department of Chemical Engineering, *University of West Virginia*, Morgantown, WV, September 2000.
88. Moghe PV "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 PV "Microengineering Cellular Migration on Synthetic Polymers - Role of Substrate Topography", *National Chemical Laboratories*, Pune, India, June 1999.

90. Moghe PV "Control of Cellular Migration on Tissue Analog Polymers - Role of Matrix Conditioning", *National Center for Cell Sciences*, Pune, India, June 1999.
91. Moghe PV "Microarchitecture of Material Interfaces for Tissue Engineering", Department of Chemical, Biochemical, and Materials Engineering, *Steven Institute of Technology*, May 1999.
92. Moghe PV "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 PV "Microengineering Cellular Footprints on Tissue Analog Polymers," Department of Chemical Engineering, *University of Colorado*, Boulder, March 18, 1999.
94. Moghe PV "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 PV "Microarchitecture of Polymeric Tissue Analogs," *National Chemical Laboratory (NCL)*, Pune, India, July 1997.
96. Moghe PV "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 PV "Cellular Interactions with Microenvironment-Applications to Tissue Engineering," *Rutgers University*, Piscataway, NJ, February 1995.
98. Moghe PV "Stochastic Dynamics of Leukocyte Chemotactic Responses." *Proceedings of the International Federation of Automatic Control*, Galveston, TX. March 1994
99. Moghe PV "Novel Analysis of Leukocyte Chemotaxis," *Harvard Medical School*, Shriners Burns Institute, Boston, MA, June 1993.
100. Moghe PV "Phenomenological and Mechanistic Studies of Cellular Migration," Department of Chemical Engineering, *Texas A&M University*, College Station, TX, May 1993.

MEETING PROCEEDINGS/ABSTRACTS

101. Shah JV, Siebert JN, Zhao X, He S, Riman RE, Tan MC, Pierce MC, Lattime EC, Ganapathy V, Moghe PV. Non-invasive shortwave infrared imaging of cytotoxic T lymphocyte infiltration for monitoring responses to combination immunotherapy and chemotherapy. American Association for Cancer Research Annual Meeting, San Diego, CA, April 2024 (*To be presented*).
102. Siebert JN, Shah JV, Zhao X, He S, Riman RE, Tan MC, Pierce MC, Lattime EC, Ganapathy V, Moghe PV. Immune Targeted Optical Nanoprobes for the Prognostication of Cancer. Rutgers-RWJMS and Princeton MD/PhD Program Annual Symposium, Princeton, NJ, December 2023.
103. Siebert JN, Shah JV, Zhao X, He S, Riman RE, Tan MC, Pierce MC, Lattime EC, Ganapathy V, Moghe PV. Prognostication of Breast Cancer by Optical Imaging of Immune-Targeted Nanoprobes. New Jersey Commission on Cancer Research Annual Symposium, Hamilton, NJ, November 2023.
104. Siebert JN, Shah JV, Zhao X, He S, Riman RE, Tan MC, Pierce MC, Lattime EC, Ganapathy V, Moghe PV. Optical Imaging of Immune-Targeted Rare Earth Nanoparticles for Prognostication of Metastasis in a Syngeneic Model of Breast Cancer. Biomedical Engineering Society Annual Meeting, Seattle, WA, October 2023.

105. Siebert JN, Shah JV, Zhao X, He S, Riman RE, Tan MC, Pierce MC, Lattime EC, Ganapathy V, Moghe PV. Immune-Targeted Shortwave Infrared-Emitting Nanoprobes for Detection of the Lung Pre-Metastatic Niche. Rutgers Biotechnology Training Program Annual Symposium, Piscataway, NJ, June 2023.
106. Shah JV, Siebert JN, Gonda A, Pemmaraju R, Subash A, Mendez CB, Zhao X, He S, Tan MC, Riman RE, Pierce MC, Moghe PV, Ganapathy V. Shortwave infrared-emitting nanoprobes for targeting and imaging cytotoxic T lymphocytes in murine mammary fat pad tumor models. Rutgers Biomedical Engineering Symposium, Piscataway, NJ, December 2022.
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111. Shah JV, Siebert JN, Gonda A, Pemmaraju R, Mendez CB, Zhao X, He S, Riman RE, Tan MC, Pierce MC, Lattime EC, Moghe PV, Ganapathy V. Rare earth albumin nanoparticles engineered to target cytotoxic T cells to evaluate response to immunotherapy. Center for Cancer Health Equity 2nd Annual Retreat, Piscataway, NJ, June 2021.
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114. Shah JV, Gonda A, Pemmaraju R, Subash A, Mendez CB, Zhao X, He S, Tan MC, Riman RE, Pierce MC, Moghe PV, Ganapathy V. Rare Earth Albumin Nanocarriers for Targeted Drug Delivery and Therapy Monitoring. Rutgers Biomedical Engineering Symposium, Piscataway, NJ, December 2019.
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117. Mishra P, Martin DC, Androulakis IP and Moghe PV Fluorescent Labeling Based Characterization of Actin Dynamics During Mesenchymal Stem Cell Lineage Progression and Senescence Biomedical Engineering Society (BMES) Annual Meeting, Philadelphia, October 2019.
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122. Francis NL, Bennett N, Saini A, Cohen R, Pang Z, Moghe PV. Self-assembling peptide nanofiber scaffolds for culture and transplantation of human dopaminergic neurons. Society for Biomaterials, Minneapolis, April 2017.
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124. Bennett N, Chmielowski R, Francis NL, Uhrich KE, Baum J, and Moghe PV. Synthetic nanoparticles to regulate synuclein trafficking and reduce microglial activation. BMES Meeting, Minneapolis, October 2016.
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129. Dhaliwal A, Vega S, Brenner M, Arvind V, Zhang Z, Mao, Y, Kohn J., and Moghe PV. Forecasting Stem Cell States in Two and Three Dimensional Microenvironments: Novel Tracking of Interchromatin Speckle Factor (SC35) Domains in the Nucleus. NJ Symposium on Biomaterials, November 2015.
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140. Abdelhamid D, Moghe PV, and Uhrich KE. Design and Synthesis of Novel Amphiphilic Macromolecules for Cardiovascular Applications, ACS Meeting, 2013.
141. Welsh W, Kholodovych V, Martin AT, Faig A, Petersen LP, Lewis DR, Uhrich KE, and Moghe PV. In Silico Design of Anti-Atherogenic Biomaterials: Structure Activity Relationship Models of Amphiphilic Macromolecules (AMs). American Association for Pharmaceutical Science (AAPS) Annual Meeting, 2013.
142. Carlson A, Bennett N, Moore J, Hart R, and Moghe PV. Generation of enriched human neuronal cells in 3D fibrous microenvironments by direct conversion of induced pluripotent stem cells. Annual Biomedical Engineering Society Meeting, 2013.
143. Petersen LP, Zablocki K, Fan C, York AW, Lewis D, Uhrich K, Prud'homme R, Haser P, Moghe PV, Nanolipoblockers: Ex Vivo Human Plaque interaction for Therapeutic Management for Atherosclerosis. Society for Vascular Surgery, 2013.
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145. Martin A, Uhrich KE, Welsh W, Murthy S, and Moghe PV. Biophysical Characterization of the Interaction of Amphiphilic Macromolecules (AM) with Lipid Bilayers: Modeling the Role of AM Core Structure and Composition, Annual Rutgers Laboratory for Surface Modification (LSM) Symposium, Piscataway, NJ, 2013.
146. Naczynski D, Tan MC, Roth CM, Riman RI, and Moghe PV. Infrared-Emitting, Multifunctional Rare-Earth Doped Nanoparticles in Encapsulated Albumin Nanocarriers for Targeted Tissue Imaging. World Biomaterials Congress, Chengdu, China, May 2012.
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158. Naczynski DJ, Tan MC, Andelman T, Riman RI, Roth CM, Moghe PV, 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.
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232. Brieva, T.A. and Moghe PV "Engineering Cell Function via Heterocellular Presentation of a Homoadhesive Receptor, E-Cadherin", Abstract Submitted to the *Biomedical Engineering Society Annual meeting*, Durham, NC, October 2001.
233. Tjia, J.S. and Moghe PV "Activation of Cell Motility via Cell-Internalizable Ligand Microinterfaces", Presented at the *Annual BMES Fall Meeting*, Durham, NC, October 2001.
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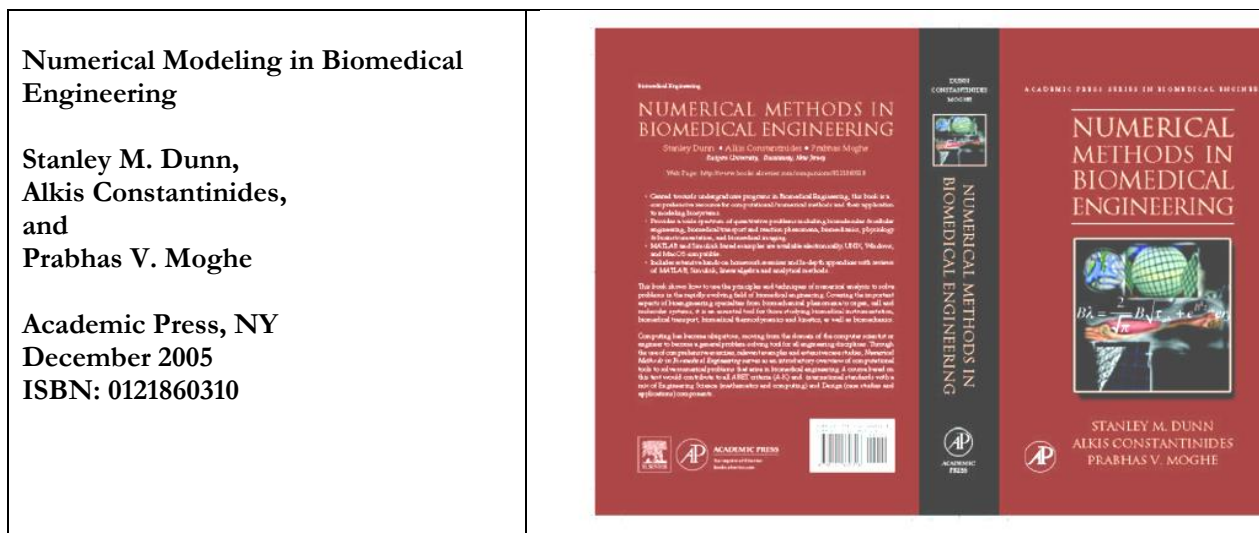
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BOOK AUTHORSHIP

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14. Tamar Andelman (Ph.D. Columbia University) (jointly supervised with Dr. Richard Riman) (2007-2010). Research Fellow, Princeton University.

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16. 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.
17. Robert Dubin (Ph.D., City University of New York, NY) (2004- 2006), Research Scientist (jointly supervised with Dr. Joachim Kohn)
18. 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.
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21. Rene S. Schloss (Ph.D, Harvard) (1997-2001), Postdoctoral Research Associate. Current Position: Research Assistant Professor, Department of Biomedical Engineering, Rutgers

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Doctoral Theses Supervised As Primary Advisor To Date: 29

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 received May 2016)
Doctoral Thesis: Short wave infrared imaging probes for multispectral disease profiling.
Neal Bennett (B.S. Princeton U.) (PhD received Oct 2016)
Doctoral Thesis: Studies of bioactive scaffolds for neural stem cell reprogramming and transplantation.
Rebecca Chmielowski (B.S., Rutgers U.) (Ph.D received Jan 2018)
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. received Oct 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. received July 2020)
Thesis title: Imaging-Based Profiling Stem Cell Lineage Dynamics using Mechanosensitive Fluororeporters
Nanxia Zhao (B.S., University of California, Berkeley) (Ph.D. received Jan 2022)
Thesis Title: Biomaterials for Microglial Therapeutics and Neuronal Transplantation
Jay Shah (B.S., Rutgers University) (Ph.D. expected Oct 2023)
Thesis Title: Shortwave Infrared Imaging as Theranostic Technology for Cancer Progression & Responsiveness
Jake Siebert (B.S., University of Minnesota) (M.D., Ph.D in progress)
Thesis Title: Immune targeted shortwave infrared emitting nanoprobes for the prognostication of cancer

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

INTELLECTUAL PROPERTY AND PATENTS (Moghe: Inventor/Co-Inventor)

1. Multifunctional Infrared-Emitting Nanocomposites, Patent Application 16/378,792 (Issuance in Process; July 2020).
2. Multifunctional Infrared-Emitting Composites, Patent No. 10,286,088 B2, Date of Issue, May 14, 2019.

3. Amphiphilic Macromolecules and Methods of Use Thereof, Patent No. 9,630,905 B2, Date of Issue April 25, 2017.
4. Macromolecules for Treating Atherosclerosis, Patent No. 9,434,681 B2, Date of Issue Sep 6, 2016.
5. Extracellular Matrix Production from Nanoscale Substrate, No. 8,715,718 B2, Date of Issue May 6, 2014.

**C. SELECTED RESEARCH GRANTS (Post-2003 listed; To-Date Total funding: ~\$20M)
(Institutional grants and funding overseen as EVPAA are listed separately below)**

2/24-1/26 (estd)	National Institutes of Health (NIH) National Institute of Aging (NIA) 1R21AG085394-01 Nanotechnology for Glial Targeting and Inhibition of Neuroinflammation for Alzheimer's Disease. <i>Scientifically approved for funding (11/2023)</i> Formal notice of award being awaited.
9/18-5/24	National Institutes of Health (NIH) NIBIB R01EB018378-05 Rare earth nanoprobes for optical imaging and disease tracking. Role: PI Total Amount: \$2.577M
5/17-4/22	National Institutes of Health (NIH) T32: Translational Research in Regenerative Medicine NIBIB Role: Co-PI (with J. Kohn) Total Amount: \$ 1,470,000
9/18-4/21	National Institutes of Health (NIH) National Institute of Aging (NIA) 1R21AG060024-01 Title: Microglial-Targeted Nanotherapeutics for Inhibition of Alpha-Synuclein Aggregation and Inflammation in Neurodegenerative Diseases Total Amount: \$423,500
9/18-8/21	National Science Foundation 1803675 Collaborative Research: Nanotechnology for Inhibition of Neurodegenerative Brain Plaques Total Amount: \$429,864
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 (mPIs: 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

PROFESSIONAL BOARD & ORGANIZATION MEMBERSHIPS

National Advisory Board Roles

- Underwriters Laboratories Research Institutes, [Advisory Board](#) to Chief Research Officer, 2022–
- New Jersey Innovation Institute ([NJII](#)), Board of Directors, 2019–
- Big Ten Academic Alliance Board of Directors (Provosts), 2020–

Professional Societies

- Member, American Association for the Advancement of Science (AAAS) (2019-)
- Member & Elected Fellow, Biomedical Engineering Society (BMES) (2000-)
- Member & Elected Fellow, American Institute of Biological and Medical Engineering (AIMBE) (2013-)
- Life Member & Fellow, International Union of the Societies for Biomaterials Science and Engineering (IUSBE) (2012-)
- Member, Society for Biomaterials (2007-)
- Member, American Institute for Chemical Engineers (1990-2011)

Updated December 2023