Resume: Vivek C. Maheshwari

Education

Ph.D. Macromolecular Science and Engineering (Chemical Engineering) **2007**
Virginia Tech
Advisor: Dr. R.F.Saraf
Dissertation: Large area electro-optical tactile sensor: Characterization and design of a polymer, nanoparticle based tunneling device

M.S. Chemical Engineering **2001**
Wayne State University
Advisor: Dr. R.M. Kannan
Thesis: Effect of tacticity on Rheo-optical properties of Metallocene catalyzed Polypropylene

B.Tech. Chemical Engineering **1998**
Indian Institute of Technology, Delhi, India
Advisor: Dr. U.S. Agarwal
Thesis: Polymerization of Styrene using living free radical polymerization

Professional Experience

2009-present	Assistant Professor, Department of Chemistry & the Nanotechnology Program, University of Waterloo, Waterloo Canada
2007-2009	Research Assistant Professor; Department of Chemical and Biomolecular Engineering; University of Nebraska, Lincoln USA
2002-2006	Research Assistant; Virginia Tech, Blacksburg USA
1999-2001	Teaching/Research Assistant; Wayne State University, Detroit USA
1998-1999	Young Professional; Pasupati Acrylon Ltd. India

Publications

- V. Maheshwari, R.F. Saraf; "High Resolution Thin Film Device to Sense Texture by Touch"
  Science, 312, 1501-1504 June 2006
- V. Maheshwari, R.F. Saraf; "Mineralization of Monodispersed CdS Nanoparticles on Polyelectrolyte Superstructure forming an Electroluminescent 'Necklace-of-Beads'"
  Langmuir, 22, 21, 8623-8626, 2006
- V. Maheshwari, J. Kane, R.F. Saraf; "Self-Assembly of Microns Long One Dimensional Network of Cemented Au Nanoparticles ", ***Advanced Materials, 20, 284-287, 2008 (one of the five most downloaded article for the month)***
- S. Kundu, V. Maheshwari, R.F. Saraf; "Photolytic Metallization of Au Nanoclusters and Electrically Conductive Au Nanostructures on DNA Scaffold", ***Langmuir, 24, 2, 551-555, 2008***

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- S. Kundu, V. Maheshwari, S. Niu, R.F. Saraf; "Polyelectrolyte mediated scalable synthesis of highly stable silver nanocubes in less than a minute using microwave irradiations" ***Nanotechnology, 19, 6, 065604, 2008 (Featured on nanotechweb.org)***
- V. Maheshwari, R.F. Saraf; "Tactile Devices to Sense Touch at Par with Human Finger", ***Invited review article for Angew. Chem. Int. Ed. 47, 7808-7826, 2008***
- V. Maheshwari*, C. Nguyen, R.F. Saraf; "Mechanics of Nanocomposite films from ion transport: Are they Foams" ***(Manuscript preparation in progress)***
- V. Maheshwari*, D. Fomenko, G. Singh, R.F. Saraf; "Ion mediated interfacing of nanoparticles with live organisms: differentiating age in Saccharomyces cerevisiae" ***(Manuscript preparation in progress)***

News and Features

V. Maheshwari, R.F. Saraf; "High Resolution Thin Film Device to Sense Texture by Touch" ***Science, 312, 1501-1504 June 2006 Featured in***

- 'Toward Robots That can Sense Texture by Touch', Perspectives by Dr. R. Crowder, ***Science, 312, 1478-1479 June 2006***
- 'A Sense of touch', ***Chemical& Engineering News, 84, 24, 10 June 2006***
- Selected as one of the **top 7 technological stories** of 2006, ***Discover Magazine***, **Jan 2007** issue
- ***Scientific American,* Aug 2006** issue
- ***New Scientist,* June 2006**, No.2556
- Over 50 web citations including, ***Science News, Time online, Nature News, Sunday Times (U.K.), BBC (radio interview), NPR (radio interview), CNN, Indian Express*** and others

Presentations

- C. Nguyen, V. Maheshwari, R.F. Saraf "Mechanics of nanoscale composite films from stress-electrical measurements: A nanoscale foam", Annual Meeting of *The American Physical Society*, **March 2009**.
- V. Maheshwari, C. Nguyen, R.F. Saraf "Mechanics of nanoscale composite films from stress-electrical measurements: A nanoscale foam", Fall Meeting of *Materials Research Society*, **December 2008**
- R.F. Saraf, V. Maheshwari, C. Nguyen "Linear Tactile Nanodevice with Resolution on Par with Human Finger", *IEEE/LEOS International Conference on Optical MEMS and Nanophotonics*, **August 2007**.
- V. Maheshwari, R.F. Saraf "A Self-Assembled, Nanoparticle Based Tactile Sensor with Sensitivity & Resolution of Human Finger", Spring Meeting of *Materials Research Society*, **April 2007**.
- V. Maheshwari, R.F. Saraf "A Nanoparticle Self-Assembled Tactile Sensor with Sensitivity and Resolution of Human Finger", Annual Meeting of *The American Physical Society*, **March 2007**.
- V. Maheshwari, R.F. Saraf "In-situ process for synthesis of monodisperse semi-conducting nanoparticles in polyelectrolyte matrix", Annual Meeting of *The American Physical Society*, **March 2005**.
- V. Maheshwari, S. Shivakumara, R.F. Saraf; "Self-assembled Diode with Memory from Protein and Nanoparticles", Annual Meeting of *The American Physical Society*, **March 2003**.

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- G. Singh, V. Maheshwari, R.F. Saraf; "Ultrafast Electromechanical Response in Non-Gibbs Thin Film of Polymers", Annual Meeting of *The American Physical Society*, **March 2003**.
- V. Maheshwari, M. Sevegney, G. Parthasarathy, R. M. Kannan, 'Rheology and orientation behavior of metallocene-catalyzed semi-syndiotactic polypropylenes: Role of Tacticity', *AIChE meeting*, Reno, **November 2001**.
- V. Maheshwari, S. Kharchenko, R.M. Kannan; "Quantitative first and third normal stress measurements in polymer melts: Role of tacticity and architecture", 73rd Annual meeting of *The Society of Rheology*, **October 2001**.
- V. Maheshwari, G. Parthasarthy, R.M. Kannan; "Role of tacticity on the rheological and orientation behavior of metallocene catalyzed semi- syndiotactic polypropylene", Annual meeting of *The American Physical Society*, **March 2001**.
- D. Karmakar, V. Maheshwari, U.S. Agarwal; "Multi-step process for regulation of high MW polystyrene by living free radical polymerization", *International symposium on polymers beyond AD 2000*: Polymer '99, **June 1999**.

Patents Filed

- "High Resolution Thin Film Device as Electronic Skin", Private enterprise
- "Fabrication of ultra long necklace of nanoparticles", Univ. of Nebraska, Lincoln

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