

ANMIV SUNIL PRABHU, Ph.D.

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Education

Drexel University, Philadelphia, PA
School of Biomedical Engineering, Science and Health Systems
GPA 3.86

Doctoral Candidate
Graduated 2012

ICFAI TECH, Hyderabad, India
Cumulative GPA 9.92/10

B-Tech, Biotechnology
Graduated 2007

Skills

Nanoparticle Separation	Focused Ion Beam Milling
Microfluidics	Scanning Electron Microscopy
Nanofabrication	COMSOL
Single Molecule Detection	MATLAB

Work and Research Experience

Solid State Nanopore based Separation and Analysis of Biomolecules

Location: The Kim Research Group, Drexel University

Duration: 2008-present

Advisor: Dr. Min Jun Kim

- Developed a novel technique for fabrication of solid state nanopore using Focused Ion Beam milling and Scanning Electron Microscopy
- Chemically modified solid state nanopores for Lipoprotein separation
- Developed platform for detection and analysis of DNA and protein structures using solid state nanopores
- Used COMSOL simulations to study nanofluidic environment around the pore

Solid State Nanopores for Protein Characterization

Location: Biophysical Engineering Group, University of Twente, Enschede, Netherlands

Duration: Jan 2007 – July 2007

Advisor: Prof. Vinod Subramaniam

- Utilized solid state nanopore based setup to detect and characterize protein like nanoparticles in order to calibrate for subsequent protein characterization.

Mathematical Ecology and Genetic Algorithms

Location: ICF AI TECH, Hyderabad

Duration: Aug 2006 – Dec 2006

Advisor: Dr. Sudepto Bhattacharya

- Solved Lotka Volterra equations with game theory based genetic algorithms
- Modeled ecosystem with replicating species, their evolution and population dynamics between predator and prey population

Natural Product Chemistry of *Phyllanthus niruri*

Location: Center for Plant Molecular Biology, Osmania University, Hyderabad

Duration: Jan 2006 – Jun 2006

Advisor: Prof. V. D. Reddy

- Developed new protocol for column chromatography of leaf and stem extracts of *Phyllanthus niruri* in order to increase the yield of lignins such as Phyllanthin and Hypophyllanthin.
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Publications

1. A.S. Prabhu, K.J. Freedman, J.W.F. Robertson, Z. Nikolov, J.J. Kasianowicz, M. J. Kim, "SEM-induced shrinking of solid-state nanopores for single molecule detection," Nanotechnology, 2011
 2. A.S. Prabhu, T. Z. Jubery, K.J. Freedman, R. Mulero, P. Dutta, M. J. Kim, "Chemically modified solid-state nanopores for high throughput nanoparticle separation" Journal of Applied physics, Condensed Matter, 2010
 3. T.Z. Jubery, A.S. Prabhu, M.J. Kim, P. Dutta, "Modeling and simulation of biological particle separation in a solid-state nanopore," Electrophoresis, accepted, 2011.
 4. K.J. Freedman, M. Jurgens, S.A. Peyman, A.S. Prabhu, P. Jemth, J. Edel, M.J. Kim, "Single molecule detection of unfolded and partially refolded albumin using solid-state nanopores," Analytical Chemistry, 2011.
 5. R. Mulero, A. S. Prabhu, K.J. Freedman, M. J. Kim, "Nanopore based devices for bioanalytical applications" Journal of the Association for Laboratory Automation 2010.
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Conference Papers and Poster Presentations

1. A.S.Prabhu, T. Z. Jubery, K. J. Freedman, R. Mulero, P. Dutta, M. J. Kim, "High throughput Nanofluidic architectures for nanoparticle separation" 2009 ASME IMECE, Lake Buena Vista, FL, IMECE2009-10649, 2009.
 2. A.S. Prabhu, A. Moraga, M. Cecchini, S. Olsen, Y. I. Cho, M. J. Kim, "Synthetic nanoscale architectures for lipoprotein separation", 2008 ASME IMECE, Boston, IMECE2008-66535, 2008.
 3. T.Z. Jubery, A.S. Prabhu, M.J. Kim, P. Dutta, "Modeling and simulation of translocation phenomenon in a solid-state nanopore for nanoparticle separation," The ASME International Mechanical Engineering Congress & Exposition, Vancouver, BC, Canada, IMECE2010-38742, 2010.
 4. P. Dutta, T. Jubery, A.S. Prabhu, M. J. Kim, "Optimizing of nanoparticle separation through solid-state nanopores," The 63rd Annual Meeting of the APS Division of Fluid Dynamics, Long Beach, CA, Vol. 55, No. 16, EP.00008, 2010.
 5. Presented a poster titled "Solid State Nanopores for Protein Characterization" at NanoBio Europe 2007 conference at Munster, Germany
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Teaching Experience

Course Title: Nanometrology

Position: Teaching Assistant

Winter Quarter 2009, 2010

Instructor: Dr. Min Jun Kim

Course Title: Nanomanufacturing

Position: Teaching Assistant

Spring Quarter 2010, 2011

Instructor: Dr. Min Jun Kim

Course Title: Freshman Year Physics

Position: Lab Assistant

Winter Quarter 2008

Instructor: Dr. Roberto Ramos

Awards and Honors

- Best paper award at the ASME IMECE 2009
 - Best presentation award at the ASME IMECE 2008
 - Received the Dean's fellowship at Drexel University
 - Recipient of silver medal for academic excellence, Class of 2007, ICFAI TECH, Hyderabad
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Professional Duties

- Reviewed 2 papers for publication in journal Small
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