

Vasu R Sah

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Education

University at Buffalo, State University of New York

Jan'11 – Feb '13

M.S. in Bio-Materials (Major GPA- 3.52/ 4)

(Interdisciplinary thesis program between School of Engineering and Medicine)

Amity Institute of Biotechnology

Oct'05 - Sept'09

Amity University, Noida India

B.Tech in Engineering Biotechnology (First Class)

Instrumentation Expertise

Scanning Electron Microscopy | Plasma Polymerization | Flow Cytometry - FACS | S-D Printing | Contact Angle – Surface Tension | Lens-Free CCD Imaging | X – Ray Diffraction | Friction Analysis | Ellipsometry | Fluorescence Microscopy | Optical Microscopy | FT-IR Spectrophotometer | UV- Vis Spectrophotometer | Synthesis | Sonication | Microbiology (Streaking, Autoclave, Sterilization) | Lab Techniques (Analytical Balance, pH, Autoclave, Centrifugation) | Clean Room | Animal House – Sprague Dawley handling & dissection |

Technical Expertise

- Axio-Vision, ImageJ, BD Cell Quest Pro, TinkerCAD, Origin, Solid Works, SPSS, C/C++, JAVA & HTML, MS Office - Word, Power-point, Excel, Windows XP/Vista/7, Mac.
 - Knowledge of Quality, 510 (K), PMA, GLP, GMP, QSR, ISO – 10993, SOP's and FDA.
 - Certified Quality Management Systems professional– BSI India.
 - Advanced courses in Polymeric Biomaterials, Regulatory Affairs and Bio-Mechanical Engineering.
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Experience

Brigham's and Women's Hospital, Harvard Medical School

Sep '13- Present

Harvard – MIT Health Sciences and Technology, Cambridge MA

Graduate Researcher – BAMB Labs

- Independently handling multiple projects and collaborating with other researchers. Fabricating microfluidic devices (in-vitro) for HIV diagnosis using surface chemistry of anti-CD4 antibody. Using Flow Cytometry for studying DNA fragmentation & Cellular Toxicity Assays.
- Techniques – Flow Cytometry, Fluorescence Microscopy, Cell Culture Systems, Hemocytometer, ELISA, 3-D Printing.

Industry/ University Center for Bio-surfaces, UB-SUNY

Feb '12- March '13

Research Assistant

(1 Year)

- M.S Thesis – Ultra-Pure Water and Extremophilic Bacteria interactions with Germanium Surfaces. Committee – Dr R.E Baier, Dr J.J Zambon, Dr S. Banerjee.
- Techniques – Optical Microscopy, Flow Cells, Microbiology, UV- Vis & FTIR Spectroscopy, Scanning Electron Microscopy, Contact Angle.

Tata Institute of Fundamental Research (TIFR) India

Jan'10-Aug'10

Jr. Research Fellow

(7 Months)

- Synthesis and formulation of nanostructured multiferroic and piezoelectric materials.
- Techniques – Reflux / Synthesis, Formulation, X – Ray Diffraction, TGA – Gravimetric Analysis, DSC- Scanning Calorimeter, Calcination.

Ian Wark Research Institute, University of South Australia

Dec'08-July'09

Research Intern (International Scholar)

(7 Months)

- Fabricating Plasma polymer thin films embedded with silver nanoparticles, surface engineering the anti-bacterial coatings, also analyzing their cellular biocompatibility.
- Technique's – Synthesis, Plasma Polymerization, UV-Vis Spectroscopy, Ellipsometry.

**INMAS, Defense Research Organization (DRDO), Ministry of Defense India
Research Intern, Radiation Biology**

**June'07-Aug'07
(3 Months)**

- Analyze the effect of an indigenous drug extract on Radioprotection and CTA (condition taste aversion) by examining Sprague Dawley Brain homogenate proteins.
- Technique's – SDS PAGE, Sprague Dawley handling & dissection. Drug Injection.

Publications

- **Vasu R Sah**. Ultra-pure Water and Extremophilic Bacteria Interactions with Germanium Surfaces. M.S Thesis. State University of New York at Buffalo (2013)
- A Michelmore, P Martinek, **Vasu Sah**, RD Short, K Vasilev. Surface Morphology in the Early Stages of Plasma Polymer Film Growth from Amine-Containing Monomers. Plasma Processes and Polymers 8 (5), 367-372 (2011)
- Krasimir Vasilev, **Vasu Sah**, Karine Anselme, Chi Ndi, Mihaela Mateescu, Björn Dollmann, Petr Martinek, Hardi Ys, Lydie Ploux, Hans Griesser. "Tunable antibacterial coatings that support mammalian cell growth" Nano Letters 10 (1), 202–207 (2010)
- Krasimir Vasilev, **Vasu R Sah**, Renee V Goreham,, Chi Ndi, Robert D Short and Hans J Griesser "Antibacterial surfaces by adsorptive binding of polyvinyl sulphonate stabilized silver nanoparticles" Nanotechnology 21 215102 (2010)
- K Vasilev, A Michelmore, P Martinek, J Chan, **Vasu Sah**, HJ Griesser, RD Short. Early Stages of Growth of Plasma Polymer Coatings Deposited from Nitrogen- and Oxygen-Containing Monomers. Plasma Processes and Polymers 7 (9-10), 824-835 (2010)
- **Vasu R Sah** "Nanotechnology Research Down Under" – Times of India, Delhi; Date: Nov 17, Section: Education Times; Page: 42 (2008)

Master's Projects

- Evaluation of Biomedical Materials Jan'11 - May '11
Preclinical Manager – Studying GMP, IACUC, Animal models, Statistics and FDA approval pathways for approval of a TMJ Implant.
- Graphene Biocompatibility (Research) May'11 - Dec '11
Collaboration with Department of Chemistry – Studying Contact Angle, FTIR Spectroscopy and Ellipsometry of Single and Multi Layered Graphene for the bio-compatibility.

Research Fellowship's/ Honors

- International Research Scholarship – Ian Wark Research Institute (National Center for Bio-Nano Materials), University of South Australia (2009).
- JRF - Junior Research Fellowship – Tata Institute of Fundamental Research, Mumbai (Top ranked research institute in India affiliated to Tata's and Govt of India) (2010)
- Vice President, University at Buffalo – Biomaterials Graduate Student Association Club (Sept 2011- Feb 2013)