

Dr.C.Ravikumar

Assistant Professor

Department of Chemical Engineering

Visvesvaraya National Institute of Technology (VNIT)

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Education Details

Ph.D. (Chemical Engineering), IITKanpur (Jan'06 – June'07) (Supervisor: Prof. Rajdip Bandyopadhyaya)

(Chemical Engineering), IITBombay (July'07 – July'10) (Supervisor: Prof. Rajdip Bandyopadhyaya)

M. E. (Chemical Engineering), Annamalai University

B. Tech. (Chemical Engineering), University of Madras

Diploma (Petro-Chemical Technology), Technical Board of Education, Tamilnadu

Professional Experience

Assistant Professor at VNIT, Nagpur, India, March 2015 - Present

Associate Professor at Sri Sivasubramaniya Nadar (SSN) College of Engineering, Chennai, India, June 2014 – March 2015

Post Doctoral Researcher, New Jersey Centre for Engineering Particulates, NJIT, New Jersey, USA, Sep 2012 - Dec 2013

Research Scientist, Battelle Science and Technology India Pvt. Ltd, Pune, Maharashtra, India, August 2010- August 2012

Lecturer at Vivekanandha College of Engineering for Women, Tiruchengodu, Tamilnadu, India, June 2004 - Dec 2005

Awards and Recognitions

IIT Bombay Best Thesis Award in Chemical Engineering, 2012

Best Poster Award in Fourth Asian Particle Technology Symposium (APT 2009), 14-16 September, 2009, New Delhi, India

Best Oral Presentation Award in Research Scholars Symposium (RSS), Chemical Engg. Dept., February, 2009, IIT Bombay

Best Employee Award, Battelle Science and Technology India, Pune, 2012

Certificate of Appreciation, Summer research experiences for Teachers, NJIT, USA, 2013

Research Interests

Colloids and Interface Science, Modeling and Simulation, Polymers, Nanotechnology, Material Science, Process Engineering, Process Intensification, Water Treatment

Select Journal Publications

- [Ravikumar, C.](#), Bandyopadhyaya, R. Mechanistic study on magnetite nanoparticle formation in thermal decomposition and coprecipitation routes. *J. Physical Chem. C*, 115, 1380 – 1387, **2011** [IF: 4.80].
- [Ravikumar, C.](#), Kumar, S., Bandyopadhyaya, R. Aggregation of dextran coated magnetic nanoparticles in aqueous medium: Experiments and Monte Carlo simulation. *Colloids and Surfaces A: Physicochemical and Eng. Aspects*, 403, 1– 6, **2012** [IF: 2.36].
- [Ravikumar, C.](#), Singh, S.K., Bandyopadhyaya, R. Formation of nanoparticles of water-soluble molecules: Experiments and mechanism. *J. Physical Chemistry C*, 114, 8806 – 8813, **2010** [IF: 4.80].
- Kumar, S., [Ravikumar, C.](#), Bandyopadhyaya, R. State of dispersion of magnetic nanoparticles in an aqueous medium: Experiments and Monte Carlo simulation. *Langmuir*, 26, 18320 – 18330, **2010** [IF: 4.18].
- [Ravikumar, C.](#), Ethayaraja, M., Bandyopadhyaya, R. Discrete-Continuous Hybrid simulation of monodisperse nanoparticle formation. *Int. J. Chemical Sciences*, 5, 1764 – 1774, **2007** [IF: 2.36].
- Ethayaraja, M., [Ravikumar, C.](#), Muthukumar, D., Dutta, K., Bandyopadhyaya, R. CdS-ZnS Core- Shell Nanoparticle Formation: Experiment Mechanism and Simulation. *J. Physical Chemistry C*, 111, 3246 – 3252, **2007** [IF: 4.80].

Patents

1. System and method for fabrication of uniform polymer films containing nano and micro particles via continuous drying process. Davé, R.N., Susarla, R., Bilgili, E., Seivens, L., Khusid, B., Muzzio, F., Ravikumar.C_Shen, Y. 2013. Provisional Patent Application # 61/791,752 filed March 15, 2013, NJIT.

Participation in Conferences/Presentations

- **AICHE-2013**, November, 3-8, San Francisco, CA, Sub-100 nm drug particle suspensions with low media contamination prepared via an intensified wet milling process.
- **AICHE-2012**, October 28-November, 2, Pittsburgh, PA, Controlled magnetite nanoparticle morphology for better cellular uptake: Experiments and models.
- **85th ACS Colloid and Surface Science Symposium**, Montreal, QC, Canada, June 19-22, COLLSYMP-8, 2011. Aqueous dispersion of magnetite nanoparticles: Synthesis mechanism, cellular uptake and state of dispersion.
- **ICONSAT**, Feb 17-20, 2010, IIT Bombay, India. Experiments and modeling of iron oxide (Fe_3O_4) nanoparticle uptake by HepG2 cells.
- **Fourth Asian Particle Technology Symposium (APT 2009)**, 14-16 September, 2009, New Delhi, India. Comparison of co-precipitation and thermal decomposition routes for the preparation of poly (acrylic acid) [PAA] coated magnetite nanoparticle suspension in water.
- **Research Scholars Symposium (RSS), IIT Bombay**, India, 4th April 2008. Synthesis and characterization of nanoparticles for application in MRI and solar cell devices.
- **Indian Chemical Engineering Congress (CHEMCON)**, Kolkata, India, December 27 – 30, 2007. Solvent-evaporation induced formation of nanoparticles of water-soluble molecules from a water-in-oil micro emulsion.

Professional Affiliations

- **Organizer:** Particle and Strip Film Engineering Workshop, NJIT.
- Member of American Institute of Chemical Engineers (AIChE).
- **Organizer:** Chemference'07, Indian Institute of Technology Kanpur, India.
- **Reviewer:** Advance Powder Technology, Applied Nanoscience, Crystal Growth and Design.

Executive Summary

Ravikumar is presently working as an Assistant Professor in Chemical Engineering Department, Visvesvaraya National Institute of Technology (VNIT), Nagpur. He has more than 11 years of experience including research, industry, and teaching. He completed his B.Tech in Chemical Engineering from University of Madras in 2002, M.E. from Annamalai University in 2004, and received his PhD from IIT Bombay in 2011. His PhD thesis on "Nanoparticle Formation in Aqueous and Organic Medium: Experiments, Mechanism and Modeling" was supervised by Prof. Rajdip Bandyopadhyaya (IIT Bombay), and received best thesis award in 2012 by the Chemical Engineering Department, IIT Bombay. After his PhD, he worked as a research scientist at Battelle Science and Technology India, Pune for 2 years, and later moved to USA to pursue his Post Doc at New Jersey Institute of Technology (NJIT) till Jan 2014. His research focuses on colloids and interface science, nanotechnology, material science, composites, modeling and simulation, process design, water treatment, and bio fuels. He has 6 international, 1 national and 4 conference publications to his credit, and filed 1 US patent. He is also recipient of other awards like best oral and poster award in 4th Asian particle technology symposium New Delhi- 2009, best oral presentation award in Research Scholar's symposium at IIT Bombay- 2009, best employee award at Battelle Science and Technology-2012. He has been reviewer of various international journals such as Advance Powder Technology, Applied Nanoscience, Crystal Growth and Design. He has organized several workshops and seminar, and actively involved in academic administrative and extra-curricular activities. Before joining VNIT, he worked in various teaching institutes like Vivekanandhaa College of Engineering for Women and SSN college of Engineering, Chennai. He is presently living with his wife Sangeetha and son Sanjan.