Stanford

Vivek Nagendra Prakash

Postdoctoral Research Fellow, Bioengineering

Curriculum Vitae available Online

Bio

BIO

I am a Postdoctoral Researcher in the Prakash Lab at the Department of Bioengineering at Stanford. I am an experimentalist by training and I am currently working on fluid physics problems in a biological context.

I was previously at the Physics of Fluids Group at the University of Twente, The Netherlands, where I received a PhD in Applied Physics (2013) for my thesis on 'Light particles in turbulence'. My research was supervised by Professor Detlef Lohse and Professor Chao Sun.

I obtained an M.S. in Engineering Mechanics (2010) at the Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), Bangalore, India. My master thesis research was on laboratory modelling of mantle convection. My research was supervised jointly by Professor K. R. Sreenivas at the Engineering Mechanics Unit, JNCASR and Professor Jaywant H. Arakeri at the Department of Mechanical Engineering, Indian Institute of Science, Bangalore, India.

I received a B.E. in Mechanical Engineering (2008) from R. V. College of Engineering, Bangalore, India.

HONORS AND AWARDS

- Milton van Dyke Award (Video), APS/DFD (2016)
- First place, Nikon Small World in Motion Competition (2016)
- Image of distinction, Nikon Small World Photomicrography Competition (2016)
- Honorable mention, Nikon Small World in Motion Competition (2015)
- Video Abstract Prize, New Journal of Physics (NJP) (based on a world-wide public voting contest) (2013)
- Featured in NJP Research Highlights - 2012, 2013, New Journal of Physics (NJP) (2012, 2013)
- Jury's Choice Poster Award, Hands-On Research in Complex Systems School, Shanghai, China (2012)
- 'Best Outgoing Student' award in Mechanical Engineering, RV College of Engineering, Cognizant Technology Solutions (2007)
- `Potential Manager' award for the best student in Mech. Engineering, RV College of Engineering, LG electronics (2006)
- Summer Research Fellowship (undergraduate), JNCASR, Bangalore (2005, 2006)

PROFESSIONAL EDUCATION

- Doctor of Philosophy, Universiteit Twente (2013)
- Master of Science, JNCASR, Bangalore, India , Fluid Mechanics (2010)
- Bachelor of Engineering, RV College of Engineering (2008)

STANFORD ADVISORS

- Manu Prakash, Postdoctoral Faculty Sponsor

LINKS

- Personal website: http://www.vprakash.com
- Prakash Lab Website: http://stanford.edu/~manup/
- Google Scholar Citations: http://scholar.google.com/citations?user=5AOb1xIAAAAJ&hl=en
- ORCID: http://orcid.org/0000-0003-4569-6462
- LinkedIn: http://nl.linkedin.com/in/viveknprakash
- Twitter: https://twitter.com/Viveknprakash

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Biophysics, Biological Fluid Dynamics, Fluid dynamics, Turbulence, Convection

LAB AFFILIATIONS

- Manu Prakash, Prakash Lab (1/1/2014)

Publications

PUBLICATIONS

- **Local Epithelial Fracture and Healing Mechanics Dictate Morphogenesis and Asexual Reproduction in Trichoplax adhaerens**
  Prakash, V. N., Bhargava, A., Prakash, M.
  CELL PRESS.2018: 651A–652A
- **Flowtrace: simple visualization of coherent structures in biological fluid flows** *JOURNAL OF EXPERIMENTAL BIOLOGY*
  Gilpin, W., Prakash, V. N., Prakash, M.
  2017; 220 (19): 3411–18
- **Dynamic vortex arrays created by starfish larvae**
  Gilpin, W., Prakash, V. N., Prakash, M.
  AMER PHYSICAL SOC.2017
- **Reply to 'Boundary effects on currents around ciliated larvae'** *NATURE PHYSICS*
  Gilpin, W., Prakash, V. N., Prakash, M.
  2017; 13 (6): 521–22
- **Vortex arrays and ciliary tangles underlie the feeding-swimming trade-off in starfish larvae** *NATURE PHYSICS*
  Gilpin, W., Prakash, V. N., Prakash, M.
  2017; 13 (4): 380-386
- **The role of viscosity contrast on plume structure in laboratory modeling of mantle convection** *CHEMICAL ENGINEERING SCIENCE*
  Prakash, V. N., Sreenivas, K. R., Arakeri, J. H.
  2017; 158: 245-256
- **Energy spectra in turbulent bubbly flows** *JOURNAL OF FLUID MECHANICS*
  Prakash, V. N., Mercado, J. M., Van Wijngaarden, L., Mancilla, E., Tagawa, Y., Lohse, D., Sun, C.
  2016; 791: 174-190
- **Wake-Driven Dynamics of Finite-Sized Buoyant Spheres in Turbulence** *PHYSICAL REVIEW LETTERS*
  Mathai, V., Prakash, V. N., Brons, J., Sun, C., Lohse, D.
  2015; 115 (12): 124501

- **The clustering morphology of freely rising deformable bubbles** *JOURNAL OF FLUID MECHANICS*
  Tagawa, Y., Roghair, I., Prakash, V. N., Annaland, M. v., Kuipers, H., Sun, C., Lohse, D.
  2013; 721

- **Light particles in turbulence (PhD thesis)**
  Prakash, V. N.
  University of Twente.2013

- **How gravity and size affect the acceleration statistics of bubbles in turbulence** *NEW JOURNAL OF PHYSICS*
  Prakash, V. N., Tagawa, Y., Calzavarini, E., Mercado, J. M., Toschi, F., Lohse, D., Sun, C.
  2012; 14

- **Lagrangian statistics of light particles in turbulence** *PHYSICS OF FLUIDS*
  Martinez Mercado, J., Prakash, V. N., Tagawa, Y., Sun, C., Lohse, D.
  2012; 24 (5)

- **Three-dimensional Lagrangian Voronoi analysis for clustering of particles and bubbles in turbulence** *JOURNAL OF FLUID MECHANICS*
  Tagawa, Y., Mercado, J. M., Prakash, V. N., Calzavarini, E., Sun, C., Lohse, D.
  2012; 693: 201-215