

## CURRICULUM VITAE

### Karri Badarinath

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#### Education

**2012 Doctor of Philosophy (PhD)** in Mechanical Engineering, National University of Singapore (NUS), Singapore  
**2005 Master of Science (MS)** in Manufacturing Systems and Technology, Nanyang Technological University (NTU), Singapore.  
**2004 Bachelor of Technology (B.Tech)** in Mechanical Engineering, Indian Institute of Technology, Madras (IIT-Madras), India.

#### Research Areas

Experimental fluid mechanics, bubble dynamics and application, high-speed photography and flow visualization, boundary integral method, optimization and scheduling, microfluidics

#### Research Experience

**January 2008 – January 2012 PhD study** Thesis title: “Bubble dynamics in fluid pumping and the formation of sprays and jet.”  
**Supervisors** : Prof. Khoo Boo Cheong (NUS) and Dr. Evert Klaseboer (IHPC).

#### Work Experience

**December 2013 – Present** - Assistant Professor, Department of Mechanical and Aerospace Engineering, IIT –Hyderabad, India  
**March 2012 – December 2013** - Research Fellow at Singapore-MIT alliance (SMA), National University of Singapore (NUS), Singapore.  
**June 2006 - January 2008** - Research Engineer at the Institute of Chemical and Engineering Sciences (ICES, A\*Star, Singapore).  
**December 2005–February 2006** Research Associate at the Nanyang Technological University (NTU), Singapore.

#### Computer/ other skills

Languages: C++, Fortran90  
Commercial packages used: MATLAB, ANSYS Fluent, AutoCAD, Pro-Engineer (CAD design)  
Experimental : High-speed imaging, image processing with MATLAB/other programs

#### Publications

##### Journal

1. F. I. Azam, B.Karri, S.-W. Ohl, E. Klaseboer, B. C. Khoo, “Dynamics of an oscillating bubble in a narrow gap”, *Physical Review E* vol. 88, 043006, **2013**, American Physical Society (APS) publications.

2. B. Karri, S.-W. Ohl, E. Klaseboer, C. D. Ohl, B. C. Khoo, "Jets and sprays arising from a spark induced collapsing bubble near a plate with a hole", *Physical Review E* vol. 86, 036309, **2012**, American Physical Society (APS) publications.
3. B. Karri, S. R. Gonzalez-Avila, Y. C. Loke, S. J. O'Shea, E. Klaseboer, B. C. Khoo, C. D. Ohl, "High speed jet and spray formation from bubble collapse", *Physical Review E* vol. 85, 015303(R), **2012**, American Physical Society (APS) publications.
4. B. Karri, K. S. Pillai, E. Klaseboer, S.-W. Ohl, B. C. Khoo, "Collapsing bubble induced pumping in a viscous fluid", *Sensors and Actuators A : Physical* vol. 169, pp 151-163, **2011** Elsevier Publications.
5. B. Karri, R. Srinivasan, I. A. Karimi "Robustness measures for operation schedules subject to disruptions", *Industrial & Engineering Chemistry Research* 48 (20), 9204-9214, **2009**, American Chemical Society (ACS) publications
6. K. Badarinath, D. S. Balaji, C. V. S. S. Prasad, P. A. S. Babu, S. K. Das, "Application of L  v  que analogy to offset strip fin surfaces for prediction of heat transfer characteristics", *The International Journal of Heat Exchangers*, R.T. Edwards Inc. USA, Vol. 7, pp 75-86, **2006**

### Conference

1. B. Karri, "Impacting jets at the micrometer scale due to an oscillating and collapsing bubble", Paper presented at the International Conference on Intelligent Unmanned Systems (ICIUS 2012) held from October 22-24, **2012** in Singapore
2. B. Karri, S. R. Gonzalez-Avila, Y. C. Loke, S. J. O'Shea, E. Klaseboer, B. C. Khoo and C.-D. Ohl, "Micrometer sized jets and sprays as a result of shockwave-hole interaction ", 8th International Symposium on Cavitation, August 14-16, **2012**, Singapore.
3. B. Karri, Z. L. Ong, E. Klaseboer, S-W Ohl. B. C. Khoo, "Characterization of the jet in collapsing bubble induced pumping in viscous fluids", 3<sup>rd</sup> WIMRC International Cavitation Forum, July 4<sup>th</sup>-6<sup>th</sup>, **2011**, Warwick, United Kingdom.
4. B. Karri, K. S. Pillai, E. Klaseboer, S-W Ohl, B. C. Khoo, "The effect of viscosity on collapsing bubble induced pumping", Proceedings of the 13th Asian Congress of Fluid Mechanics, 17th -21st December **2010**, Dhaka, Bangladesh
5. B. Karri, R. Srinivasan, I.A. Karimi, "Measures and Approaches for a priori analysis of schedule robustness", Presented at the AIChE Annual Meeting held from Nov 4-7, **2007**, Salt Lake City, Utah, USA,

### Scholarships and Awards

1. Best paper award for poster entitled " Bubble dynamics near a perforated boundary", at the Workshop on Microfluidics in Biomedical Applications held on December 14, 2012 at Nanyang Technological University.
2. NUS Graduate School for Integrative Sciences and Engineering (NGS) scholarship for PhD study - January 2008 – January 2012
3. Singapore-MIT alliance scholarship for Masters study - July 2004 - July 2005
4. Motorola innovation award for 'Creative Excellence in Product design and Development' - Singapore MIT alliance book prize – 2005