

## BIOGRAPHICAL SKETCH – JIAN SHENG

Department of Engineering  
Texas A&M – Corpus Christi  
Corpus Christi, TX 78412, Telephone: (410) 736-0813  
Email: [jian.sheng@tamucc.edu](mailto:jian.sheng@tamucc.edu)

### EDUCATION

B.S.	Electrical Engineering	University of Michigan	1995
M.S.	Mechanical Engineering	Kansas State University	1998
M.S.	Mechanical Engineering	The Johns Hopkins University	2001
Ph.D.	Mechanical Engineering	The Johns Hopkins University	2006

### APPOINTMENTS

Associate Professor	Texas A&M Corpus Christi	2016-pres
Adjunct Professor	The Johns Hopkins University	2007-pres
Adjunct Professor	University of Texas Austin, Marine Science Institute	2016-pres
Edward Whitacre Jr. Associate Professor	Texas Tech University	2012-2016
Associate Professor	Texas Tech University	2012-2016
Assistant Professor	University of Minnesota	2008-2012
Adjunct research scientist	Great Water Institute, Univ. of Wisconsin	2007-2010.
Assistant Professor	University of Kentucky	2007-2008
Research Fellow	Johns Hopkins University	2006-2007
Embedded Systems Engineer	Chrysler	1998-1999

### RELEVANT PRODUCTS

1. Mehdi M, and Sheng J, 2016, “Succeed escape: Flow shear promotes tumbling of *Escherichia coli*”, *Nature: Scientific Report* 6, 35290; doi: 10.1038/srep35290.
2. Molaei M., Barry M, Stocker R., and Sheng J, 2014, “Failed to escape: wall prevent E. coli from tumbling”, *Physical Review Letters*, v113, 068103 [featured article]
3. Gemmell B, Buskey E., and Sheng, J, 2013, “Escaping from predation at low Reynolds number: A compensatory mechanism”, *Proceedings of the National Academy of Science of the United States of America*, v112, n12, pp:4661-4666
4. Chengala A., Honzo M. and Sheng J, 2013, “Microalga propels along vorticity direction in a shear flow” *Physical Review E*, v87, n5, pp: 052704-1:7.
5. Katz J. and Sheng J., 2010, “Applications of holography in fluid mechanics and Particle Dynamics”, *Annual Review of Fluid Mechanics*, v42, pp 531-555

### OTHER PRODUCTS

6. Sheng, J., Malkiel E., Katz, J., Adolf JE. Place AR, 2010, “A Dinoflagellate exploits toxins to immobilize prey prior to ingestion”, *Proceedings of the National Academy of Science of the United States of America*, vol 107, n5, pp 2082-2087
7. Sheng, J, Malkiel, E. Katz, J, Adolf J, Place, A. and Belas, R., 2007, “Group response of Dinoflagellates to the presence of prey revealed by Digital Holographic Microscopy”, *Proceedings of the National Academy of Science of the United States of America*, vol. 104, n44, pp 17512-17517.

8. Gemmell B., Sheng J. and Buskey E., 2013, “Morphology of seahorse head hydrodynamically aids in capture of evasive prey”, Nature Communication v4,
9. Malkiel, E., Sheng, J, Katz, J. and Strickler, J. R., 2003, “The three-dimensional flow field generated by a feeding calanoid copepod measured using digital holography”, Journal of Experimental Biology, vol. 206, pp. 3657-3666.
10. Sheng, J., Malkiel, E., and Katz, J., 2006, “A digital holographic microscope for measuring three-dimensional particle distributions and motions,” Applied Optics, vol. 45, no. 16, pp. 3893-3901.

### **SYNERGISTIC ACTIVITIES**

- Journal Reviewer: Journal of Optical Society of America - A, Journal of Turbulence, Aquatic Biology (Denmark), New Journal of Physics, International Journal of Multiphase flow, Journal of Optics, Optical Letter, Journal of Fluid Mechanics, Measurement Science and Technology, Physical Review Letters.
- Paper on PRL has been selected as AIP feature.
- Profiled by NSF-OCE for paper entitled “Group response of Dinoflagellates to the presence of prey revealed by Digital Holographic Microscopy”
- Research, “A Dinoflagellate exploits toxins to immobilize prey prior to ingestion” (PNAS 2009 with J. Katz, E. Malkiel, J. Adolf, AR Place), is featured on Nature and 20 other science news media.
- NSF Panelists
- NSF CAREER Award 2008

### **COLLABORATORS**

J. Adolf (U. of Hawaii), R. Arndt (UMN), B. Aksak (TTU), R. Belas (UMBI), J. Bonnner (Clarkson), E. Busky (UTAustin), L. Castillo (TTU), L. Chamarro (UIUC), E. Erdner (UTAustin), R. Ewalt (UIUC), Y. Ganor (UMN), B. Gemmell (FSU), M. Honzo (UMN), H. Jiang (WHOI), R. James (UMN), J. Katz (JHU), I. Kim (TAMUCC), Z. Liu (UTAustin), E. Longmire (UMN), E. Malkiel (JHU), A. Place (UMBI), A. Prosperetti (JHU), F. Sotiropoulos (UMN), R. Stocker (MIT), M. Snyder (US Naval Academy), K. Stebe (U.Penn), E. Sparrow (UMN), R. Strickler (U. of Wisconsin – Milwaukee), A. Tandon (UMD), D. Um (TAMUCC), S. Vanapauli (TTU), J. Yen (Georgia Tech), Y. Zhong (JHU)

### **THESIS AND POST-DOC ADVISORS**

PhD Thesis and post-doc advisor: Prof. J. Katz – Johns Hopkins University  
 MS Thesis advisor: Prof. H. Meng – State Univ. of New York, Buffalo

### **GRADUATED STUDENTS AND POSTDOCS(8)**

M. Molaei (UPenn), H. Argawal (Micron), D. Green (Boston Scientific), S. Hu (FlowDyn), M. Toloui (UMN), A. Chengala (Aginol), R. Chow (Lake Region), Dr. G.E. Kapellos (U. Delaware), Dr. M. Jalali (TAMUCC),

### **CURRENT ADVISEES AND ASSOCIATES (3)**

Research Associates: Dr. M. Jalali  
 Postdoc: Dr. A. White, Dr. Z. Zhang