

Craig A. Snoeyink, PhD

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Education **Purdue University**, West Lafayette, IN
Ph.D., Mechanical Engineering, August 2012
• Dissertation Topic: *Interference Microscopy: Super-resolution Particle Tracking and Velocimetry*
• Advisors: Steven T. Wereley, Ph.D

Case Western Reserve University, Cleveland, OH
M.S., Mechanical Engineering, May 2005
• Thesis Topic: *Thermoelectric Measurements of Shark Gel and Polyelectrolytes in Salt Solutions*
• Advisor: Alexis Abramson, Ph.D
B.S.E., Mechanical Engineering, May 2004

Academic Appointments **Assistant Professor** August 2018 to Present
Department of Mechanical and Aerospace Engineering,
University at Buffalo

Adjunct Professor August 2018 to Present
Department of Mechanical Engineering,
Texas Tech University

Assistant Professor August 2014 to July 2018
Department of Mechanical Engineering,
Texas Tech University

Postdoctoral Research Scientist Aug 2012 to Aug 2014
Department of Mechanical Engineering,
Texas Tech University
Supervisor: Jordan Berg, Ph.D

Refereed Journal Publications

1. Chumki Chakraborty, C., Thompson, S.B., Lyons, V.J., Snoeyink, C., Pappas, D. "Modulation and study of photoblinking behavior in dye doped silver-silica core-shell nanoparticles for localization super-resolution microscopy" *Nanotechnology* In Press DOI: 10.1088/1361-6528/ab368
2. Wereley S., Zhang Y., Khor J. W., Snoeyink, C. "Single-Acquisition Wide-Field Super-resolution for Telescopes" *Applied Optics* 55(35):10025 (2016).
3. Snoeyink, C., Barman, S., Christopher, G. "Contact Angle Distribution of Particles at Fluid Interfaces." *Langmuir* 31(3):891 , 2015
4. Snoeyink, C. "Imaging performance of Bessel beam microscopy." *Optics Letters*, 38(14):2550, 2013.
5. Snoeyink C., Wereley S. "Single Image Far Field Sub-diffraction Limit Imaging with Axicon" *Optics Letters*, 38(5):625, 2013.
(Selected for inclusion in *Virtual Journal for Biomedical Optics* 8(4) 2013)

6. Snoeyink C., Wereley S. “A Novel 3D3C Particle Tracking Method Suitable for Microfluidic Flow Measurements” *Experiments in Fluids*, 54(1):1453, 2013.
7. Snoeyink C., Wereley S. “Three Dimensional Locating of Paraxial Point Source with Axicon” *Optics Letters*, 37(11):2058, 2012.

Edited Volume Entries

1. Snoeyink, C., Wereley, S., “Micro-nanoscale Flow Characterization”, *Encyclopedia of Nanotechnology* Bhushan, Bharat (Ed.), 1st Edition., Springer Inc. (2012)

Conference Papers

1. Snoeyink, C., Wereley, S., “Bessel Beam Microscopy: Three Dimensional Particle Tracking with Super-Resolution”, *10TH International Symposium on Particle Image Velocimetry – PIV13* (2013)
2. Snoeyink, C., Christopher, G., Barman, S., Wereley, S., “Sub-diffraction Limit Three Dimensional Particle Tracking Velocimetry”, *ASME 2013 International Mechanical Engineering Congress and Exposition – IMECE 2013* (2013)

Intellectual Property

1. Snoeyink, C., Wereley, S., “SINGLE IMAGE SUPER-RESOLUTION MICROSCOPY AND TELESCOPE SYSTEMS ” U.S. Application Serial No. 14/101,107, filed 12/6/2013, Patent Pending.

Funding

1. “Development of High Speed 3D Super-Resolution Microscope”
Principle Investigator: Dr. Craig Snoeyink
Duration: 9/01/2017 – 08/31/2019
NIH: NIGMS (\$ 385,901)
2. “Characterization of the Dynamic Behavior of Particle Contact Angle at an Oil/Water Interface”
Principle Investigator: Dr. Craig Snoeyink; Co-Investigator: Dr. Gordon Christopher (40%)
Duration: 09/01/2016 – 08/31/2019
NSF: PMP (\$336,094)

Awards

TeMPO Teaching Fellow - Texas Tech University — 2016
Texas Tech Department of Mechanical Engineering Teaching Award — 2015
Ward A. Lambert Graduate Teaching Fellowship *Mentored by Prof. Carl Wassgren* — 2011

Presentations

1. Parab, R., Snoeyink C. “High-Resolution Localization with Arbitrary Point Spread Functions” *APS March Meeting, 2019*
2. Chakraborty C., Snoeyink, C. ”Three-Dimensional sub-10 nm resolution using Bessel Beam Microscopy” *APS March Meeting, 2018*
3. Islam, M. A., Christopher, G., Snoeyink, C. “Dual color bessel beam microscopy to measure absolute three phase contact angle of microparticles” *The Society of Rheology 89th Annual Meeting, 2018*
4. Islam, M. A., Christopher, G., Snoeyink, C. “Visualization of interfacial particle contact angle distributions.” *The Society of Rheology 89th Annual Meeting, 2017*

5. Chakraborty, C., Snoeyink, C., "Confined nanoparticle measurement Bessel Beam Microscopy." *68th Annual Meeting of the APS Division of Fluid Dynamics, 2015*
6. Ahmadzadegan, A., Snoeyink, C., "Slip length measurement using BBM." *68th Annual Meeting of the APS Division of Fluid Dynamics, 2015*
7. Christopher, G., Snoeyink, C., "Nanoscale measurements of dense particle-laden interface dynamics." *67th Annual Meeting of the APS Division of Fluid Dynamics, 2014*
8. Snoeyink, C., Christopher, G., "Measurement of Particle Adsorption and Diffusion on an Oil/Water Interface Using Bessel Beam Microscopy." *AICHE Annual Meeting, 2014*
9. Snoeyink, C., "Nano-scale Velocimetry with Bessel Beam Microscopy." *66th Annual Meeting of the APS Division of Fluid Dynamics, 2013*
10. Wereley, S., Christopher, G., Barman, S., Snoeyink, C., "Sub-Diffraction Limit Three Dimensional Particle Velocimetry." *IMECE, 2013*
11. Snoeyink, C., Wereley, S., "3D3C Measurements of electrothermal vortex using Interference Particle Tracking Velocimetry." *64th Annual Meeting of the APS Division of Fluid Dynamics*
12. Snoeyink, C., Wereley, S., "3D3C micro-PIV with Self-Interfering Wavefronts." *63th Annual Meeting of the APS Division of Fluid Dynamics*

Students

Doctoral Students

- Samira Safaripour - Estimated May 2022
- Guarav Anand - Estimated May 2022
- Md Anisul Islam - Estimated May 2020
- Chumki Chakraborty, PhD - Graduated August 2018

Master of Science Students

- Eshwanth Asok - Estimated May 2020
- Sumanth Theeda - Estimated May 2020
- Rohan Parab - Graduated May 2018