

Bharath Bangalore Rajeeva

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EDUCATION

- **The University of Texas at Austin, Austin, TX** *Aug 2014-Dec 2018*
 - Ph. D. in Materials Science and Engineering, Dept. of Mechanical Engineering GPA: 4/4
- **Birla Institute of Technology and Science (BITS), Pilani, India** *Aug 2008-Jul 2013*
 - M.Sc. (Hons.) Chemistry GPA: 8.4/10
 - B.E. (Hons.) Electrical and Electronics

PROFESSIONAL EXPERIENCE

- **Research Intern, Oculus Research/Facebook Reality Labs, Redmond, WA, USA** *June 2017 – August 2017*
Manager: Dr. Matthew Colburn
 - Design and nanofabrication of optical devices for augmented reality heads-up display.
- **Graduate student, University of Texas at Austin, Austin, TX, USA** *August 2014 – present*
Advisor: Prof. Yuebing Zheng
 - Development of optical and software setup (via LabView) for bubble printing of quantum dots and catalytically-active nanoparticles to realize large-area printing with sub-micron linewidth. Extension of the technique to enable haptic input.
 - Optical design and fabrication of dual-mode visible and mid IR plasmonic sensor.
 - Design of a light mediated technique for printing hydrogels on single nanoparticles with 10nm accuracy.
 - 2 Patents, 17 Journal papers (>250 citations, h-index = 9), 11 Conference presentation and posters, 3 book chapters.
 - Exploration of technology commercialization during NSF I-Corps Summer program and relevant coursework.
 - Numerous journal covers and media reports on popular sites: Discovery Channel, IEEE Spectrum, Material Views, etc.
 - Teaching assistant for Materials Engineering Laboratory (ME 134L) for 2 years. Average rating: 4.8/5.
 - Assisted in writing multiple proposals to secure >\$500,000 in funding.
- **Application Engineer, Applied Materials Inc., Bangalore, India** *August 2013 – July 2014*
Manager: Mr. Sujit Jha
 - Successful validation of LINKTM server worth \$1 million at Global Foundries, Germany.
 - Responsible for providing CAD based solution in wafer inspection products (UVision). The technology is currently integrated into UVision 7 as MarkerTM.
 - On-site support, training and client meetings at *Global Foundries, Germany* and *Samsung, Korea*.
- **Student assistant, University of Alberta, Edmonton, Canada** *January 2013 – June 2013*
 - Fabricated and researched the opto-electronic properties of semiconductor metal-oxide thin films.
- **Student assistant, Forschungszentrum Juelich, Juelich, Germany** *July 2012 – December 2012*
 - Developed *nip* solar cells with $\mu\text{-SiC}$ window layer using the dual hot-wire CVD arrangement.

SKILLS

- Experience in nanofabrication, nanoscale printing, and hardware integration.
- Extensive knowledge in plasmonics, light-matter interaction, colloidal nanoparticles, and biosensors.
- Experienced user of process and characterization tools such as SEM-EDS, UV-Vis, FTIR, thermal CVD, PECVD and RIE.
- Software skills: MATLAB, LabView, PhotoShop, 3D Max, Origin. Basic usage of Lumerical FDTD and COMSOL.

PROFESSIONAL MEMBERSHIPS

- Optical Society of America (OSA). Student member, 2015-Present.
- Materials Research Society (MRS). Student member, 2015-Present.

AWARDS / HONOURS

- 2016-17 Friends of Alec Graduate Student Fellowship, Cockrell School of Engineering, UT Austin.
- 2015-16 George J. Heuer, Jr. Ph.D. Endowed Graduate Fellowship, Cockrell School of Engineering, UT Austin.
- 2014-15 Harris L. Marcus Graduate Fellowship in Materials Science and Engineering, UT Austin.
- 2012-13 Canadian Commonwealth scholarship 2012-13 by the Government of Canada.
- 2011 Indian Academy of Science (IAS) Summer Research Fellowship (SRF) by IAS, India.
- 2008 Kishore Vaigyanik Protsahan Yojana (KVPY) scholarship by Department of Science and Technology (DST), India.

PATENTS, SELECTED JOURNAL PUBLICATIONS AND MEDIA SPOTLIGHTS

1. Zheng, Y. B., **Rajeeva, B. B.** "Optical Printing Systems and Methods" Provisional Patent Application, 62/635,768.
 2. Liu, Y.*, Lin, L.*, **Rajeeva, B. B.***, et. al., Nanoradiator-Mediated Deterministic Opto-Thermoelectric Manipulation. *ACS Nano* (2018) <https://pubs.acs.org/doi/10.1021/acsnano.8b05824>. (*equal contribution) [[Nanowerk](#)]
 3. **Rajeeva, B. B.**, Wu, Z., Briggs, A. et. al., "Point-and-Shoot" Synthesis of Metallic Rings and Surface-Enhanced Optical Spectroscopies. *Advanced Optical Materials*, 2018, 6, 1701213. *Featured as Front Cover*
 4. **Rajeeva, B. B.**, Lin, L., Zheng, Y. B., *Design and Applications of Lattice Plasmon Resonances*. *Nano Research*, 2018, 11, 4423. *Featured as Front Cover*
 5. **Rajeeva, B. B.**, Albandi, M. A., Perillo, E. P., et. al., Patterning and Fluorescence Tuning of Quantum Dots with Haptic-Interfaced Bubble Printing. *J. Mat. Chem. C.*, 2017, 5, 5693. *Featured as Back Cover* [[2017 HOT Paper](#), [Nanowerk](#)]
 6. **Rajeeva, B. B.**, Lin, L., Perillo, E. P., et. al., High-Resolution Bubble Printing of Quantum Dots. *ACS Appl. Mat. & Interf.*, 2017,9, 16725. [[Nanowerk](#), [3dprint.com](#), [Nanotechweb](#)]
 7. Lin, L., Peng, X., Mao, Z., Li, W., Yogeesh, M. N., **Rajeeva, B. B.**, et. al., Bubble-Pen Lithography. *Nano Letters*, 2016, 16 (1), 701. *Highlighted on Front Cover* [[Discovery Channel Canada](#), [IEEE Spectrum](#), [Statesman](#), [EurakAlert](#), [Photonics.com](#), [AzoNano](#), [Chemistry Views](#), [Engadget](#), [Geek.com](#), [Digital Journal](#), [New Electronics](#), [Phys.org](#), [OSA-OPN](#), [Laser Focus World](#), [Semiconductor Engineering](#)]
 8. **Rajeeva, B. B.**, Hernandez, D., Wang, M., Perillo, P., et. al., Regioselective Localization and Tracking of Biomolecules on Single Gold Nanoparticles. *Advanced Science* 2015, 2, 11. *Featured as Frontispieces* [[Advanced Science News](#), [Materials Views China](#)]
 9. Chen, K., **Rajeeva, B. B.**, Wu, Z. L., Rukavina, M., Dao, T. D., Ishii, S., Aono, M., Nagao, T., Zheng, Y. B., *Moiré Nanosphere Lithography*. *ACS Nano*, 2015, 9 (6), 6031. [[Nanowerk Spotlight article](#), [UT Austin Mech Eng](#)]
 10. Chen, T., **Rajeeva, B.B.**, Wolff, J., Schmalen, A., Finger, F. *Dual hot-wire arrangement for the deposition of silicon and silicon carbide thin films*. *Thin Solid Films*, 2015, 575, 25.
 11. **Rajeeva, B.B.**, Menz, R., Zheng, Y.B. *Towards rational design of multifunctional theranostic nanoparticles: what barriers do we need to overcome?* *Nanomedicine (Lond)*, 2014, 9(12), 1767.
- **11 Conference presentations and abstracts (6 first author)** at reputed conferences such as FIO/LS, CLEO, SPIE, MRS Fall and Spring Meeting, E-MRS Spring Meeting.
 - **3 Book chapters (2 first author)** in the area of Molecular Plasmonics and Plasmofluidics. Books published by Springer, CRC Press/Taylor & Francis Group and American Chemical Society.

OUTREACH AND NON ACADEMIC INVOLVEMENT

- Participant, Austin I-Corps Regional Program, Summer 2016 to explore technology commercialization.
- Volunteer, Explore UT, The University of Texas at Austin, 2015 and 2016.
- Member, The University of Texas at Austin Table Tennis team.
- Guest service volunteer, *Formula 1* 2016 and 2017, Circuit of the Americas, USA.