

Keerthi Priya Dasala

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Research Interests

- Wireless Communications and Sensing
- Millimeter-Wave and THz Networks
- Wireless Security
- AI for Wireless Network Management and Control
- Intelligent and Autonomous Systems
- Cellular & UAV/drone networks
- Internet of Things

Professional Experience

- **Qualcomm Technologies, Inc.** **Bridgewater, NJ, US**
Senior Research Engineer, Corporate Wireless R&D
Sept 2022 – Present
- **Rice University** **Houston, TX, US**
Graduate Research Assistant, Rice Networks Group,
Advisor: Prof. Edward W. Knightly
Aug 2017–Aug 2022
- **Qualcomm Technologies, Inc.** **Remote**
Wireless Research Intern, Corporate Wireless R&D,
Mentor: Dr. Jane Luo, Manager: Dr. Navid Abedini
June 2021 - Aug 2021
- **Nokia Bell Labs** **Holmdel, NJ, US**
Wireless Research Intern, Wireless Access and Devices Lab,
Mentor: Dr. Mike Macdonald, Manager: Dr. Dragan Samardzija
June 2019 - Aug 2019
- **MathWorks** **Hyderabad, TS, IND**
Research Engineer, Communications and Signal Processing Lab,
Managers: Dr. Darel Linebarger, Dr. Nanda Kishore Chavali
- **Indian Institute of Science** **Bangalore, KA, IND**
Graduate Research Assistant, Wireless Research Lab,
Advisor: Prof. A. Chockalingam
- **ISRO Satellite Centre** **Bangalore, KA, IND**
Engineering Intern, Communication Systems group,
Mentor: Dr. Hareesh N K, Manager: Dr. Devadas Shenoy

Awards and Accomplishments

- **Best Paper Award** at IEEE INFOCOM 2021 2021
- **Texas Instruments Distinguished Student Fellowship** 2017-2022
- Recognized as **Star Doctoral Student**, ECE Department, Rice University 2021
- Recipient of **CRA-W Grad Cohort for Women Fellowship** 2021
- **Best Paper Award** at IEEE VTC 2020 2020
- **N2Women Young Researcher Fellowship**, INFOCOM 2020 2020
- **Nokia Bell Labs Intern Innovation Project Award**, Nokia Bell Labs 2019
- **Grace Hopper Celebration Scholars Program Scholarship**, GHC 2018

- Rice University **ECE Graduate Student Fellowship** 2017-2018
- **S.V.C Aiya Gold Medal** of Academic Excellence, Indian Institute of Science 2016
- **A.P.J. Abdul Kalam Post-Graduate Merit Fellowship**, Government of India 2016
- **Sri Shanthi Subramanyam Merit Award**, ECE, Osmania University 2012
- **Prof.V.M.Pandhari Pande Award for Academic Excellence** in ECE, Osmania University 2012
- Ministry of Human Resource Development Scholarship, India 2009

Education

- **Rice University** **Houston, TX, US**
Ph.D, Electrical and Computer Engineering 2017–2022
Advisor: Dr. Edward W. Knightly
Thesis: Design and Experimental Evaluation of Next-Generation Multi-User WLANs from mmWave to Terahertz
Supported by: Texas Instruments Distinguished Student Fellowship, Rice ECE Graduate Student Fellowship
- **Indian Institute of Science** **Bangalore, India**
Masters, Electrical & Communications Engineering
- **Osmania University** **Hyderabad, India**
Bachelors, Electronics & Communication Engineering

Publications

In Progress Papers.....

- Z. Liu, **Keerthi Dasala**, M. Di, R. Doost-Mohammady, and E. W. Knightly, "Design and Experimental Evaluation of Multipath Directional Modulation", *Under Review*, 2022.
- **Keerthi Dasala**, Josep M. Jornet, Edward W. Knightly, "Scaling Multi-User mmWave WLANs: the Case for Concurrent Uplink Transmissions on Single RF Chain", **(Invited Paper)** *Under Review @ IEEE/ACM Transactions on Networking*.

Peer Reviewed Conference & Journal Papers.....

- **Keerthi Dasala** and Edward W. Knightly, "Multi-User TeraHertz WLANs with Angularly Dispersive Links", in *Proceedings of ACM MobiHoc 2022, October 2022*.
- **Keerthi Dasala**, Josep M. Jornet, Edward W. Knightly, "Uplink Multi-User Beamforming on Single RF Chain mmWave WLANs", in *Proceedings of IEEE INFOCOM 2021, May 2021*. **(Best Paper Award)**
- **Keerthi Dasala**, Josep M. Jornet, Edward W. Knightly, "Scaling mmWave WLANs with Single RF Chain Multi-User Beamforming", in *IEEE/ACM Transactions on Networking*, 2022.
- **Keerthi Dasala**, Mike Macdonald, Dragan Samardzija, "Synchronized Uplink Time of Arrival Localization - A Measurement-Driven Evaluation", in *Proceedings of IEEE VTC 2020, November*

2020. (Best Paper Award)

- **Keerthi Dasala**, Josep M. Jornet, Edward W. Knightly, "SIMBA: Single RF Chain Multi-User Beamforming in 60 GHz WLANs", in *Proceedings of IEEE INFOCOM 2020*, July 2020.
- **Keerthi Dasala**, Karunya Ch, Nanda Kishore Chavali, "A Method for Time and Frequency Synchronization in a Cooperative Communication System", in *Proceedings of IEEE INDICON 2016*.
- **Keerthi Dasala**, Vani Devi, Dasgupta K.S, "Efficient Architecture and Implementation of PHY WLAN Receiver on Reconfigurable Platforms", in *Proceedings of IEEE ICCCT 2014*
- Vani Devi M, **Keerthi Dasala**, Selvaganesan N, "Impact of Spatial Correlation and Channel Estimation Error on Precoded MIMO systems", in *Proceedings of IEEE ICSPCT 2014*

Patents.....

- **Keerthi Dasala**, Jane Luo, Navid Abedini, Tao Luo, Junyi Li, "Network Energy Saving in Idle Mode", filed August 2021, US Patent no: 2106821P1, Patent pending.

Teaching Experience

Teaching Assistant.....

- Modern Communication Theory and Practice (ELEC 551) Fall 2020, Fall 2021
- Advanced Wireless Networking (ELEC 538) Spring 2021
- Signals and Systems (ELEC 242) Spring 2020
- Introduction to Deep Learning (ELEC 576) (Best TA Award, 2020) Fall 2019
- Introduction to Communication Networks (ELEC 537) Fall 2018
- Digital Communications (ELEC 430) Spring 2017
- Computer Vision Fall 2016

Guest Lectures.....

- Modern Communication Theory and Practice (ELEC 551) Rice University, Fall 2020
- Intro to Communication Networks (ELEC 537) Rice University, Fall 2019
- Intro to Random Processes (ELEC 533) Rice University, Fall 2019

Pedagogical and Career Training.....

- Center for Teaching Excellence Rice University, Spring 2020
 - Research Communication Training Program (semester-long)
 - Workshop on Active Learning Techniques for a more engaged Engineering Class
 - Workshop on Strategic Career Design for the Peak Performing Professor

Research Talks

- **Qualcomm R&D**, Multi-User THz WLANs with Leaky Wave Antennas, November 2022
- **MobiHoc 2022** - Multi-User THz WLANs with Angularly Dispersive Links, October 2022
- **Qualcomm R&D**, Network Energy Saving in Idle Mode, August 2021
- **INFOCOM 2021** - Uplink Multi-User Beamforming on Single RF Chain mmWave WLANs,

May 2021

- **CRA-W Grad Cohort** Poster - Scaling WLANs in Spectrum, User Density and Robustness, April 2021
- **INFOCOM 2020** - SIMBA: Single RF Chain Multi-User Beamforming in Single RF Chain 60 GHz WLANs, July 2020
- **Nokia Bell Labs**, Uplink Time-Based Indoor & Outdoor Localization, August 2019
- **ECE Affiliates Conference**, Next Generation Millimeter-Wave Wireless Communications: Achieving Multi-Gigabit Data Rates, Rice University, March 2019
- **5th Annual Three-Minute Ph.D. Research Competition** Poster - Scaling WLANs in User Density and Data Rate, March 2018

Community Service

- **Organizer of the Girls Engineering the Future :** 2019
Workshop to encourage 4th-8th grade girls to pursue higher education in the STEM fields.
- **@Rice**
 - **Founder of BiasBusters @ RiceECE:** 2019 - Present
Aims at creating awareness about unconscious bias at workspace and improving the climate at Rice ECE
 - **Judge:** Rice Undergraduate Research Symposium, Rice University 2019
 - **Publicity Coordinator:** Indian Students at Rice (ISAR) 2018 - 2019
- **UN Volunteer:** 2018 - Present
English tutor to the high school students to build the confidence and skill base for higher studies
- **Teacher Attracting Girls (TAG) member:** 2014 - 2019
Member of the Organizing Committee, training high school teacher to encourage female students to pursue Engineering as a career.
- **Undergraduate Students mentor:** Mentored 4 undergraduate students at IISc
- **Rotaract Club of Hyderabad:** 2012 - Present
E-work and Communications Coordinator on the 'Right to Education' programme that aims to rehabilitate educational facilities in Hyd, India
- **HELP AGE INDIA:** 2006 - Present
Young Volunteer for to raise nationwide awareness and fund collection for the cause and care of the elderly

Professional Service

- **Chair of the N2 Women event at IEEE INFOCOM 2020:** 2020
A networking event for women in IEEE and ACM community to build strong mentoring relationships, establishing ties among disparate communities and interdisciplinary groups, and creating broader open dialog celebrating diversity.
- **Grace Hopper Celebration'19 Volunteer:** 2019
Volunteered with three other graduate students to set up a panel discussion for the session on "Surviving the Hashtags: Building a Support Network as a Woman in Tech."
- **Grace Hopper Celebration'18 Volunteer:** 2018
Volunteered for the poster session review committee to review the poster submissions and rate them based on criteria provided by the co-chairs.

- **@Rice**
 - **RET Mentor:** 2018
Mentored six high school teachers in the PATHS-UP Research Experience for Teachers Program (RET)
 - **Science outreach volunteer:** 2018-2020
Performed demos to middle and high school students as a part of the Annual Student Leadership Conference hosted by Rice University Athletics.
 - **Academic Mentor:** 2017 - 2022
Mentoring ECE students at Rice University's Electrical and Computer Leaders (ExCEL) Women Group on academic and research resources
- **Invited Reviewer:**
 - IEEE Transactions on Wireless Communications
 - IEEE Transactions on Mobile Computing
 - IEEE Transactions on Vehicular Technology
 - IEEE Wireless Communication Letters
 - Elsevier Journal of Computer Networks
 - IEEE Wireless Communications and Networking Conference
 - IEEE Wireless On-demand Network Systems and Services Conference
 - IEEE International Conference on Sensing, Computing, and Networking
 - IEEE Millimeter-Wave Networked System (mmSys) Workshop
 - EURASIP Journal on Wireless Communications and Networking

References

Prof. Edward W. Knightly

Professor
Electrical and Computer Engineering
Rice University
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Prof. Josep M. Jornet

Associate Professor
Electrical and Computer Engineering
Northeastern University
✉ j.jornet@northeastern.edu

Prof. Ashutosh Sabharwal

Professor and Department Chair
Electrical and Computer Engineering
Rice University
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Dr. Michael W. MacDonald

Distinguished Member of Technical Staff
Wireless Access and Devices Lab
Nokia Bell Labs
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