

# Keerthi Priya Dasala

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## Research Interests

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- 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

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- 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

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- 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

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- **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

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### 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

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#### 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

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- **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

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- **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

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- **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
- o **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

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### **Prof. Edward W. Knightly**

Professor  
Electrical and Computer Engineering  
Rice University  
✉ knightly@rice.edu

### **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  
✉ ashu@rice.edu

### **Dr. Michael W. MacDonald**

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