

# David Ramirez

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## EDUCATION

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- Rice University** Houston, Texas 08.10 – 12.16
- Ph.D. Electrical and Computer Engineering** 12.16
- Thesis Title: “Throughput Maximizing and Service Provisioning Strategies for Millimeter Wave Networks”
  - Advisor Dr. Behnaam Aazhang.
- M.S. Electrical and Computer Engineering** 11.12
- Thesis Title: “Optimal Routing and Power Allocation for Networks with Imperfect Full-Duplex Nodes”
  - Advisor Dr. Behnaam Aazhang.
- Instituto Tecnológico y de Estudios Superiores de Monterrey (Tec de Monterrey)** Monterrey, Mexico 05.05 – 12.09
- B.S. Engineering Physics (with Honors)**
- Minor in Research and Development.
  - Telecommunications concentration at INSA Lyon in Lyon, France. 07.08 – 05.09

## ACADEMIC POSITIONS

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- New York University - Tandon School of Engineering** New York City, New York 02.17 – Present
- Postdoctoral Research Fellow
- Princeton University** Princeton, New Jersey 02.17 – Present
- Visiting Postdoctoral Research Fellow
- Rice University** Houston, Texas 08.10 – 12.16
- Research Assistant

## PUBLICATIONS

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### Journal

- SafePredict: A Meta-Algorithm for Machine Learning That Uses Refusals to Guarantee Correctness 07.17
- Submitted to *IEEE PTAMI*, Mustafa A. Kocak, David Ramirez, Elza Erkip, Dennis E. Shasha
- Optimal Opportunistic mmWave Network: Throughput, Bounds, and Delay 05.17
- IEEE JSAC on Millimeter Wave Communications for Future Mobile Networks, David Ramirez, Lei Huang, Yi Wang, and Behnaam Aazhang
- Service Centric Scheduling with Average Completion Time Constraints 08.16
- Submitted to *IEEE Transactions on Wireless Communications*, David Ramirez and Behnaam Aazhang
- Optimal Routing and Power Allocation for Networks with Imperfect Full-Duplex Nodes 09.13
- IEEE Transactions on Wireless Communications, David Ramirez and Behnaam Aazhang

### Conference

- Scheduling and Power Optimization in Full-Duplex Small Cells with Successive Interference Cancellation 11.17
- Asilomar Conference on Signals, Systems and Computers, Shahram Shamsavari, David Ramirez, Elza Erkip
- Blockage Robust Scheduling in Multi-Tier mmWave Networks 04.17
- Submitted to *IEEE Globecom 2017* Boqiang Fan, David Ramirez, Lei Huang, Yi Wang, and Behnaam Aazhang
- On the Impact of Blockage on the Throughput of Multi-Tier Millimeter-Wave Networks 11.16
- Asilomar Conference on Signals, Systems and Computers, Shuqiao Jia, David Ramirez, Lei Huang, Yi Wang, and Behnaam Aazhang
  - Best Paper Award 2<sup>nd</sup> Place
- Optimal Opportunistic Transmissions over Directional mmWave Channels 09.16
- IEEE PIMRC 2016, David Ramirez, Lei Huang, Yi Wang, and Behnaam Aazhang
- Service Centric Scheduling with Strict Deadlines 12.15
- IEEE Globecom, David Ramirez and Behnaam Aazhang
- Scheduling for Compute and Forward Networks 11.15
- Asilomar Conf. on Signals, Systems & Computers, David Ramirez and Behnaam Aazhang
- Styrofoam – A Tightly Packed Coding Scheme for Camera-based Visible Light Communication 09.14
- ACM Mobicom - Visible Light Communications Workshop, Robert LiKamWa, David Ramirez, and Jason Holloway
- Optimal Routing and Power Allocation for Networks with Imperfect Full-Duplex Nodes 06.13
- IEEE International Conference on Communications, David Ramirez and Behnaam Aazhang

### Poster

- Styrofoam: Protecting Symbol Fidelity in Screen to Camera Communication 09.14
- 4<sup>th</sup> Place in ACM Mobicom Student Research Competition, David Ramirez, Robert LiKamWa, and Jason Holloway
- Unbiased comparison of Ku vs. Ka for Satellite Communications 07.13
- Honorable Mention at BP's Technofest 2013, David Ramirez

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## TEACHING EXPERIENCE

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- Rice University** 08.11 – 05.14
- Teaching Certificate from Rice Center for Teaching Excellence**
- Obtained by completing teaching workshop series delivered by Rice University professors.
- Teaching Assistant for ELEC 241 Fundamentals of Electrical Engineering I**
- Held three-hour weekly lecture for over thirty undergraduate students, managed graders, and held office hours.
- Grading Assistant for ELEC 530 Introduction to Random Processes and ELEC430 Digital Communication Systems**
- Graded graduate and senior level courses and led homework review sessions for approx. thirty graduate students.
- Tec de Monterrey** 08.07 – 12.09
- Laboratory Teaching Assistant for Physics I, Physics II, and Physics III**
- Led weekly laboratory sessions for approximately twenty-five students and graded laboratory reports.

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## ACTIVITIES AND ASSOCIATIONS

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- Rice Center for Engineering Leadership Graduate Committee Member** Rice University 03.12 – 12.16
- Logistics coordinator for *Screech*, the first-ever graduate student elevator-pitch competition; collaborated with Development Office to obtain funding for the first three years of the event. Took a supporting role in other Committee events.
- ECE Graduate Mentoring Program Committee Member** Rice University 08.11 – 09.15
- Matched mentors with incoming students, co-organized multiple social events throughout academic year to foster interactions, actively participated in recruiting and orientation events, and formalized program structure to guarantee department funding.
- Engineering Physics Student Association President** Tec de Monterrey 08.07 – 05.08
- Organized international symposium for over 400 attendees, coordinated international school trip for over 200 students, greatly improved the association's finances, and the association received a record setting number of awards from Tec de Monterrey.

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## AWARDS & HONORS

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- Rice GSA Robert Lowry Patten Award** 03.16
- Rice ECE Distinguished Service Award** 03.16
- Rice ECE Best Presenter Award** 03.16
- Screech Best in COMP/CAAM/ELEC Department** 10.15
- SHPE Rice Recognition Award** 03.15
- Texas Instruments Fellowship** 08.10
- Tec de Monterrey Student Leadership Award** 12.09

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## PROFESSIONAL EXPERIENCE

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- BP plc** Houston, Texas
- Intern, Office of Chief Technology Officer (CTO)** 05.14 – 08.14
- Conducted market research on wearable technologies to identify trends and products relevant for O&G industry; presented material to senior Technology Directors. Evaluated and established contact with asphaltene researchers from industry and academia; presented a list of candidates for consideration to directors associated with the Grand Challenge II.
- Intern, Operation Critical Telecommunications** 06.13 – 08.13
- Analyzed effects of meteorological phenomena on satellite communications; results were presented to Technical Leads in a global teleconference to address doubts regarding availability of Ka-band satellites. Investigated coexistence issues between wireless sensors and incumbent systems. Collaborated in first draft of Spectrum Management Engineering Technical Practice.
- Rice Graduate Student Housing** Houston, Texas
- Resident Assistant** 05.12 – 12.14
- Assisted in managing a property with over 200 residents, improved roommate agreement procedures, managed on call emergencies including a kitchen fire, and acted as Housing Representative to Rice's Graduate Student Association.
- Prolec-General Electric** Monterrey, Mexico
- Intern, Research Department** 07.09 – 12.09
- Developed technological front on Smart Grids to assess future directions for research and development projects.

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## VOLUNTEER WORK

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- Pal's Place** Provides respite for parents of teens with disabilities as well as recreation for teenagers. 01.15 – 03.16
- Sally Ride Festival** Promotes interest in STEM careers to elementary and middle school, primarily female, students. 10.10 – 10.15
- Museum of Mexican History** Tour guide for general visitors, school visits, private events, and international guests. 01.08 – 07.08

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## LANGUAGES

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- English – Full professional proficiency
- French – Fluent (DALF B1)
- Spanish – Native proficiency