

Zakir Hussain Shaik

(MS by Research, ECE)

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Outgoing research scholar with the strong zeal to work on challenging problems related to future wireless communication systems. Pursuing MS by Research focused in Signal Processing and Communications from International Institute of Information Technology, Hyderabad (IIIT Hyderabad). My research topics encompass broadly the problems related to next generation communication systems (5G). My research work has resulted in three IEEE international conference publications. Actively looking forward to new opportunities to continue my passion in research.

Education

▪ MS by Research, ECE (Next Generation Wireless Communications) IIIT Hyderabad, Hyderabad, Telangana, India	July 2019	9.67 / 10 (CGPA)
▪ Bachelor of Technology, Electronics & Communications Engineering (ECE) Jawaharlal Nehru Technological University, Kakinada, Andhra Pradesh, India	May 2014	88.77 %
▪ Intermediate Education, Primary Subjects: Math, Physics and Chemistry Sri Chaitanya Boys Jr. College, Vijayawada, Andhra Pradesh, India	March 2010	95.90 %
▪ 10th Class, Indian Certificate of Secondary Education (ICSE) St. Ann's School, Ponnur, Guntur, Andhra Pradesh, India	March 2008	94.00 %

Research Interests

Aug 2016 - Present

- Non-orthogonal multiple access (NOMA): Multiple access scheme which is being shown to outperform other multiple access schemes such as TDMA, FDMA, CDMA and OFDMA with throughput as design metric.
- Cognitive Radio (CR), Wireless energy harvesting (WEH), Multiple input multiple output (MIMO), signal processing for wireless communications, mmWave communication, signal detection & estimation.
- Convex optimization relevant to signal processing and communications.

Publications

- Zakir Hussain Shaik and P. Ubaidulla, "Weighted Sum-Rate Maximization in NOMA Cognitive Relay Network under CSI Uncertainties", accepted in **IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC)** to be held in **Istanbul, Turkey, 8-11 September 2019**.
- Zakir Hussain Shaik and P. Ubaidulla, "Sum-Rate Maximization in Non-Orthogonal Multiple Access Relay Networks", **Proc. IEEE Vehicular Technology Conference (VTC2018-Spring), Porto, Portugal, June 2018**.
- Zakir Hussain Shaik and P. Ubaidulla, "Non-Orthogonal Multiple Access in Cognitive Relay Networks," **Proc. IEEE Vehicular Technology Conference (VTC2018-Spring), Porto, Portugal, June 2018**.
- Zakir Hussain Shaik, Anushka Agarwal and P. Ubaidulla, "Robust System Design for Non-Orthogonal Relaying Network in imperfect CSI" to be submitted to **IEEE transactions on Signal Processing**.

Projects

- "An Optimization Perspective of the Superiority of NOMA Compared to Conventional OMA", as part of wireless communications course.
- "Developing and Implementation of Algorithm for Room Cleaning Robot" and its virtual simulation in MATLAB environment. This was done as a part of TCS Training Project.
- "Design and Development of Vibration Monitoring System using Sound Card, Arduino and BeagleBone Black", under the guidance of Dr. Rao Tatavarti, Director of GVP SIRC

Relevant courses

- Wireless Communication
- Topics in Wireless Communication
- Adaptive Signal Processing
- Signal Detection and Estimation
- Probability and Random processes
- Wireless Sensor networks (IoT)
- Digital Signal Processing

Work Experience

- **Tata Consultancy Services (TCS)** 20 Oct 2014 - 20 July 2016
Engineering and Industrial Services (EIS).
Bangalore, Karnataka
 - **Responsibilities:** Component engineering and ECAD (Printed Circuit Boards Design) Support.
- **Teaching Assistant (TA)**
Communication Theory 1, IIIT Hyderabad.
 - **Responsibilities:** Solving problem sets, conducting quizzes, preparing assignments, clearing doubts for the students of the course
- Wireless Communications, IIIT Hyderabad.
 - **Responsibilities:** Solving problem sets, conducting quizzes, preparing assignments, clearing doubts for the students of the course

Technical skills

MATLAB | C | C++ | Core Java | Allegro PCB Editor |

Personal interests

Chess | Astrophysics & Cosmology

Achievements

- "On The Spot Award(26-Apr-2016)", by TCS in appreciation for the contribution made to the organization.
- State 3rd in 10th class among all ICSE schools of AP (2007-2008 Batch)

Extra-Curricular Activities

- Organizing knowledge sharing sessions (KTS) in Signal Processing and Communications (SPCRC) lab, IIIT Hyderabad.
- Student Coordinator representing SPCRC lab for R&D Showcase 2018 and R&D Showcase 2019 at IIIT Hyderabad.
- Member of National Service Scheme (NSS), 2012-2014.
- Editorial team of Electrozoom (Departmental Technical Magazine) during B.Tech.
- Class Representative (CR) from 2nd year to 4th year of B.Tech.
- House Captain in St. Ann's School

Reference(s)

- **Dr. P. Ubaidulla (Advisor)**
Assistant Professor,
Signal Processing and Communications Research Center (SPCRC),
International Institute of Information Technology - Hyderabad,
Gachibowli, Hyderabad, Telangana - 500032, India.
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[Google Scholar](#)
- **Dr. Sachin Chaudhari**
Assistant Professor,
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