Job Title: PhD Position in Wireless Communications and Big Data at the School of Electrical and Computer Engineering, University of Oklahoma (Tulsa Campus), USA.

Description: Applications are invited for fully funded PhD positions (Graduate Research Assistants) in the area of Future Wireless Communications Systems vis-a-vis 5G and beyond and data analytics. Successful candidate(s) will join the Big Data and AI Enabled Self Organizing Lab (BSONLab@OU) (www.bsonlab.com), directed by Dr. Ali Imran (www.ali-imran.org). BSON Lab has recently won a large NSF grant to develop one of kind end to end programmable full scale cellular system testbed called **TurboRAN** (http://bsonlab.com/TurboRAN/). TurboRAN is a game changing platform as it provides an unprecedented opportunity for current and potential member of BSON LAB for cutting edge experimental research on multi-band (including mmWave), multi-tier, control and data plane split, big data and AI enabled networks of the future.

The desired start date is Spring /Fall-2018.

RESEARCH OUTLINE:
The candidate is expected to pursue research on next generation heterogeneous wireless system deployed via terrestrial as well as aerial platforms. The focus will remain on the radio access networks. The objective is to investigate novel theoretical as well heuristic solutions that will help to enhance performance of wireless systems in terms of capacity, QoS, QoE, energy efficiency and economy of deployment and operation. The candidate will have the opportunity to be part of several national and international research projects sponsored by public funding bodies (NSF, QNRF…) and wireless industries (AT&T, Huawei, Google, Alcatel Lucent, US Cellular…). The international project consortium consists of teams from 5G Innovations Center at the University of Surrey, UK, CTTC Spain, University of Leads, England, and University of Glasgow, Scotland.

JOB QUALIFICATIONS:
Applicants should hold a degree (preferably master level, though exceptional candidates with Bachelor degree will also be given full consideration) in Electrical Engineering, Computer Science or Applied Mathematics, or similar fields by the time of joining. The candidates should have excellent grades and very good skills in oral and written communication. Key requirements that will be used as selection criteria include:

Essential:

- Strong background and interest in at least one of the following disciplines:
    1. Mathematical Modeling & Optimization Theory
    2. Artificial Intelligence & Machine Learning
    3. Stochastic Processes
    4. Big Data Analytics
    5. Software Development (Python, Java, C++)
    6. SDR Based Hardware Implementation
- Command on radio access architecture of cellular systems, notably LTE-A/5G.
- Ability to work in self-motivated manner.

Desirable:

- Ability to develop and run sophisticated simulation models e.g. in MATLAB or C++

How to Apply:
The position is available from spring 2018. Interested candidates are requested to send following items:

1. A detailed CV
2. Transcript of records (stating the relevant taught courses taken)

3. 1-2-page research statement (summarizing how their past work provides them the background for research outlined above)
4. GRE scores (and TOEFL/IELTS scores if international).
5. Candidates with published/accepted articles should include up to three manuscripts of their choice in the application package.

All material should be sent to ali.imran@ou.edu with subject 'OU-GRA-2018". Review of applications will begin immediately and will continue until the positions are filled.

ABOUT BSON LAB: The Big Data and Artificial Intelligence (AI) Enabled Self Organizing Network Laboratory at the University of Oklahoma, (BSONLab@OU) (http://bsonlab.com/) is a research group focused on applied research for developing pragmatic solutions to make the future wireless networks more intelligent and self-organizing, low cost, and globally ubiquitous. We research, design and build networks for better human to human (H2H), human to machine (H2M), machine to machine (M2M), device to device (D2D) and Internet of things (IoT) connectivity. We are currently focused on following four main research thrusts:

- Artificial Intelligence (AI) based Self Organizing Networks for 5G and beyond.
- Big Data analytics for exploitation in wireless networks, using social and non-social data.
- Unconventional deployment architectures (aerial as well as terrestrial) to make connectivity globally affordable and ubiquitous for H2H, H2M, D2D and IoT.
- Health Informatics/Applications of mobile/wireless technology for health care

Our research tackles real world problems faced by wireless industry and is supported by a number of key players in wireless industry to transition our research output to practice.

ABOUT OU: University of Oklahoma is ranked among the top 50 public universities in USA by U.S. News & World Report. It is the largest residential, research university in the state of Oklahoma, with approximately 30,000 student enrollment out which 10000 post graduate students and 3000 staff. The university consists of fifteen colleges, including 152 majors. The OU is ranked first per capita in US among public universities in enrollment of National Merit Scholars and among the top ten in the graduation of Rhodes Scholars. PC Magazine and the Princeton Review rated it one of the "20 Most Wired Colleges" in both 2006 and 2008, while the Carnegie Foundation classifies it as a research university with "very high research activity''.

ABOUT SECE at OU: The School of Electrical and Commuter Engineering at OU conducts research and education in the fields of electrical engineering, Telecommunications Engineering, Communications, Computer Systems, Bioengineering, Electric Power Systems, Electric Vehicle Research, Electromagnetics, Image Processing, Intelligent Systems, Instrumentation and Control Systems, Sensor Electronics, Signal Processing, Solid State Devices and Materials, Weather Radar.

About TCOM program at OU: *The Graduate Program in Telecommunication Engineering (http://www.ou.edu/coe/tcom.html) is part of the School of Electrical and Computer Engineering and the College of Engineering and is offered at Tulsa campus of OU.* The program has on average enrollment of 50 postgraduate students, half of which are PhD students. The program has averaged more than one patent every year over the last fifteen years of its existence. The research is funded by international, national and state funding agencies and private enterprises.