

REVAK R. TYAGI

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 - Citizenship: India
 - USA visa: OPT/F1 visa
 - Other countries: Need visa/work permit

EDUCATION

Arizona State University Tempe AZ, USA

- Doctor of Philosophy (Ph.D.) *Electrical Engineering* **Aug 2014**
- Master of Science in Engineering (M.S.E.) *Electrical Engineering* **May 2009**

G. B. Pant Engineering College Pauri (Garhwal) Uttarakhand, India

- Bachelor of Engineering (B.E.) (with Hons.) *Electronics & Comm. Engg.* **May 2005**

EXPERIENCE

Ira A. Fulton Schools of Engineering Tempe AZ, USA

Graduate Research and Teaching Associate

Aug 2010–May 2014

- Analyzed and developed analytical models for estimating performance impact of various parameters in LTE-A random access procedure. Developed simulator for LTE/LTE-A UE-eNB random access procedure in C++ (std. 2011) reducing code size and simulation time significantly. Interfaced Akaroa2 for statistical data collection and Multiple Replications in Parallel (MRIP) with various simulators.
- Worked on FiWi network architectures. Developed simulator using OMNeT++ simulation libraries (C++) for Ethernet Passive Optical Networks (EPONs).
- Linux (Debian) server (cruncher and tracecruncher systems) administration.
- Reviewer for various technical journals and conferences like Infocom, Globecom, ICC, ICME, ICCCN, IWQoS, WCNC, IEEE Communications Magazine, IEEE Communication Surveys and Tutorials, IEEE Transactions on Vehicular Technology, Compel, and AdHoc Networks Journal.
- EEE455 (Communication Systems) Lab TA. Lab involves circuit implementations and simulations (MatLab) for sampling theorem, line coding schemes, analog (AM & FM), and digital (M-PAM, M-PSK) modulation schemes. Lab uses test equipment such as oscilloscopes, arbitrary waveform generators and spectrum analyzers. Re-designed parts of circuits and updated lab manuals. Managed large groups of students.
- EEE334 (Circuits II) Lab TA. Lab involves PSpice simulations, characterization of MOS devices, basic current mirrors, single stage and differential amplifiers.
- Consistently ranked exceptional in research and TA evaluations.

Academic Associate

Sep 2007–Aug 2010

- Provided technical support to the **CEMI** bioinformatics research group at **The Biodesign Institute**.
- Wrote automation scripts for executing various software. Implemented various text parsers in PERL. Managed large genomics datasets. Wrote image analysis algorithms for gene expression images.

Bhabha Atomic Research Centre Mumbai Maharashtra, India

Scientific Officer

Sep 2006–Aug 2007

- Worked on designing optical sensor circuits. Wrote image analysis software. Worked on QNX and SCADA systems. Involved in design and development of industrial control and computation system.

Trainee Scientific Officer

Sep 2005–Aug 2006

- Designed and implemented coding scheme for transmission of image blocks. Implemented Run Length Encoder in VHDL.

PROGRAMMING SKILLS

Intermediate Level

- **Operating Systems:** Debian Linux, Other linux variants, and Microsoft Windows
- **Editors:** Vim
- **Utility:** Gnuplot, T_EX (L^AT_EX, B_IB_TE_X, P_STricks), various standard linux command line (CLI) tools
- **Programming:** C, C++ (std. 2011)
- **Simulation:** OMNeT++, Akaroa2, PSpice

Basic Level

- **Scripting:** PERL, Python, BASH
- **Simulation:** VHDL, Cadence, MatLab
- **Utility:** awk, ImageMagick, sed

PUBLICATIONS

- R. R. Tyagi, “Performance Models for LTE-Advanced Random Access,” Ph.D. Dissertation, Arizona State University, Tempe, AZ, Aug. 2014.
- R. R. Tyagi, F. Aurzada, K.-D. Lee, and M. Reisslein, “Equilibrium Analysis of Connection Establishment in LTE-A Networks: Parameters and their Impact,” *IEEE Transactions on Communications*, 2014 (Submitted).
- R. R. Tyagi, F. Aurzada, K.-D. Lee, S. Kim, and M. Reisslein, “Impact of Retransmission Limit on Preamble Contention in LTE-Advanced Network,” *IEEE Systems Journal*, vol. PP, no. 99, pp. 1–14, 2013. [Online].
- R. R. Tyagi, K.-D. Lee, F. Aurzada, S. Kim, and M. Reisslein, “Efficient Delivery of Frequent Small Data for U-Healthcare Applications over LTE-Advanced Networks,” in *Proc. of ACM International Workshop on Pervasive Wireless Healthcare*, ser. MobileHealth ’12. New York, NY, USA: ACM, 2012, pp. 27–32. [Online].

AWARDS & ACHIEVEMENTS

- Secured 97.89 percentile in GATE 2005 (Electronics and Communications Engineering).
- Gold medal and Certificate of Merit for highest marks in Electronics and Communications Engineering.
- Gold medal and Certificate of Merit for best project in Electronics and Communications Engineering.
- First rank in Indian Society of Technical Education (ISTE) Software Contest.
- Certificate of National Scholarship.
- Certificate of Merit for outstanding performance in Mathematics.