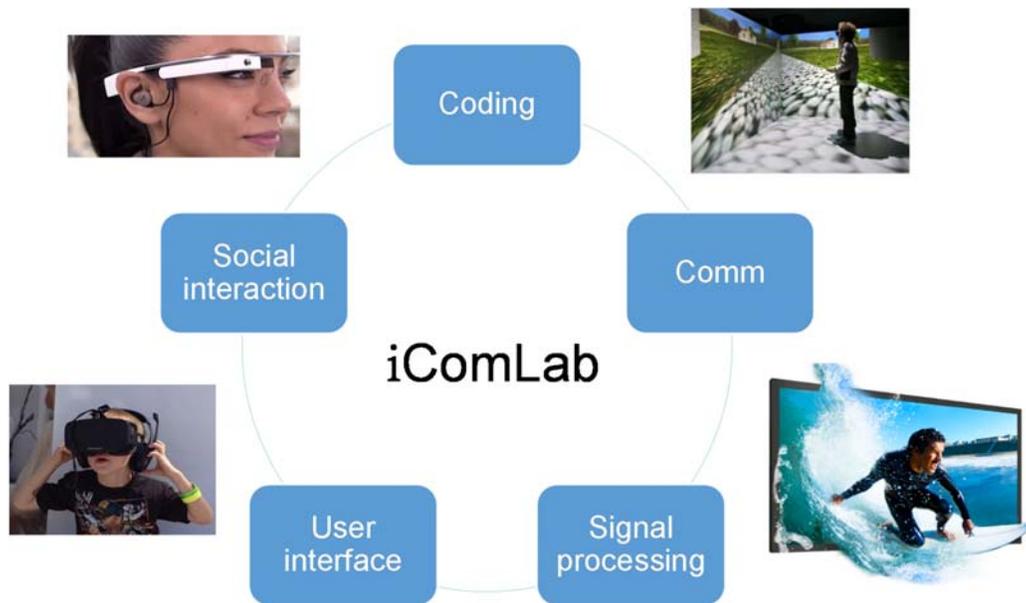


# Laboratory for Networked Virtual and Augmented Reality Communications



## PhD Openings

Multiple PhD positions are available at the Laboratory for Networked Virtual and Augmented Reality Communications (LION) directed by Prof. Jacob Chakareski. The lab is hosted in the Department of Electrical and Computer Engineering at the University of Alabama. It features state-of-the-art equipment: head/wall-mounted immersion displays, high-definition visual and range sensors, virtual and augmented reality goggles, UAV-IoT devices, and 5G/LTE-A MIMO SDR boards. The positions are fully funded (stipend & tuition for up to four years) and are available immediately, once the suitable candidates pass the application requirements.

Students at the B.S. or M.Sc. level with background in electrical and computer engineering, computer science, or applied mathematics are encouraged to apply. The accepted candidates will work on cutting edge research at the intersection of networked virtual and augmented reality, UAV-IoT sensing and communication, rigorous machine learning for stochastic control, and ubiquitous immersive communication. The lab also investigates future 5G/IoT network architectures and interdisciplinary applications to remote sensing, disaster relief, environmental monitoring, and cyber-physical health care systems and devices.

Solid mathematical background and knowledge of programming languages and software tools (e.g., Matlab, NS-2/3) is required. Above all, the applicants must be self-motivated to learn quickly and work effectively on challenging research problems. For a description of recent research activities carried out by Prof. Chakareski, please visit the site [www.jakov.org](http://www.jakov.org).

Application process: Please send your CV in attachment to [jacob@ua.edu](mailto:jacob@ua.edu) and specify in the subject line "PhD opening application". Outline your background and research interests in the e-mail. Include a one page research statement describing your qualifications and how you can contribute to our own studies (summarized on the web site referenced above). Include 3-4 references (names and contact details) and any publications you have authored.

GRE and IELTS/TOEFL scores are required for international applicants. An applicant is advised to include course transcripts and arrange for reference letters to be sent to Dr. Chakareski.

Recent references:

- ACC 2018: Coalition Formation for Coordinated Task Allocation in Heterogeneous UAV Networks
- ICC 2018: Viewport-Driven Rate-Distortion Optimized 360° Video Streaming
- ICC 2018: Energy Efficiency Analysis of UAV-Assisted mmWave HetNets
- ICC 2018: Structural Properties of Optimal Transmission Policies for Delay-Sensitive Wireless Sensors
- Asilomar 2017: Optimal measurement policy for predicting UAV network topology
- MMSP 2017: Convexity characterization of virtual view reconstruction error in multi-view imaging
- MM 2017: Optimal Set of 360-Degree Videos for Viewport-Adaptive Streaming
- SIGCOMM 2017: VR/AR Immersive Communication: Caching, Edge Computing, and Trans. Trade-Offs
- MobiSys 2017: Drone Networks for Virtual Human Teleportation
- ICC 2017: Viewport-adaptive navigable 360-degree video delivery (**best paper award**)
- INFOCOM 2017: UAV-IoT for Ubiquitous Immersive Communication and Virtual Human Teleportation
- JSAC 2016: Joint Caching, Routing, and Channel Assignment for Collaborative Small-Cell Networks
- Globecom 2016: Reinforcement Learning for Energy-Efficient Delay-Sensitive CSMA/CA Scheduling
- Sarnoff 2016: On the Continuous Coverage Problem for UAV Swarms

About: The University of Alabama ([www.ua.edu](http://www.ua.edu)) is a major comprehensive student-centered research university founded in 1831 as the first public college in Alabama. The University of Alabama consistently ranks among the top 50 public national universities according to the U.S. News and World Report annual rankings.

