

ECE Final PhD Defense



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Advanced plasmonic photoconductive sources for pulsed and continuous-wave terahertz generation

Wednesday July 27, 2016
12:00 noon – 2:00 pm • 3316 EECS

Chair: Mona Jarrahi

Abstract: Terahertz technology has attracted extensive attention because of its unique applications in environmental monitoring, space explorations, chemical identification, security screening, medical imaging, and biological sensing. In the meantime, the practical feasibility of many terahertz systems is still limited by the relatively low power, low efficiency, and bulky nature of existing terahertz sources. In this talk, I will present some of our recent results on achieving high-performance terahertz sources to mitigate performance limitations of existing terahertz systems. By incorporating plasmonic contact electrodes on photoconductive antennas, we have successfully demonstrated high-performance photoconductive terahertz sources with record-high optical-to-terahertz conversion efficiencies and record-high power levels of several milliwatts. With this generated terahertz power level, we can offer numerous opportunities for biomedical imaging, agricultural inspection, pharmaceutical quality control, and security screening systems.

** The public is invited to attend **