

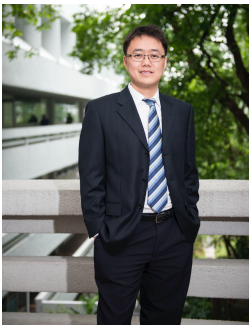
Terahertz Semiconductor Bound States in The Continuum Lasers

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Highly compact laser sources with low threshold, exceptional directivity, and single-mode operation are in great demand for on-chip integrated photonics. Photonic bound states in the continuum (BIC) are peculiar nonradiative localized modes that have theoretically infinite lifetime within the radiation continuum, making it a favorable candidate for pursuing single-mode, low-threshold, and surface-emitting lasers. In this presentation, I will introduce several electrically pumped Terahertz semiconductor lasers we have developed based on the BIC concepts for achieving high Q and low laser thresholds in compact cavities while achieving single mode operations, which would be promising as monolithically integrated laser sources.



Short Bio:

Prof. WANG Qijie is a full professor at the School of Electrical and Electronic Engineering (EEE) and the School of Physical and Mathematical Sciences (SPMS) NTU. He is an OSA (the Optical Society) Fellow. He is a co-recipient of the Institution of Engineers Singapore, Prestigious Engineering Achievement Team Award of Singapore Twice in 2005 and 2017, respectively, the prestigious Singapore Young Scientist Award 2014, Nanyang Research Award 2015 (Young Investigator), ARC Sciences Nanotechnology Medal and Prize, 2021, and NTU College of Engineering Research Excellence Award, 2022.