

PRESENTER INFORMATION



Name: Kumeria
First name: Tushar

E-mail: t.kumeria@unsw.edu.au

Institute/ affiliation: School of Materials Science and Engineering, University of New South Wales (UNSW) - Sydney

BIOGRAPHICAL SKETCH

I am a Scientia Senior Lecturer at the School of Materials Science and Engineering, University of New South Wales (UNSW), Sydney, Australia. I received my Ph.D. in 2015 from the University of Adelaide with a Doctoral Thesis Medal and Dean's Commendation Letter. I spent the following two years at the University of California-San Diego (UCSD) as a postdoc in Prof. M. J. Sailor's lab, returning to Australia in 2017 to a prestigious Early Career Fellowship at the University of Queensland. I have co-authored over 98 peer-reviewed publications in top-tier journals in the field of nanomaterials, biomaterials, drug delivery, and consequently have attracted more than 3895+ cites on Scholar with an H-index of 40 and 3210+ citations on Scopus and returns an H-index of 35. I have successfully secured over \$4.1 million (~\$2.1M as lead CI) in competitive research grants, including an NHMRC early career fellowship, ARC Discovery Project, Ramaciotti Health Investment Grant, US. Dept of Defence grant. I serve as the Vice-President of the Australian Chapter of the Controlled Release Society and I have received over 15 awards/prizes/recognitions.

TITLE: Porous silicon-based materials for drug delivery and bioimaging

ABSTRACT

Porous nanomaterials have become very popular in recent years for biomedical applications. My, UNSW-Porous Materials Lab, focuses on developing new porous nanomaterials using bottom-up and top-down approaches. We utilise the enormous surface area and unique opto-physical properties of a range of porous materials for use in biosensing, delivery of environmental and therapeutic payloads. My group is also heavily involved in development of advanced drug delivery systems with a key focus on bio-modulating composite of porous material for treatment of inflammatory diseases, infections, and cancer. Another major focus of my group is on porous materials-based sensors for in-field applications. We also develop high-surface area porous transducers that rely on changes in the refractive index to report a binding event with an aim to enable on-site detection of biological, toxic industrial, and environmental analytes. In my group, we are currently also looking to generate safe and functional porous materials from waste (using waste as resource) and their applications in agriculture and as industrial materials.