Boulder Fluid and Thermal Sciences Seminar Series

Tuesday, April 25, 2017
3:30pm-4:30pm (refreshments at 3:15pm)
Bechtel Collaboratory in the Discovery Learning Center (DLC)
University of Colorado, Boulder

Superomniphobic Surfaces: Design & Applications

Arun K. Kota, *Colorado State University*

Recent years have seen significant advances in the understanding of super-repellent surfaces, i.e., surfaces with extreme repellency to liquids. Surfaces with extreme repellency to water are considered to be superhydrophobic. Surfaces with extreme repellency to oils are considered to be superoleophobic. Surfaces that are both superhydrophobic and superoleophobic are considered superomniphobic.

In this presentation, the fundamental chemical and physical principles of designing superomniphobic surfaces will be discussed. Based on these fundamental principles, novel applications of superomniphobic surfaces in chemical shielding, inexpensive surface tension sensors, and enhanced hemocompatibility will be presented.

Biography: Prof. Arun K. Kota received a B.S. in Chemical Engineering from Andhra University in 2001, M.S. in Chemical Engineering from Clarkson University in 2003, and Ph.D. in Mechanical Engineering from the University of Maryland in 2008. Prior to joining Colorado State University in 2013, he was a Postdoctoral Fellow in Materials Science and Engineering at the University of Michigan. His work has so far resulted in 3 patents and 30+ publications, which are cited 1500+ times. His work was highlighted by *Bloomberg TV, NBC News, Wall Street Journal, Washington Times* and several other prestigious newspapers, magazines and websites. He received the *Best Science Paper Award from the Institution of Civil Engineers* (2014), the *Teaching Excellence Award from the School of Biomedical Engineering at Colorado State University* (2016) and the *Summer Faculty Fellowship Award from the Air Force Office of Scientific Research* (2016).