

# Organic-Inorganic Heterostructures for Stretchable Electronics

**Date:** Tue. 15<sup>th</sup> Oct.

**Time:** 1:10 pm

**Location:** Building 59, Room 2016

## **Speaker:**

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## **Abstract:**

Organic-inorganic heterostructures have been used as an effective scheme to integrate diverse materials and simple techniques to achieve flexibility and even stretchability from device level to system level. First, inorganic, highly-stretchable, silicon-based compound structures (combining serpentine, horseshoe and spiral geometries) are combined with soft organic encapsulation to improve their mechanical characteristics. Additionally, a stretchable PCB is demonstrated using copper-on-polyimide with a simple kirigami technique. These presented manufacturing strategies offer an interesting and versatile approach to build ultra-conformal electronics from devices to system-on-board implementations.

## **Bio:**

Dr. Jhonathan Prieto Rojas received his bachelor degree in electronics engineering from the National University of Colombia in 2009, including an exchange semester at the Technology University of Munich (TUM) as recipient of the DAAD young engineer's scholarship. He then received his master's degree and PhD degree in electrical engineering from King Abdullah University of Science and Technology (KAUST) in 2010 and 2014, respectively. In 2015 he joined KFUPM as Assistant Professor in the Electrical Engineering Department. His main research focus includes novel micro- and nanofabrication techniques for energy harvesting and flexible electronics, as well as design, development and characterization of novel structures for stretchable and wearable electronics. He has published over 25 journal papers in renowned journals and over 25 conference papers.