ABSTRACT

Topological materials have been a very intensively studied in the last decade. In this talk, I will argue that the rules and laws we know from inorganic chemistry are extremely useful to find and design new quantum materials, including topological materials. As chemists we have an often underestimated predictive power of exotic physical properties. I will introduce how we can bridge the language gap between chemistry and physics and how chemists can make an impact in the field of condensed matter physics. I will introduce several materials that we identified as topological semimetals based on these concepts. Further I will briefly discuss how these concepts also allow us to develop new two-dimensional materials.

BIOGRAPHY

Dr. Schoop received her Diploma in Chemistry from Johannes Gutenberg University (2010) and PhD in Chemistry from Princeton University (2014). She then went on to work under Professor Bettina Lotsch for her postdoctoral work at the Max Plank Institute for Solid State Research (2015-2017). Dr. Schoop joined the Princeton University Department of Chemistry Faculty in 2017. The Schoop Lab is working on the interface between chemistry and physics, using chemical principles to find new materials with exotic physical properties.