



Friday, Sept. 8<sup>th</sup>, 2016 – 11:00 a.m.  
CFEL Seminar room IV (Bldg. 99)

## Lukas Müchler

Princeton University, USA

### Exploring topological phenomena in Molecules

The use of topological methods has revolutionized the field of condensed matter physics both theoretically and experimentally. Many new exotic states of matter with unremovable surface states that can carry dissipationless currents have been predicted and quickly been verified experimentally. Moreover, topological techniques that characterize periodic Hamiltonians according to their spatial and non-spatial symmetries have lead to an almost complete classification of all possible non-magnetic states of matter that can be realized in crystals.

In this talk, I raise the question if topological phenomena can be found in molecular, i.e. 0-dimensional systems and how they would manifest themselves.

I present results for both interacting as well as non-interacting systems and propose that there are indeed notions of topological phenomena in molecules.

By making the connection to chemistry, I propose that there is a relation between well-established chemical rules and topological physics.

Host: Angel Rubio

