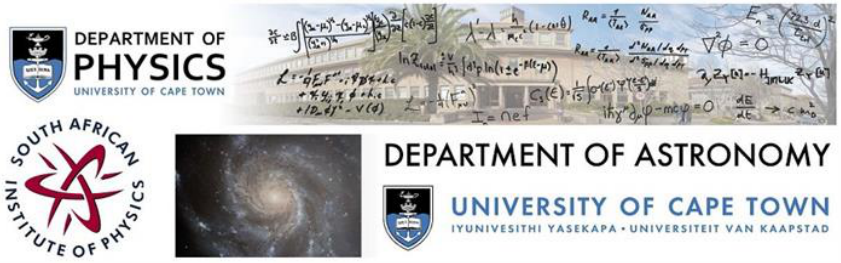

Contribution ID: **564** Type: **Oral Presentation**

PLENARY: New trends in strongly correlated materials

Wednesday, 6 July 2016 12:10 (1 hour)

Abstract content
   (Max 300 words)
Formatting &
Special chars

Strongly correlated particles do not move independently of each other because their interaction energy is of the same order of magnitude as their kinetic energy. How can we detect and quantify correlations in condensed matter systems and what are their effects? In my presentation I will highlight several cases where correlations have particularly drastic consequences: quantum critical materials where at the brink of electron localization superconductivity emerges, topological Kondo insulators where correlations might lead to the stabilization of massless Dirac fermions, and new thermoelectrics where the heat flow is suppressed by strong correlations among phonons. I will also discuss the formidable challenges that correlated materials put to experimentalists and theorists, and the potential rewards for all of us.

Primary author: Prof. BÜHLER-PASCHEN, Silke (Institute of Solid State Physics, Vienna University of Technology)

Presenter: Prof. BÜHLER-PASCHEN, Silke (Institute of Solid State Physics, Vienna University of Technology)

Session Classification: PLENARY

Track Classification: Track H - Plenaries