



TECHNISCHE UNIVERSITÄT  
CHEMNITZ

# Institut für Physik Physikalisches Kolloquium



**Mittwoch, 28.01.2015, um 16:00 Uhr**

Ort: Reichenhainer Str. 90;

Zentrales Hörsaal- und Seminargebäude, Raum 2/N013

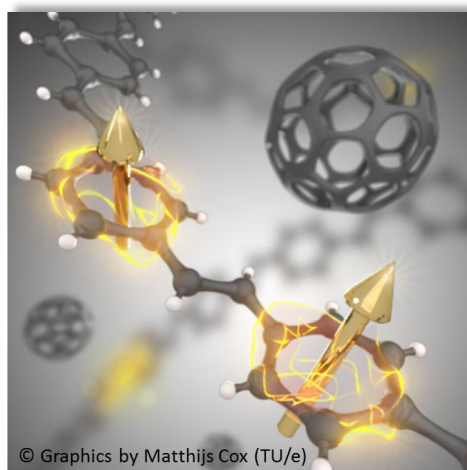
**Prof. Dr. Bert Koopmans**

University of Technology  
Eindhoven

## Towards Tuning Organic Magnetoresistance by Design

Organic spintronics aims at new device functionality by combining the field of spintronics with that of organic electronics. Surprisingly large (> 20%) magnetoresistance effects have been found in 'ordinary' OLEDs at room temperature and applying magnetic fields of just a few millitesla. Recent work even reports on 1000's of percents in molecular wires.

Within this presentation it will be shown how different reactions between spin carrying carriers in the presence of local hyperfine fields can explain the effect – very similar to spin-chemical reactions suggested to underlie the navigation ability of migratory birds in the Earth's magnetic field. In recent work on polymer-fullerene blends we have disentangled the various contributions. We found that trap sites play a crucial role and could spectroscopically resolve their contribution using polymer thin film devices with engineered, radiative trap sites. All of this paves the way towards tuning magneto-conductance in organic devices by design.



Alle Zuhörer sind ab 15:45 zum Kaffee vor dem Hörsaal eingeladen.

Informationen zum Vortrag erteilt:

Prof. Dr. Georgeta Salvan, Tel.: 0371 531 33137

Prof. Dr. Dietrich R. T. Zahn, Tel.: 0371 531 33036

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