



## Einladung zum Physikalischen Kolloquium im Wintersemester 2020/21

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**Dr. Daniel Mayoh**  
University of Warwick

**7. Dezember 2021**  
**14:15 Uhr, online:**

<https://webconf.tu-bs.de/pet-6a3-hu2>

### **Exploring Unconventional Superconductivity in Noncentrosymmetric Compounds.**

For all condensed matter systems, the topology of the electronic band structure, along with the underlying crystal structure, play vital roles in determining the properties of these materials. Superconducting systems that lack a centre of inversion exhibit a nonuniform lattice potential, giving rise to a Rashba-type antisymmetric spin-orbit coupling which allows for an admixture of singlet and triplet Cooper pairs. This gives rise to exotic superconducting band structures, time reversal symmetry breaking and magnetoelectric effects such as upper critical fields that exceed the Pauli limit.