



Das
DFG-Graduiertenkolleg 2204
„Substitutionsmaterialien
für nachhaltige Energietechnologien“



lädt ein zu seiner Ringvorlesung

Termin	Raum	Thema	Sprecher/in
Montag, 05.08.2019 14:00 – 16:00h	C 103 Chemie	Some problems arising in modelling in nanotechnology	Prof. Dr. Jim Hill
Mittwoch, 07.08.2019 14:00 – 16:00h	C 103 Chemie	Special relativity, de Broglie waves, dark energy and quantum mechanics	Prof. Dr. Jim Hill
Freitag, 09.08.2019 10:00 - 12:00h	C 103 Chemie	Overview in international and European post-doc funding possibilities with particular focus on Marie Curie Individual Fellowships	Prof. Dr. Silvia Gross
Mittwoch, 14.08.2019 10:00 - 15:00h	C 103 Chemie	Course on sustainable wet-chemistry approaches to inorganic nanomaterials I	Prof. Dr. Silvia Gross
Freitag, 16.08.2019 10:00 - 15:00h	C 103 Chemie	Course on sustainable wet-chemistry approaches to inorganic nanomaterials II	Prof. Dr. Silvia Gross

Alle interessierten Studierenden und Mitarbeiter/innen der beteiligten Institute sind herzlich willkommen. Eine Anmeldung ist nicht erforderlich.

Die betreuenden Hochschullehrer/innen des GRK 2204

Detailed description:

Overview in international and European post-doc funding possibilities with particular focus on Marie Curie Individual Fellowships (09.08.2019)

The short course will provide the PhD candidates with a general overview on different European, national and international programs for post-doc fellowships (not including German ones). A special focus will be given to Marie Skłodowska-Curie Actions, and in particular to Marie Skłodowska-Curie Individual Fellowships (MSCA-IF), which are particularly suitable for young PhDs.

Course on sustainable wet-chemistry approaches to inorganic nanomaterials (15. and 16.08.2019)

The course will provide the students firstly with a very concise and general overview on solid state, wet chemistry and gas synthesis methods for the preparation of inorganic nanomaterials, outlining *pros* and *contra* of the three families of approaches. Afterwards, the basics of different wet chemistry routes, with a particular focus on those following some of the 12 paradigms of Green Chemistry and characterized by sustainability, ease of procedure, low temperature of processing, use of water and of not hazardous and/or earth abundant chemicals, will be outlined. Examples taken from own research and from the literature will be described and discussed.

In particular, the following methods will be presented to the students:

- 1) Nucleation from solutions: reduction to metal colloids and precipitation of oxides, sulphides, halogenides (room T)
- 2) Polyol-assisted synthesis (medium T)
- 3) Hydro- and solvothermal synthesis (low T)
- 4) Colloidal methods (low or room T)
- 5) Micro- and miniemulsion (low or room T)
- 6) Sonochemical synthesis (low or room T)
- 7) Laser ablation methods (low or room T)
- 8) Thermal and photochemical decomposition (medium T)
- 9) Continuous flow and microfluidics methods (low or room T)
- 10) Biogenic synthesis (low T)