



Seminar

“IRTG: Soft Matter Science “

DREAM PRODUCTION – From basics to materials

Christoph GUERTLER¹ & Aurel WOLF²,
Martina PETERS², Walter LEITNER³, Thomas E. MUELLER³

¹*Bayer Material Science AG, Germany*

²*Bayer Technology Services GmbH, Germany*

³*RWTH Aachen University, Germany*

Christoph.Guertler@bayer.com

Aurel.Wolf@bayer.com

Dream Production – Within the framework of the corresponding project, scientists of Bayer MaterialScience and Bayer Technology Services cooperate with energy provider RWE Power AG as well as RWTH Aachen University as academic partner to realize a sustainable usage of CO₂ as C1-building block. The project consortium pictures the value chain of CO₂-utilization in a very unique way – from source to product.

Design and development of processes to exploit CO₂ as C1-building block for polymer synthesis is a primary project goal. CO₂ is separated from flue gas streams of coal-fired power plants and is made available in sufficient purity for synthesis. Within Dream Production, the focus is put on the manufacturing of polyether polycarbonate-polyols on the basis of CO₂ and propylene oxide is brought into focus. Besides performing this challenging reaction in laboratory scale, additionally the set-up of a continuous miniplant will be realized. Subsequently the polyether polycarbonate-polyols will be converted into polyurethane samples which will be tested with respect to their material properties and competitiveness compared to products already established in the market. In parallel, the new process for the production of polyether polycarbonate-polyols will be compared to established processes for polyether polyol production by means of eco-effectiveness analysis.

Utilizing CO₂ as raw material for the production of polymers paves the way to a change from fossil fuels to alternative resources. This allows for a sustainable handling of natural resources also for future generations

Wednesday, July 27, 14h15

“Hörsaal Makromolekulare Chemie”, Stefan-Meier-Str. 31, Freiburg

You are welcome to meet Dr. Christoph Gürtler after the seminar. Do not hesitate to contact Christelle Vergnat (softmattergraduate@physik.uni-freiburg.de) to organize a meeting.