



DFG Graduiertenkolleg/ Research Training Group 1947

Biochemical, Biophysical, and Biomedical Effects of Reactive
Oxygen and Nitrogen Species on Biological Membranes

Mittwoch, den 12.12.2018, 15:00 Uhr
Hörsaal II, Institut für Biochemie

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“Adventures @ the Chemistry & Biology Interface”

Bioorganic synthetic chemistry represents a border crossing discipline at the crossroads of chemistry and biology. The combination of biotechnological methods with modern catalysis enables strong synergies towards sustainable technologies. In addition, the molecular understanding of biological processes opens up novel approaches to affect biology per se. Several aspects of this trans-disciplinary field will be addressed in selected case studies within this lecture:

- i) The combination of continuous flow-chemistry and biocatalysis offers a powerful tool to further exploit renewable resources towards sustainable platform chemicals and high-value products.
- ii) Combination of metabolically unrelated biocatalysts provides the prospect of designing artificial metabolic mini-pathways; such cascade processes also overcome equilibrium limitations and circumvent troublesome intermediate work-up.
- iii) The design of chemo-enzymatic cascades enables the combination of the best of both worlds in catalysis to expand the repertoire of single-operations transformations.
- iii) Discovery of novel pharmacological tools opens the door towards a fundamental understanding of biological processes. Along this line, the application of light as stimulus has received substantial interest among the community of scientists at the chemistry&biology interface. Applications of “photopharmacology” will be outlined in the arena of the central nervous system (CNS).

All interested are cordially invited!



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