



SCIENTIFIC AND METHOD MODULES

Module name	Smart Molecules – Photochemistry and Photophysics of Metal Complexes
Number	2019-T1
Aims	This module focuses on current activities and research trends associated with the photophysical and photochemical properties of metal complexes ranging from synthesis through spectroscopy to applications.
Basics	Each speaker will give a basic introduction (ca. 10 min) into the specific field
Contents	Photochemistry: photoinduced catalysis, photochemistry and photocatalysis of earth-abundant metal complexes (incl. with 3d ⁶ and 4d ⁶ configuration), visible-light photoredox catalysis; Photophysics: luminescence properties and photophysics of earth-abundant metals, upconversion using linear optics in molecular metal complexes, ultrafast T ₁ and TADF emitters, coordination compounds as fluorophores, sonophores and sensitizers of ROS, luminescent transition metal complexes in functional bioimaging, luminescence switching, strategies for tuning emission properties
Type	Two-day block course
Date (month/year)	September 19-20, 2019
Time	see schedule next page
Work load	15 hours presence/ 45 hours self-study
Examination	The students choose one of the lectures and write a short report
Credit points	2
Responsible scientists	Prof. Dr. K. Zeitler, Prof. Dr. B. Kersting
Guest lecturers	Luisa DeCola (Straßburg), Dorota Gryko (Warschau), Katja Heinze (Mainz), Corinna Hess (München, TU), Claude Piguet (Genf), Oliver Reiser (Regensburg), Biprajit Sarkar (Berlin, FU), Sven Schneider (Göttingen), Andreas Steffen (Dortmund), Cristian A. Strassert (Münster), Sergey Tunik (St. Petersburg), Birgit Weber (Bayreuth), Oliver Wenger (Basel), Eli Zysman-Colman (St. Andrews)
Industrial partners	None
Recommendations for literature	<i>Zugriff frei im Netz der Uni Leipzig:</i> https://link.springer.com/content/pdf/10.1007%2F978-3-540-73347-8.pdf https://link.springer.com/content/pdf/10.1007%2F978-3-540-73349-2.pdf

TIME SCHEDULE

Arrival: Wednesday, 18th 2019:

Accommodation: Motel One (Leipzig-Post), Leipzig

Time	Lecturer	Title
Thursday, September 19 th 2019, Location: lecture hall R015		
9:15	Zeitler/Kersting	Welcome
9:30	Weber	Switchable luminescence through spin state switching
10:05	Strassert	Photofunctional coordination compounds as fluorophores, sonophores and sensitizers of ROS
10:40 Coffee break, Location: R014		
11:10	Steffen	Ultrafast copper(I)-based T1 and TADF emitters and their excited state behaviour
11:45	DeCola	t.b.a.
12:20	Heinze	Emissive Complexes with Earth-abundant Metal Ions
12:55 Lunch, Location: R014		
14:15	Gryko	Photoinduced porphyrinoid catalysis – the need to elucidate the mechanism
14:50	Hess	Photochemistry and photocatalysis of earth abundant metal-Mabiq complexes
15:25 Coffee break		
16:00	Reiser	Cornucopian Copper Rocks the House of Visible-Light Photoredox Catalysis
16:35	Schneider	Photo-driven Transformations with Functional Pincer Catalysts
19:00-22:00 Dinner, Thüringer Hof, Burgstraße 19, 04109 Leipzig		
Friday, September 20 th 2019, Location: lecture hall R015		
9:30	Wenger	Photophysics and Photochemistry of 3d ⁶ and 4d ⁶ Complexes with Earth-Abundant Metals
10:05	Sarkar	Influence of Mesoionic Carbene Ligands on the Photophysics/Photochemistry of Transition Metal Complexes
10:40 Coffee break Location: R014		
11:10	Tunik	Design, synthesis and applications of luminescent transition metal complexes in functional bioimaging
11:45	Piguet	Upconversion Using Linear Optics in Molecular Metal Complexes: From Dream to Reality
12:20	Zysman-Colman	Strategies for Tuning Emission into the Deep Blue
13:00 Lunch (optional): R014		
Scientific Discussions (optional) / Departure		