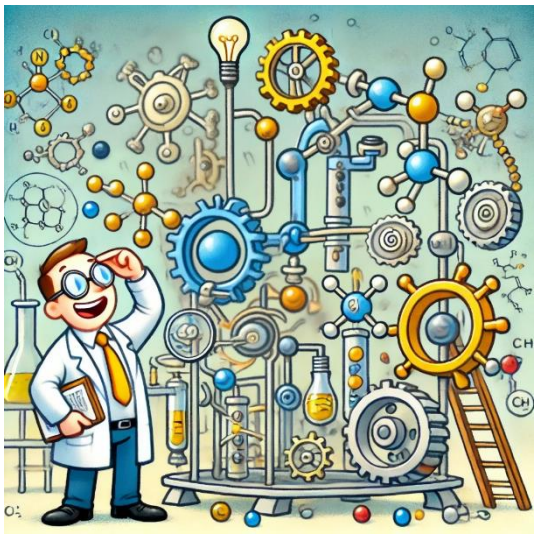
MONDAY

Understanding the variety of mechanisms in dynamic catalysis



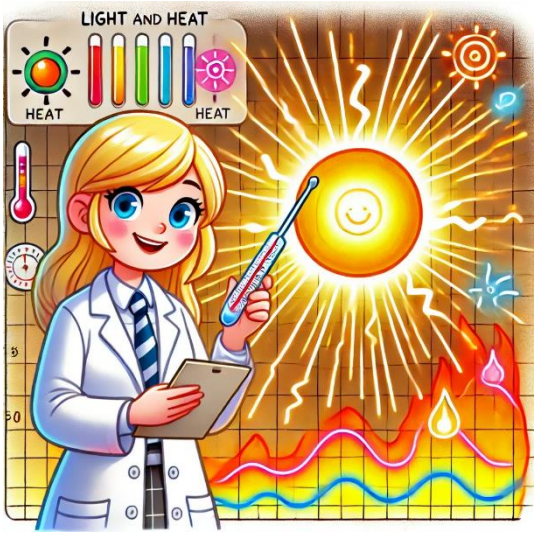
Time	What?	Who?
09:00	Registration	Lorentz Center Organization
09:15		
09:30		
09:45		
10:00	Welcome & general introduction of the Lorentz Center	Lorentz Center Organization
10:15	Ice-breaker activity to get to know each other	Workshop organizers
10:30		
10:45	Introduction of the "Theme of the day"	Paul Dauenhauer
11:00	Lecture/tutorial	Paul Dauenhauer: An introduction to dynamic catalysis
11:15		
11:30	Lecture/tutorial	David Leigh: Molecular machines for driving nonequilibrium catalysis
11:45		
12:00	Lunch break	

Social activity | Lecture/tutorial | Daily introduction | Break / Free time | Plenary session | Interactive session

12:15		
12:30		
12:45		
13:00		
13:15		
13:30	Lecture/tutorial	Franziska Hess: Kinetic modelling and Monte Carlo methods for dynamic catalysis
13:45		
14:00	Junior Research talk	Elaina Galvin: Microkinetic modelling of pulsed photothermal catalysis
14:15		
14:30	Break	
14:45		
15:00	Lecture/tutorial	Nong Artrith: Multiscale modelling & machine learning algorithms for catalyst materials
15:15		
15:30	Poster session during Wine & Cheese reception	Poster presenters Sponsors Casale & Bruker Optics
15:45		
16:00		
16:15		
16:30		
16:45		
17:00		
17:15		
17:30	Day ends around 17:30	

TUESDAY

Light and heat



Time	What?	Who?
09:00	Day starts at 9:15	
09:15	Introduction of the "Theme of the day"	Sven Askes
09:30	Junior Research talk	Ryan Berry: Using Visible Photons to Influence and Interrogate CO Desorption and Catalyst Reconstruction
09:45		
10:00	Junior Research talk	Nicolette Maaskant: Understanding Photo-Assisted Catalysis for CO_2 Hydrogenation over Co/TiO_2 and its Suitability for Resonant Catalysis
10:15		
10:30	Break	
10:45		
11:00	Break-out session	Sub-groups share literature and brainstorm about the scope and narrative of their chapter
11:15		
11:30		
11:45		
12:00		

Social activity | Lecture/tutorial | Daily introduction | Break / Free time | Plenary session | Interactive session

12:15		
12:30	Lunch Break	
12:45		
13:00		
13:15		
13:30		
13:45		
14:00	Lecture/tutorial	Renee Frontiera: Probing plasmonic photocatalysis with time-resolved Raman spectroscopy
14:15		
14:30	Lecture/tutorial	Tony Dong: Electrical micro-heaters for pulsed and programmable catalysis
14:45		
15:00	Plenary session to share sub-group results	Each sub-group presents their chapter's narrative for 10 min and obtains feedback
15:15		
15:30		
15:45		
16:00		
16:15		
16:30		
16:45		
17:00	Day ends at 17:00	

WEDNESDAY

Charge and current

Time	What?	Who?
09:00	Day starts at 9:15	
09:15	Introduction of the "Theme of the day"	Esther Alarcon Llado
09:30	Lecture/tutorial	Tzia Ming Onn: Catalytic condensers for fast charge modulation of catalytic surfaces
09:45		
10:00	Junior Research Talk	Di Xu: Dynamic Promotion of Gas-Phase Ethylene/Acetylene Hydrogenation Using Oscillating Electric Potentials
10:15		
10:30	Break	
10:45		
11:00	Break-out session	Sub-groups create one or more hand-drawn figures for their chapter
11:15		
11:30		
11:45		
12:00		
12:15		

Social activity | Lecture/tutorial | Daily introduction | Break / Free time | Plenary session | Interactive session

12:30	Lunch Break	
12:45		
13:00		
13:15		
13:30		
13:45		
14:00	Poster session 2	Each sub-group presents their hand-drawn figure that they created in the morning in a poster-presentation style and receive feedback
14:15		
14:30		
14:45		
15:00	Junior Research Talk	Wouter Koopman: Charging effects in photoredox catalysis with gold nanoparticles
15:15		
15:30	Junior Research Talk	Achim Alkemper: Time-Resolved Characterization of the Dynamic Electrochemical Interface by Operando FTIR
15:45		
16:00	Break	
16:15		
16:30	Lecture/tutorial	Jimmy Faria: Stimulus-Responsive Control of Transition States
16:45		
17:00	Travel to conference dinner at external location from 17:00 onwards	
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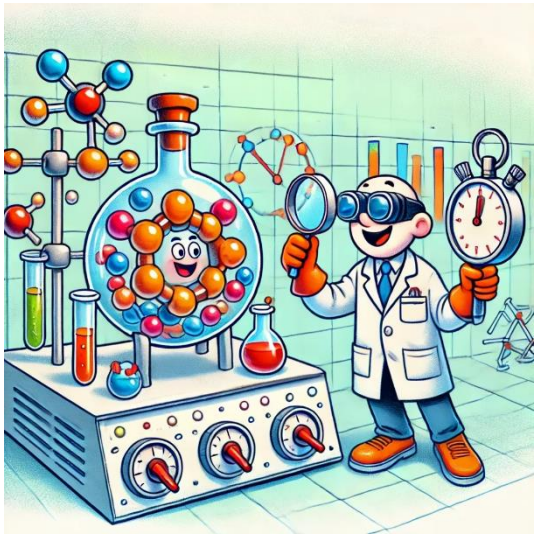
…		
…		

THURSDAY

Time-resolved and in-situ experimental techniques



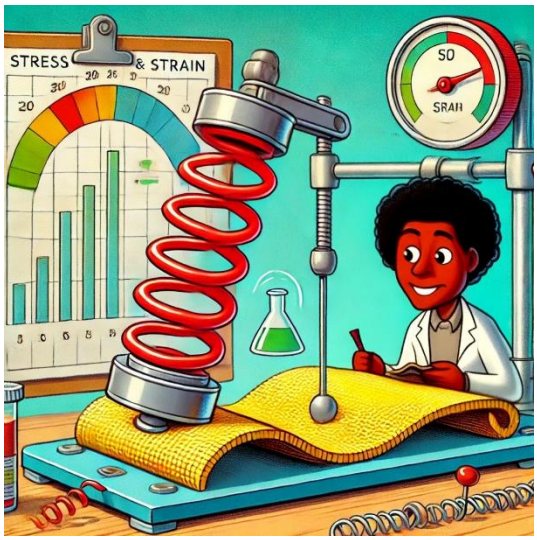
Time	What?	Who?
09:00	Day starts at 9:15	
09:15	Introduction of the "Theme of the day"	Matteo Monai
09:30	Lecture/tutorial	Anthony Beauvois: Catalyst characterization at the ROCK beamline with time and spatial resolution along a catalytic bed in operando conditions
09:45		
10:00	Junior Research Talk	Diana Piankova: Development of in situ electron pair distribution function analysis to advance local structure characterization of nanoparticle catalysts
10:15		
10:30	Break	
10:45		
11:00	Break-out session	Sub-groups discuss feedback and new insights they gained during the last workshop day and fill in missing details
11:15		
11:30		
11:45		
12:00		
12:15		

Social activity | Lecture/tutorial | Daily introduction | Break / Free time | Plenary session | Interactive session

12:30	Lunch break	
12:45		
13:00		
13:15		
13:30		
13:45		
14:00	Lecture/tutorial	Nikolay Kosinov: Analysis of working heterogeneous catalysts by transient techniques
14:15		
14:30	Lecture/tutorial	Sara Bals: In-situ and time-resolved TEM tomography of catalysts
14:45		
15:00	Break	
15:15		
15:30	Lecture/tutorial	Marc Herzog: ultrafast XRD for characterizing heat transport and strain dynamics of (catalytic) materials
15:45		
16:00	Break-out session: Jigsaw exercise	Sub-groups are intermingled in discussion groups to ensure complete alignment between all chapters
16:15		
16:30		
16:45		
17:00	Day ends at 17:00	

FRIDAY

Material stress and strain



Time	What?	Who?
09:00	Day starts at 9:15	
09:15	Introduction of the "Theme of the day"	Jörg Meyer
09:30	Lecture/tutorial	Andrew Peterson: Material strain for breaking the scaling relations of catalysis
09:45		
10:00	Lecture/tutorial	Wiebke Albrecht: Towards defect and strain engineering through pulsed laser excitation
10:15		
10:30	Break	
10:45		
11:00	Junior Research Talk	Johannes Zeininger: Sequenced reaction behavior on a single catalytic particle
11:15		
11:30	Final break-out session	Sub-groups make concrete agreements about writing process after the workshop has ended (task division, deadlines, agreement form)
11:45		
12:00	Sub-groups report their agreements	Sub-group representatives
12:15		

Social activity | Lecture/tutorial | Daily introduction | Break / Free time | Plenary session | Interactive session

12:30	Summary & Closing remarks	Organizers & everyone
12:45		
13:00	Lunch break	
13:15		
13:30		
13:45		
14:00	Workshop ends after lunch	