RESEARCH
BASIN MODELING
Petroleum systems
Sedimentary forward modeling
CARBONATE SEDIMENTOLOGY
Reservoir architecture & properties
Paleo-climate
DIAGENESIS
Integrated reservoir diagenesis
Carbonate diagenesis
Fracture sealing & vein formation
DISCONTINUITIES (FAULTS, FRACTURES, VEINS)
Smeak & retention
4-D analogue modeling
Recrystallization, microtectonics and fluid-rock interaction
GEOMECHANICS
Numerical modeling
Borehole stability
Overpressure analysis
GEOCHEMISTRY
Organic & Inorganic
Environmental geochemistry
INTERFACE MINERALOGY
Surface processes in aqueous systems
Clay-based materials for industrial usage
MINERAL DEPOSITS
Ore body modeling & system analysis

FACILITIES
Analogue modeling (e.g. sandbox)
BET gas adsorption
CBM & ECBM recovery
Cryo-SEM; BIB techniques
Element analysis (TIC, TOC, S, LA-ICP-MS, ICP-MS, ICP-OES)
Field analogue studies
Fluid inclusion measurements
GC-MS; LC-MS; GC-irmMS; Py-GC-MS
High-performance numerical modeling (FEM, DEM)
HP-HT cells, high pressure gas sorption
Ion chromatography
Microscopy
Mixed flow reactor systems
Move+, GoCad+, ER Mapper+, GIS
PetroMod+
Particle image velocimetry (PIV)
Petro resolve Kingdom Suite, seismic interpretation tools
Poro-Perm laboratories
Rock-eval pyrolysis
Sample preparation (polished sections)
Sonic logger
Streaming potential and zeta potential measurements
Triaxial cell
UV/VIS spectroscopy
XRD, 3D-XRD, XRF

PARTNERS
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Geology & Geochemistry of Petroleum & Coal
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Structural Geology, Tectonics & Geomechanics
Prof. Dr. J. L. Urai

STUDIES
The EMR offers BSc-programs in Applied Geosciences and Geo-Resources Management with lectures in methods of prospectivity, applied geophysics, mineral deposits, structural geology, sedimentology, petroleum geology, geochemistry and organic environmental geochemistry.

The EMR MSc-program in Geo-Resources Management offers two streams in “Resources Management” and “Environment Management” with lectures in inorganic environmental geochemistry, advanced geosciences, energy resources management, petroleum & coal resources, mineral resources, and geological planning & development.

The EMR MSc-program in Applied Geosciences offers lectures in structural geology, sedimentology, inorganic environmental geochemistry, interpretation of geophysical & petrophysical data, ore & coal geology, reservoir geology, reservoir engineering, petroleum systems, mineral resources, petroleum geochemistry, geological planning & development, and exploration economics.

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