

UnOCat Electrochemistry Workshop – 12-13 February 2024

Time schedule

Venues:

- Seminars and Safety Instructions: Ruhr University Bochum, ZEMOS (room: 0.17)
- Labwork: Ruhr University Bochum, ZEMOS (room: 1.67)
- Spectroscopy and lab visits (Prof. Schuhmann and Prof. Muhler groups): NC
- TRR 247 Seminar (Prof. Plamen Atanassov): NC 02/99

Remarks:

- Please bring your own laptop for data analysis (second day) and make sure that the software **Origin** (alternatively Matlab or Python) is installed. The data analysis is also possible with Excel but much more complicated.
- For lunch you will receive Mensa vouchers. Dinner at Q-West is paid by UnOCat.
- For all **RUB members**: Please bring your lab-coat and safety glasses if you have those (However, we will have guest-coats and safety glasses for everyone organized).
- You will be divided into 4 small groups (4-5 people/group). The lab work will take place simultaneously.
- **Recommended preparation:**
Part 1: Corva, M.; Blanc, N.; Bondue, C. J.; Tschulik, K. Differential Tafel Analysis: A Quick and Robust Tool to Inspect and Benchmark Charge Transfer in Electrocatalysis. ACS Catalysis 2022, 12 (21), 13805-13812. DOI: <https://doi.org/10.1021/acscatal.2c03581>
Part 2: [Basics of EIS | Electrochemical Impedance Spectroscopy](#) (if there is not enough time to watch all videos: Episode 01, 02, 05, 06 are recommended for PhD students who are not yet familiar with impedance spectroscopy and electrical circuits; for others watching episode 03 and 06 is recommended)

Monday, 12 February

- **8:45 – 9:15:** Seminar, Dr. Pouya Hosseini: Characterizing electrocatalytic activity by linear potential sweep methods (LSV, CV) (ZEMOS, 0.17) (*Part 1*)
- **9:15 – 9:30:** Health and safety instructions (ZEMOS, 0.17); Division into 4 smaller groups
- **9:30:** Coffee break / room change (lab work) (ZEMOS, 1.67)
- **9:50 – 13:00:** Lab work - Characterizing electrocatalytic activity by linear potential sweep methods (LSV, CV) (ZEMOS, 1.67) (*Part 1*)
- **13:00 – 14:00:** Lunch
- **14:15 – 15:15:** TRR 247 Seminar Series - Prof. Dr. Plamen Atanassov (NC 02/99)
- **15:30 – 16:00:** Seminar, Dr. Julia Linnemann: Characterizing electrocatalytic activity by electrochemical impedance spectroscopy (EIS) (ZEMOS, 0.17) (*Part 2*)
- **16:00:** Coffee break / room change (lab work) (ZEMOS, 1.67)
- **16:20 – 18:20:** Lab work - Characterizing electrocatalytic activity by electrochemical impedance spectroscopy (EIS) (ZEMOS, 1.67) (*Part 2*)
- **18:30 – end:** Dinner at Q-West (<https://q-we.st/>)

Tuesday, 13 February

- **9:00 – 10:00:** Seminar, Prof. Martin Muhler (ZEMOS, 0.17)
- **10:00 – 12:00:** Analysis of results (ZEMOS, 0.17); Spectroscopy and lab visits (Prof. Muhler and Prof. Schuhmann groups; performed by Sebastian Lechler, Zijian Huang, Adarsh Koul) – two groups will have the visits parallel (you will be guided to the labs)
- **12:00 – 13:00:** Lunch
- **13:00 – 15:00:** Result preparations (short Power Point presentation)
- **15:00 – 16:30:** Presentation and final Discussion

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