

Curriculum vitae

Personal Profile

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| Name | Xenia Erler, née Tuaev |
| Date of birth | 26.11.1985 |
| Nationality | German |
| Family status | Married |

Education

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| 06.2004.1 | Abitur, D-Brühl |
| 10.2004-05.2009 | Chemistry studies at the Humboldt-Universität Berlin, D-Berlin |
| 10.2006 | Intermediate diplom |
| 10.2008-05.2009 | Diplom research at the Federal Institute for Material Research and Testing under supervision of Prof. Dr. U. Panne, D-Berlin |
| | <ul style="list-style-type: none">• “In-situ small angle x-ray scattering analysis of silver nanoparticles“ |

Work Experience

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| 07.2009-10.2009 | Research assistant in the group of Dr-Ing. R. Kraehnert, Technische Universität Berlin, D-Berlin |
| 10.2009-11.2012 | Doctoral research under supervision of Prof. Dr. P. Strasser (funded with a scholarship by the excellence cluster UNICAT), Berlin International Graduate School for Natural Science and Engineering, Technische Universität Berlin, D-Berlin |
| | <ul style="list-style-type: none">• “In-situ investigation of metal nanoparticle stability during electrocatalysis“ |
| 12.2012-present | PostDoctoral research under supervision of Prof. Dr. G. Mul, Universiteit Twente, NL-Enschede |
| | <ul style="list-style-type: none">• Catalytic strategies for CO₂-based production routes of cyclic carbonates |

Internships/Further Education

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| 07.2007-10.2007 | Internship at the main labor Sybilla of the RWE POWER AG, D-Frechen |
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- 04.2010 Education course “Modern methods of structural characterization and analytics with electron microscopy”, Technische Universität Berlin, D-Berlin
- 11.2011 Education course “Project management”, Bernstein Center for Computational Neuroscience Berlin, D-Berlin

Research Skills

- (Anomalous) small angle x-ray scattering
- X-ray diffraction
- Transmission electron microscopy
- Electrochemical characterization
- UV/Vis spectroscopy
- Nanoparticle synthesis

Computer Skills

MS Office, LaTeX, OriginLab, ChemDraw, CorrelDraw, SASFit, Igor Pro, Jade

Publications

- Tuaeov, X.; Strasser, P., Small angle x-ray scattering (SAXS) techniques for polymer electrolyte membrane fuel cell characterisation. In *Polymer electrolyte membrane and direct methanol fuel cell technology*, Roth, C.; Hartnig, C., Eds. Woodhead Publishing Series in Energy: London, 2011; Vol. II.
- Tuaeov, X.; Paraknowitsch, J. P.; Illgen, R.; Thomas, A.; Strasser, P., Nitrogen-doped coatings on carbon nanotubes and their stabilizing effect on Pt nanoparticles. *Physical Chemistry Chemical Physics* **2012**, 14, (18), 6437-6440.
- Rudi, S.; Tuaeov, X.; Strasser, P., Electrocatalytic oxygen reduction on dealloyed Pt_{1-x}Ni_x alloy nanoparticle electrocatalysts. *Electrocatalysis* **2012**.
- Polte, J.; Tuaeov, X.; Wuthschick, M.; Fischer, A.; Thuenemann, A. F.; Rademann, K.; Kraehnert, R.; Emmerling, F., Formation Mechanism of Colloidal Silver Nanoparticles: Analogies and Differences to the Growth of Gold Nanoparticles. *ACS Nano* **2012**, DOI: 10.1021/nn301724z.
- Allagui, A.; Oudah, M.; Tuaeov, X.; Ntais, S.; Almomani, F.; Baranova, E. A., Ammonia electro-oxidation on alloyed PtIr nanoparticles of well-defined size. *International Journal of Hydrogen Energy* **2012**, accepted.

Conference Contributions

- Poster presentation “In-situ analytics of nucleation and growth processes of Ag nanoparticles probed by x-ray small angle x-ray scattering”, German Conference for Research with Synchrotron Radiation, Neutrons and Ion Beams at Large Facilities (SNI 2010), D-Berlin 2010
- Poster presentation “In-situ SAXS analytics of the dynamic processes of metal nanoparticles during catalysis in fuel cells”, 44th Annual Meeting on Catalysis, D-Weimar 2010
- Oral presentation “New insights in intra particle dynamics of PtNi nano electrocatalysts”, ASAXS in Condensed Matter Science, D-Berlin 2011
- Poster presentation “Functionalization of the catalyst support and the stabilizing effect on fuel cell catalyst degradation”, Jung Chemiker Forum, D-Berlin 2012
- Poster presentation “New insights in alloy dynamics of PtNi fuel cell electrocatalysts probed in-situ with ASAXS “, 2nd Ertl Symposium, D-Stuttgart; International Congress of Catalysis, D-München; 63rd Annual Meeting of the International Society of Electrochemistry, CZ-Prague 2012
- Poster presentation ” In situ FTIR Studies on ternary Pt Nanoparticle Electrocatalysts for the Ethanol Oxidation in Direct Liquid Fuel Cells”, GDCh Electrochemistry 2012, D-München 2012

Affiliations

- Member of the GDCh (Gesellschaft Deutscher Chemiker)
- Member of the DPG (Deutsche Physikalische Gesellschaft)
- Member of the DGM (Deutsche Gesellschaft für Materialkunde)

Mentoring

- S. Rudi, Diplom thesis “Synthesis and structural characterization of Platinum-Nickel bimetallic nanoparticle catalysts for polymer electrolyte membrane fuel cells” (awarded by a DECHEMA award of the Max-Buchner Research Foundation as an excellent final thesis 2012 in chemistry)
- M. Neumann, Bachelor thesis “In-situ stability investigations on cubic Pt nano particles via small angle x-ray scattering”

Languages

Native Russian, native German, fluent English, conversational French