

Curriculum Vitae

Name Jun.-Prof. Dr. Anna Isaeva
Contact Professorship "Synthesis and Crystal Growth of Quantum Materials"
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Academic Career

2019 - present W1 junior professor at TUD, guest group leader at the IFW Dresden
2013 - 2018 research associate, principal investigator (*DFG eigene Stelle*) at the
Institute of Inorganic Chemistry II, TUD
2010 - 2013 postdoctoral researcher, Institute of Inorganic Chemistry II, TUD,
Dresden, Germany
2009 - 2010 postdoctoral researcher, University of Antwerp, Faculty of Physics,
EMAT (Electron microscopy for materials science), Antwerp, Belgium
2008 - 2009 research associate, Kurnakov Institute of General and Inorganic
Chemistry, Moscow, Russia
2008 PhD in inorganic chemistry and materials science, Department of Inorganic
Chemistry, Lomonosov Moscow State University, Moscow, Russia
2005 Master diploma in materials science, Faculty of Materials Science,
Lomonosov Moscow State University, Moscow, Russia

Other Activities

Since 2013 lecturer at TUD, courses for bachelor (*Advanced inorganic chemistry*),
master (*Metals and magnets*), PhD (*Magnetism on the nanoscale*) students
Since 2015 peer-review for scientific journals (*Solid State Sciences, Journal of Alloys and
Compounds, Nanoscale, Journal of Physical Chemistry Letters, Europhysics
Letters, Phys. Rev. B*) and funding agencies (German Research Foundation,
National Science Center Poland)
Since 2015 doctoral theses co-supervision and evaluation, committee
membership for master/PhD defences at TUD

Research Interests

1. Solid-state chemistry: various aspects of inorganic synthesis and crystal-growth techniques.
2. Crystal-structure elucidation (powder and single-crystal X-ray diffraction); characterization of bulk and nanoscaled materials (SEM and TEM techniques) with a focus on SAED and HRTEM.

3. Solid-state physics: quantum-chemical calculations (DFT, *ab initio*) for periodic solids and finite molecules; topological analysis of chemical bonding in real space (ELF, ELI-D).
4. Topological materials, Rashba materials, frustrated magnets, magnetic materials: synthesis and chemical characterization.

Research Projects

1. Cluster of Excellence ct.qmat, project ST 0192019/3 „New van-der-Waals-bonded magnetic topological insulators and Weyl semimetals“. Duration: 2020–2022.
2. DFG CRC 1143 „Correlated Magnetism: From Frustration to Topology“, 2nd funding period, subproject B01, Duration: 2019–2022.
3. DFG SPP 1666 „Topological Insulators: Materials – Fundamental Properties – Devices“, 1st and 2nd funding periods, projects IS 250/1-1 and IS 250/1-2. Duration: 2013–2019.
4. DFG CRC 1143, 1st funding period, subproject B03. Duration: 2015–2018. (finished)
5. ERANET-Chemistry „Spin-polarized topological insulators under pressure“. Duration: 2015–2019. (finished)
6. DFG GRK 1621 „Itinerant magnetism and superconductivity in intermetallic compounds“. Duration: 2015–2020.

Selected Publications

1. M. M. Otrokov, I. I. Klimovskikh, H. Bentmann, D. Estyunin, A. Zeugner, Z. S. Aliev, S. Gaß, A. U. B. Wolter, A. V. Koroleva, A. M. Shikin, M. Blanco-Rey, M. Hoffmann, I. Rusinov, A. Yu. Vyazovskaya, S. V. Eremeev, Yu. M. Koroteev, V. Kuznetsov, F. Freyse, J. Sanchez-Barriga, I. R. Amiraslanov, M. B. Babanly, N. T. Mamedov, N. A. Abdullayev, V. N. Zverev, A. Alfonsov, V. Kataev, B. Büchner, E. Schvier, S. Kumar, A. Kimura, L. Petaccia, G. Di Santo, R. C. Vidal, S. Schatz, K. Kißner, M. Ünzelmann, C.-H. Min, S. K. Moser, T. R. F. Peixoto, F. Reinert, A. Ernst, P. M. Echenique, A. Isaeva, E. V. Chulkov. *Prediction and observation of the first antiferromagnetic topological insulator*. Accepted to **Nature** (2019). arxiv.org: 1809.07389.
2. A. Zeugner, F. Nietschke, A. U. B. Wolter, S. Gaß, R.C. Vidal, T.R.F. Peixoto, D. Pohl, Ch. Damm, A. Lubk, R. Henrich, S. K. Moser, C. Fornari, C.H. Min, S. Schatz, K. Kißner, M. Ünzelmann, M. Kaiser, F. Scaravaggi, B. Rellinghaus, K. Nielsch, Ch. Heß, B. Büchner, F. Reinert, H. Bentmann, O. Oeckler, M. Ruck, A. Isaeva. **Chem. Mater.** 31 (2019), 2795–2806.
3. A. Zeugner, J. Teichert, M. Kaiser, T. V. Menshchikova, I. P. Rusinov, A. V. Markelov, E.V. Chulkov, T. Doert, M. Ruck, A. Isaeva. **Chem. Mater.** 30 (2018), 5272–5284.
4. A. Zeugner, M. Kaiser, P. Schmidt, T. V. Menshchikova, I. P. Rusinov, A. V. Markelov, W. Van den Broek, E.V. Chulkov, T. Doert, M. Ruck, A. Isaeva. **Chem. Mater.** 29 (2017), 1321–1337.
5. G. Autès, A. Isaeva, L. Moreschini, *et al.* **Nature Mater.** 15 (2016), 154–158.
6. B. Rasche, A. Isaeva, M. Ruck, S. Borisenko, V. Zabolotnyy, B. Büchner, K. Koepf, C. Ortix, M. Richter, J. van den Brink. **Nature Mater.** 12 (2013), 422–425.
7. A. Isaeva, B. Rasche, M. Ruck. **Phys. Stat. Solidi RRL** 7 (2013), 39–49.