

CURRICULUM VITAE

Wojciech Sas

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Date of birth: 23.04.1994

1. Education

- 2018 - 2022 PhD in Physics at the Institute of Nuclear Physics Polish Academy of Sciences, Kraków;
- 2013 - 2018 Master in Technical Physics at AGH University of Science and Technology, Faculty of Physics and Applied Computer Science, Kraków.

2. Employment in scientific institutions

- 01.12.2022 – now Institute of Nuclear Physics PAS, Kraków, Division of Condensed Matter Physics, Department of Molecular Magnetism;
Position: Research equipment specialist.

3. Experimental and analytical skills

- Synthesis and characterization of molecular magnets;
- Magnetometry, Scanning electron microscopy, X-ray diffraction, UV-VIS and IR spectroscopy, optical profilometry.

4. Publications

- M. Perzanowski, O. Polit, J. Chojenka, W. Sas, A. Zarzycki, M. Marszałek, *Magnetic anisotropy in the exchange-biased laser-patterned thin Co/CoO films*, Nanotechnology, 33 (2022) 495707, doi: [10.1088/1361-6528/ac8f97](https://doi.org/10.1088/1361-6528/ac8f97);
- P. Konieczny, W. Sas, D. Czernia, A. Pacanowska, M. Fitta, R. Pełka, *Magnetic cooling: a molecular perspective*, Dalton T., 51 (2022) 12762-80, doi: [10.1039/d2dt01565j](https://doi.org/10.1039/d2dt01565j);
- W. Sas, M. Jasiurkowska-Delaporte, P. Czaja, P.M. Zieliński, M. Fitta, *Magnetic Properties Study of Iron Oxide Nanoparticles-Loaded Poly(ϵ -caprolactone) Nanofibres*, Magnetochemistry, 7 (2021) 61, doi: [10.3390/magnetochemistry7050061](https://doi.org/10.3390/magnetochemistry7050061);
- M. Jasiurkowska-Delaporte, E. Juszyńska-Gałązka, W. Sas, P. M. Zieliński, A. Baranowska-Korczyk, *Soft versus hard confinement effects on the phase transitions, and intra- and inter-molecular dynamics of 6BT liquid crystal constrained in electrospun polymer fibers and in nanopores*, Journal of Molecular Liquids, 331 (2021) 115817, doi: [10.1016/j.molliq.2021.115817](https://doi.org/10.1016/j.molliq.2021.115817);

- [W. Sas](#), D. Pinkowicz, M. Perzanowski, M. Fitta, *Magnetic, Structural and Spectroscopic Properties of Iron(II)-Octacyanoniobate(IV) Crystalline Film Obtained by Ion-Exchange Synthesis*, *Materials*, 13 (2020) 3029, doi: [10.3390/ma13133029](https://doi.org/10.3390/ma13133029);
- [W. Sas](#), R. Pełka, M. Zentková, *Field Induced versus Local Anisotropy in Single Ion Magnets*, *Acta Phys. Pol. A*, 137 (2020) 952-954, doi: [10.12693/APhysPolA.137.952](https://doi.org/10.12693/APhysPolA.137.952);
- M. Fitta, [W. Sas](#), T. Korzeniak, *Tunable critical temperature and magnetocaloric effect in ternary Prussian blue analogue*, *J. Magn. Magn. Mater.*, 465 (2018) 640-645, doi: [10.1016/j.jmmm.2018.06.053](https://doi.org/10.1016/j.jmmm.2018.06.053);
- M. Fitta, R. Pełka, [W. Sas](#), D. Pinkowicz, B. Sieklucka, *Dinuclear molecular magnets with unblocked magnetic connectivity: magnetocaloric effect*, *RSC Adv.*, 8 (2018) 14640-45, doi: [10.1039/c8ra01609g](https://doi.org/10.1039/c8ra01609g);
- [W. Sas](#), P. Czaja, M. Fitta, *Double-shell nanotubes of Prussian blue and its Cr analog*, (2022), under review.

5. Oral presentations

- *Study of magnetocaloric effect in the electrodeposited thin films of Prussian blue analogues*, LIV Zakopane School of Physics Breaking Frontiers: Submicron Structures in Physics and Biology, Zakopane 22.05.2019;
- *The synthesis and properties of Prussian blue and its Cr analog nanotubes*, YOUNG MULTIS - Multiscale Phenomena in Condensed Matter, Kraków (online), 05.07.2021;
- *Bilayers and double-shell nanotubes of Prussian blue and its Cr analog – the synthesis and magnetic properties*, MULTIS2022 - Multiscale Phenomena in Condensed Matter, Kraków (online), 27.06.2022.

6. Invited talks

- *The synthesis and properties of Prussian blue analogs' nanotubes*, Košice, 02.09.2022.

7. Poster presentations

- *Field induced versus local anisotropy in single ion magnets*, 17th Czech and Slovak Conference on Magnetism, Košice, 05.06.2019;
- *Structural and magnetic properties of Prussian blue analogue $Fe_3[Cr(CN)_6]_2 \cdot nH_2O$ thin films obtained by electrodeposition and ion-exchange synthesis*, MULTIS - Multiscale phenomena in molecular matter, Kraków, 02.07.2019;
- *Magnetic Properties of Iron(II)-Octacyanoniobate(IV) Thin Film Obtained by Ion-Exchange Synthesis*, 7th European Conference on Molecular Magnetism, Florence, 17.09.2019;
- *Magnetic properties of Prussian blue analogue $Fe_{1.5}[Cr(CN)_6] \cdot nH_2O$ nanorods obtained by electrodeposition method*, Italian School on Magnetism V Edition, Rome, 04.02.2020;
- *Nanotubes of Prussian blue and its Cr analog obtained by electrodeposition method*, 17th International Conference on Molecule Based Magnets, ICMM2021, Manchester (online), 17.06.2021.

8. Workshops

- *Italian School on Magnetism V Edition*, Rome, 03-07.02.2020;
- *XFEL for beginners 2021*, Kraków, 27-28.04.2021;
- *European School on Magnetism 2021*, Cluj-Napoca, 06-17.09.2021.

9. Scientific grants & collaborations

- PRELUDIUM 16 (National Science Center, Poland), project number: 2018/31/N/ST5/03300, *Synthesis and the properties studies of Prussian Blue analogues nanorods*, role: head of the project, period: 24.07.2019-23.07.2023;
- SONATA 11 (National Science Center, Poland) project number: 2016/21/D/ST3/01299, *Studies of confinement effect on dynamics and self-organization of molecular systems*, role: SEM measurements and analysis of electrospun polymer/liquid crystal composite fibers, period: 18.06.-30.11.2019;
- Bilateral cooperation with Slovak Academy of Sciences, *Comprehensive studies of novel magnetic materials*, Coordinator: Dr. Hab. Robert Peřka, role: participant, period: 2016-2018;
- Joint research project with Slovak Academy of Sciences, *Multifunctional magnetic materials – research into structure and physical properties*, Coordinator: Dr. Hab. Robert Peřka, role: participant, period: 2019-2022.

10. Large-scale user facilities proposals

- SOLARIS synchrotron, SOLABS beamline, *Determination of the electronic states of bistable molecular chains*, applied on 05.04.2022 and accepted, role: participant;
- ILL Neutron source, D2B instrument, *The influence of chemical composition and site occupancy on the structure and magnetism of Ni-Co-Cu-Sn metamagnetic shape memory alloys*, applied on 19.09.2022 and accepted, role: participant.

11. Prizes & awards

- PhD defended with distinction. Degree obtained on 14.11.2022;
- Back cover of *Dalton Transactions* Issue 34, 2022.

12. Conferences organizing committee membership

- YOUNG MULTIS – Multiscale phenomena in molecular matter, Kraków, 05–07.07.2021;
- MULTIS2022 – Multiscale phenomena in molecular matter, Kraków, 27–30.06.2022.

13. Didactic & popularization

- Co-hosting interactive lecture *Horrors of Science* during Małopolska Researchers' Night, Institute of Nuclear Physics PAS, 27.11.2020;

- Co-hosting interactive lecture *Horrors of Science 2.0* during Małopolska Researchers' Night, Institute of Nuclear Physics PAS, 24.09.2021;
- Running workshops for laureates of the Polish Children's Fund, Institute of Nuclear Physics PAS, 23-27.05.2022;
- Creating educational online calculators as a part of Omni Calculator (<https://www.omnicalculator.com/>).

14. Languages

- Polish – Native;
- English – Advanced (C1);
- Spanish – Basic (A1).