

CURRICULUM VITAE



Personal information

Family name:	Fedorchenko
Given name:	Alexey (Ukrainian transcription: Oleksii)
Date of birth:	26 May 1981
Place of birth:	Kharkiv, Ukraine
Prof. address:	ILTPE - B.Verkin Institute for Low Temperature Physics and Engineering of the National Academy of Sciences of Ukraine 47 Nauky Ave., 61103 Kharkiv, Ukraine
Network links:	http://fedorchenko.scienceontheweb.net (own micro-site) www.linkedin.com/in/alexey-fedorchenko https://scholar.google.com/citations?user=m9Jl3xEAAAAJ&hl=en
Hirsch factor (<i>h</i> -index)	14

Scientific degree

Mar 2013	Dr.rer.nat. - Ph.D. degree in physics and mathematics Ph.D. thesis: "Magnetic and magnetoelastic properties of anisotropic metallic systems based on <i>d</i> -elements."	ILTPE, Kharkiv, Ukraine
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Education

Nov 2008 – Oct 2012	Ph.D. student (certificate summa cum laude)	ILTPE - B.Verkin Institute for Low Temperature Physics & Engineering, Kharkiv, Ukraine
Sep 2002 – Jul 2003	Magister , Physics (diploma summa cum laude)	V.N. Karazin Kharkiv National University, Kharkiv, Ukraine
Sep 1998 – Jul 2002	Bachelor , Physics (diploma summa cum laude)	V.N. Karazin Kharkiv National University, Kharkiv, Ukraine

Academic career

Oct 2021 – present	Head of Department	ILTPE - B.Verkin Institute for Low Temperature Physics & Engineering, Kharkiv, Ukraine
Nov 2017 – Oct 2021	Senior Research Scientist	ILTPE, Kharkiv, Ukraine
Nov 2015 – Oct 2017	Invited Research Scientist	UPJS - P.J. Šafárik University in Košice, Košice, Slovak Republic
Apr 2015 – Aug 2015	Invited R&D Specialist	UDE - Universität Duisburg-Essen, Nordrhein-Westfalen, Essen, Germany
Jan 2014 – Oct 2015	Research Scientist	ILTPE, Kharkiv, Ukraine
Jan 2004 – Dec 2013	Junior Research Scientist	ILTPE, Kharkiv, Ukraine
Sep 2003 – Dec 2003	Research Engineer	ILTPE, Kharkiv, Ukraine

Research and Development (R&D) experience (full-time projects \ contracts)

Sep 2019 – Dec 2023	<p>Magnetic behaviour of cobalt(II)-containing layered double hydroxides [Research]</p> <p>Magnetic ordering in Ni-Fe layered double hydroxides via a low-temperature heat capacity and magnetization studies [Research]</p> <p>(subparts of Horizon 2020 Project "EMP: European Microkelvin Platform")</p>	Institute of Experimental Physics, Slovak Academy of Sciences, Košice, Slovak Republic
Nov 2018 – Dec 2018 May 2018 – Jun 2018 Nov 2017 – Dec 2017 Apr 2015 – Aug 2015	<p>TUMOCs: TUNEable Multi ferroics based on oxygen OCTahedral Structures [R&D]</p> <p>(Horizon 2020 Project)</p>	UDE - Universität Duisburg-Essen, Nordrhein-Westfalen, Essen, Germany
Sep 2018 – Nov 2018 Sep 2017 – Oct 2017 Feb 2017 – Mar 2017 Jun 2016 – Jul 2016	<p>TUMOCs: TUNEable Multi ferroics based on oxygen OCTahedral Structures [Research]</p> <p>(Horizon 2020 Project)</p>	Universidade de Aveiro, Instituto de Materiais de Aveiro, Aveiro, Portugal
Nov 2015 – Oct 2017	Invited Research Scientist (PostDoc) [R&D]	Institute of Physics, Faculty of Science, UPJS, Košice, Slovak Republic
Feb 2015 – Apr 2015	Exchange bias phenomena in spontaneously phase-segregated $(\text{Nd}_{1-x}\text{Y}_x)_{2/3}\text{Ca}_{1/3}\text{MnO}_3$ ($x=0; 0.1$) perovskites [Research]	Institute of Physics, Faculty of Science, UPJS, Košice, Slovak Republic
Jan 2012 – Apr 2015	Spectroscopic, transport, magnetic and elastic properties of new low-dimensional structures and superconducting compounds [Research]	ILTPE, Kharkiv, Ukraine
May 2013 – Jul 2013	Synthesis and investigation of new iron-based high-temperature superconductors [Research]	IFW-Dresden - Leibniz-Institut für Festkörper- und Werkstoffforschung Dresden, Sachsen, Dresden, Germany
Jan 2011 – Dec 2014	Diagnostics of defects in constructional materials for nuclear power plants with application of the magnetic methods [R&D]	ILTPE, Kharkiv, Ukraine
Jan 2012 – Dec 2013	Interplay of the magnetic and superconducting states in layered compounds which contain transition and rare-earth metal ions [Research]	ILTPE, Kharkiv, Ukraine
Jan 2011 – Dec 2012	Theoretical and experimental study of superconducting properties of iron-based chalcogenides and pnictides [Research]	ILTPE, Kharkiv, Ukraine
Jan 2011 – Dec 2012	Determination of magnetic properties of materials in the areas of destruction of nuclear power plants pipelines to predict the occurrence of discontinuities [R&D]	ILTPE, Kharkiv, Ukraine
Jan 2010 – Dec 2011	Coexistence of superconductivity and magnetism in layered iron based HTSC [Research]	ILTPE, Kharkiv, Ukraine
Jan 2007 – Dec 2010	Magnetic analysis of the structural state of functional materials [R&D]	ILTPE, Kharkiv, Ukraine
Jan 2005 – Dec 2006	Development of quantum magnetometer for early detection of the radiation damage in structural materials [R&D]	ILTPE, Kharkiv, Ukraine

Awards & Scholarships

Jan 2015	Scholarship: Marie Skłodowska-Curie Research and Innovation Staff Exchange <i>European Commission, Brussels, Belgium</i>
Dec 2014	Scholarship: Government of the Slovak Republic <i>Government of the Slovak Republic, Bratislava, Slovak Republic</i>
Oct 2014	Scholarship: President of Ukraine for young scientists <i>Committee of the State prizes of Ukraine in science and technology, Kyiv, Ukraine</i>
Feb 2014	Award: National Academy of Sciences of Ukraine for young scientists <i>Presidium of the National Academy of Sciences of Ukraine, Kyiv, Ukraine</i>
Mar 2012	Scholarship: Alexander von Humboldt Foundation (non-individual) <i>Alexander von Humboldt Foundation, Nordrhein-Westfalen, Bonn, Germany</i>
Jun 2010	Scholarship: National Academy of Sciences of Ukraine for young scientists <i>Presidium of the National Academy of Sciences of Ukraine, Kyiv, Ukraine</i>

Skills & Activities

Languages	English, Slovak, Czech, German (basic), Ukrainian (native), russian (mt)
Skills	Cryogenics, Superconducting Quantum Interference Device (SQUID), Spintronics, Automation & Control, Laboratory Automation, Process Automation, Algorithms, Boolean Logic, PID controller, Signal Processing, Data Collection, Data Modeling, Data Visualization, Approximation Algorithms, Mathematical Analysis & Modeling, Statistical Data Analysis, Shell Scripting (sh, bash), Python (non-OOP), FreePascal, DFT Calculations, Linux Operating Systems (RHEL BC), Linux System Administration (RHEL BC), OriginLab, AutoCAD, QCAD, LaTeX, HTML, Cascading Style Sheets (CSS), any existing tool which can solve posed problem (in case of tool absence, I create it), etc.
Personal qualities	Multi-national teamwork, Multi-cultural teamwork, Responsibility, Ability to work independently

Publication highlights

(total published papers* – 141: articles – **55**, conference papers – 86)

- **Fedorchenko A.V.** et al. / Magnetic properties of the $\text{Bi}_{0.65}\text{La}_{0.35}\text{Fe}_{0.5}\text{Sc}_{0.5}\text{O}_3$ perovskite // *Acta Physica Polonica A* **131(4)**, 1069 (2017).
- **Fedorchenko A.V.** et al. / Unusual magnetic properties of the polar orthorhombic $\text{BiFe}_{0.5}\text{Sc}_{0.5}\text{O}_3$ perovskite // *Journal of Magnetism and Magnetic Materials* **465**, 328 (2018).
- Fertman E.L., **Fedorchenko A.V.**, Čížmár E. et al. / Cluster spin glass behaviour of Co^{2+} - Al^{3+} -containing layered double hydroxides // *Chemical Physics Letters* **859**, 141745 (2025).

*All published papers can be found at <http://fedorchenko.scienceontheweb.net>