

# Oleksandr Tomalak, Ph.D.

*Theoretical and Computational Physics*

*Nuclear and Particle Physics*

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## Experience

- **Advanced Research in Neutrino, Hadron, and Nuclear Physics resulting in collaborative grants, mentoring and communication skills as**
- since 2025 **Associate Professor**, Institute of Theoretical Physics, Chinese Academy of Sciences, Beijing, P. R. China.
- 2021–2024 **Director's Postdoctoral Fellow**, Los Alamos National Laboratory, NM, USA.
  - **Bringing Radiative Corrections and Modern Nucleon Structure to Neutrino Physics, mentoring and communication skills as**
- 2018–2021 **Postdoctoral researcher**, University of Kentucky, Lexington, KY, USA and Fermilab, Batavia, IL, USA.
  - **Theory of Atomic Physics and Lepton Scattering, mentoring skills as**
- 2016–2018 **Postdoctoral researcher**, Johannes Gutenberg-Universität Mainz, Mainz, Germany.
  - **Precise Nucleon Structure, teaching and communication skills as**
- 2012–2016 **Ph.D. student**, Johannes Gutenberg-Universität Mainz, Mainz, Germany.
  - **Analytical and Numerical Calculations in Early Universe Cosmology as**
- 2012–2015 **Ph.D. student**, Taras Shevchenko National University, Kyiv, Ukraine.
  - **Programming and advanced communication skills as**
- 2015–2017 **Guest scientist**, Department of Physics, University of Pavia, Pavia, Italy.
  - **Data analysis, detector monitoring, and data taking as**
- 2010–2011 **Member of D0 Collaboration**, D0 Experiment, Fermilab, Batavia, IL, USA.
  - **Calibration of detectors in high-energy physics experiment as**
- 2009–2010 **Bachelor student**, ZEUS Experiment, DESY, Hamburg, Germany.

## Computer Skills

- |                       |                   |                               |            |
|-----------------------|-------------------|-------------------------------|------------|
| - Wolfram Mathematica | - LaTeX           | - C, C++                      | - Bash     |
| - Maple               | - Origin          | - Fortran                     | - Batch    |
| - Mathcad             | - DataGraph       | - Python, R                   | - Root     |
| - Windows             | - Linux           | - OS X                        | - JaxoDraw |
| - HTML, CSS           | - SQL             | - JavaScript                  | - Jinja    |
| - Flask, Django       | - office software | - video conferencing software |            |

## Languages

English	Fluent	C1 level (JGU Mainz, 2018)
German	Upper intermediate	C1 level (JGU Mainz, 2018)
Russian	Fluent	
Ukrainian	Fluent	

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## Education

- 2012–2016 **Ph.D. in Theoretical Physics**, Johannes Gutenberg-Universität Mainz, Mainz, Germany, *Summa Cum Laude*.
- 2010–2012 **MS in Theoretical Physics**, Taras Shevchenko National University, Kyiv, Ukraine, *Red Diploma*.  
Speciality: Nuclear and Particle Physics, Quantum Field Theory
- 2006–2010 **BS in Physics**, Taras Shevchenko National University, Kyiv, Ukraine, *Red Diploma*.  
Speciality: Nuclear and Particle Physics, Quantum Field Theory

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## Professional Activities

Organized 7 Meetings and Conferences  
Refereed for 16 Journals  
Mentored 6 Students  
Wrote 9 Collaborative Research Proposals: 6 Proposals funded  
Support from 6 Research Fellowships

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## 69 Peer-Reviewed Journal Articles

The up-to-date publication and citation information can be found on the web page:  
<https://inspirehep.net/authors/1077543>  
ORCID: 0000-0002-4827-5842

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## 161 Professional Presentations

48 Invited Talks  
102 Contributed Talks  
11 Posters at International Conferences

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## Selected Awards and Honors

- 2020–2021 Universities Research Association (URA) Salary Support, Fermilab, USA
- 2019 Universities Research Association (URA) Visiting Scholars Program, Fermilab, USA
- 2017 Prize for Outstanding Doctoral Research, Faculty 08: Physics, Mathematics and Computer Science, Johannes Gutenberg-Universität Mainz, Mainz, Germany
- 2012 Alumnus of the Year, Taras Shevchenko National University, Kyiv, Ukraine
- 2008 3rd degree diploma, member of the Faculty Team, Ukrainian Physicists' Tournament for University Students, Kyiv, Ukraine
- 2007 2nd degree diploma, member of the Faculty Team, Ukrainian Physicists' Tournament for University Students, Kyiv, Ukraine
- 2007 Absolute Winner of Ukrainian Students Olympiad in Theoretical Physics, Kharkiv, Ukraine
- 2006 3rd degree diploma, member of the Faculty Team, Ukrainian Physicists' Tournament for University Students, Kyiv, Ukraine
- 2006 Silver Medal, 37th International Physics Olympiad, Singapore



July 22, 2025