

# JURI SMIRNOV

Personal Homepage: [www.juri-smirnov.com](http://www.juri-smirnov.com)

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## SCIENTIFIC POSITIONS

- September 2019 Alexander von Humboldt Fellow at the Ohio State University (CCAPP)  
2018 – 2019 Postdoc at the Southern Denmark University  
2016 – 2018 Postdoc at the Florence University and INFN division in Florence
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## VISITING POSITIONS

- 2017 – 2018 Visiting researcher in the CERN theory division
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## RESEARCH INTERESTS

- 1 Bound state formation in dark-matter systems and possible detection signals, such as gamma ray spectra of photons emitted during bound-state formation.
  - 2 Gravitational wave physics and its application to study new physics phenomena.
  - 3 Use of precision instruments to search for new physics phenomena and dark matter.
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## EDUCATION

- 2011 – 2015 Ph.D. student and Researcher at the Max Planck Institute for Nuclear Physics, in Heidelberg. PhD Thesis: *Effects of the Quantum Vacuum in Particle Physics and Cosmology*; Supervisor: Prof. Dr. M. Lindner.
- 2009 – 2011 M.Sc. in Theoretical and Mathematical Physics at the Ludwig-Maximilians-University in Munich, Germany. Completed in three semesters M.Sc. Thesis: *Gauge invariant formulation of the cosmological backreaction*; Supervisor: Prof. Dr. S. Hofmann.
- 2009 B.Sc. of Physics at the Ludwig-Maximilians-University in Munich, Germany  
BSc. Thesis: *Correspondence of the conformal field theory and the AdS metric in 1+1 Dimensions*;  
Supervisor: Prof. Dr. I. Sachs.
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## HONORS & AWARDS

- Since 2019 Feodor Lynen Fellowship of the Alexander von Humboldt Foundation
- 2014 International Max Planck Research School for Precision tests of fundamental symmetries (IMPRS)
- 2012 – 2015 Member of the Heidelberg Graduate School for Fundamental Physics (HGSFP)
- Since 2011 Bavarian Elite Network
- 2008 – 2009 ERASMUS Scholarship for studies at Queen's University of Belfast
- 2005 – 2011 E-fellows scholarship
- 2005 Chemistry Olympiad, Koeln Placed at 1st position
- 2003 International City Mathematics Competition Victory Diploma awarded by the Moscow State University (MGU)

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## REFEREE FOR FOLLOWING JOURNALS

Physical Review D

Journal for Cosmology and Astroparticle Physics

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## TEACHING EXPERIENCE

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| 2019        | University of Southern Denmark, Odense: Self developed lecture on Astroparticle Physics: <a href="http://www.cp3-origins.dk/Introduction-to-Astroparticle-Physics">www.cp3-origins.dk/Introduction-to-Astroparticle-Physics</a> |
| 2015 – 2018 | PhD thesis co-supervision (Moritz Platscher)  |
| 2013 – 2014 | Master thesis co-supervision (Steffen Schmitd)  |
| 2012 – 2013 | University of Heidelberg: Tutor for the Theoretical course, Advanced Quantum field theory (II) for Master and Graduate Students   |
| 2011 – 2012 | University of Heidelberg: Tutor for the Theoretical course, Advanced Quantum field theory (I) for Master and Graduate Students  |
| 2011        | Friedrich Ebert Gymnasium, Hamburg: Assistant teacher for Physics in the final grade  |
| 2010 – 2011 | Ludwig-Maximilians-University, Munich: Tutor for Quantum Field Theory course for graduate students  |
| 2009 – 2010 | Ludwig-Maximilians-University, Munich: Tutor for Mathematical Methods for physics undergraduate students  |
| 2009        | Ludwig-Maximilians-University, Munich: Tutor for Theoretical Mechanics course for physics undergraduate students  |
| 2009        | Ludwig-Maximilians-University, Munich: Supervisor for undergraduate medicine students during lab training   |
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## SERVICE EXPERIENCE

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| 2019        | Running the Atroparticle lunch seminar at the CCAPP center at OSU, Columbus.   |
| 2018        | Running a weekly arXiv Journal Club at the CP3 center at the University of Southern Denmark, Odense.   |
| 2018        | Dark Matter session convener, at the PASCOS 2018 in Cleveland  |
| 2014        | Organization of a PhD student block seminar on Gravitational waves.  |
| 2014        | Member of the organizing committee of the Winter-school of the Heidelberg Graduate School for Fundamental Physics, Obergurgl (Austria).                        |
| 2013        | Organization of a PhD student block seminar on sterile neutrinos.  |
| 2012 – 2013 | Student Representative of the Heidelberg Graduate School for Fundamental Physics during the application process for a grant extension, application successful. |
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## PUBLICATIONS

INSPIRE profile J. Smirnov

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## SELECTED MEDIA COVERAGE

2019	Cosmosmagazine, on Vainshtein Screening
2018	N+1 Magazine, on Colored Dark Matter
2017	Phys.org, on Gravitational Wave Oscillations

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## PUBLIC OUTREACH TALKS

2018	Public invited talk at the Studenterhus Odense: "Dark Matter in the Universe".
2017	German teacher education program at CERN, Invited talk: "Modern Theoretical Physics".
2014	Max Planck Institute for Nuclear Physics in Heidelberg, public talk during on the day of open doors: "Dark Energy".

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## INVITED TALKS

November 2019	University of Cincinnati, Cincinnati, Invited seminar talk: Dark Matter Research with Bound Systems
October 2019	Case Western Reserve University, Cleveland, Invited seminar talk: Dark Matter Research with Bound Systems
August 2019	Niels Bohr Institute, Copenhagen, Invited seminar talk: TeV-Scale Thermal WIMPs: Unitarity and its Consequences
May 2019	Dalitz Seminar, Oxford University, Invited seminar talk: TeV-Scale Thermal WIMPs: Unitarity and its Consequences
May 2019	INFN Division Florence, Florence, Invited seminar talk: Thermal History of Composite Dark Matter.
March 2019	Max Planck Institute for Physics, Munich, Invited seminar talk: Phenomenology of Bi-gravity.
September 2018	Hvar Workshop: On a Safe Road to Quantum Gravity with Matter, Invited plenary talk: Safe Dark Matter
August 2018	CoDyCE Workshop in Lyon, Invited plenary talk: Dark Matter Bound States
May 2018	Massachusetts Institute of Technology, Boston, Invited seminar talk: Dark Matter Bound States
April 2018	Dark Matter, Dawn of Discovery, Heidelberg, Invited plenary talk: Dark Matter Bound States
March 2018	ULB Brussels, Invited seminar talk: Dark Matter Bound States
September 2017	Collider Physics and the Cosmos, GGI Florence, Invited plenary talk: Dark Matter Bound States.
May 2017	CCAPP Ohio State University, Columbus, Invited seminar talk: Dark Matter Bound States.
May 2016	Northwestern University, Invited seminar talk: Light from Dark Matter
May 2016	University of Cincinnati, Cincinnati, Invited seminar talk: Light from Dark Matter
May 2016	CCAPP Ohio State University, Columbus, Invited seminar talk: Light from Dark Matter
May 2015	Max Planck Institute for Physics, Munich, Invited seminar talk: Conformal Model Building.
August 2014	DM@LHC Workshop, Oxford, Invited plenary talk: Conformal Model Building.

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## CONTRIBUTED TALKS

- November 2019 PIKIMO Workshop, Cincinnati, plenary talk: Dark Matter Mass Bounds
- April 2018 DM@LHC, talk: Dark Matter Bound States
- September 2017 Fundamental Physics in the Cosmos, DESY Hamburg, talk: Dark Matter Bound States.
- May 2017 Case Western Reserve University, BLV conference, talks: Baryonic Higgs at the LHC and Dark Matter Bound States.
- May 2016 Phenomenology Symposium in Pittsburgh, talk: Light from Dark Matter
- September 2015 Physics at the LHC and beyond, DESY Hamburg, talk: Light from Dark Matter.
- June 2015 WIN Conference at the MPIK in Heidelberg, talk, Gamma Lines from Dark Matter.
- May 2015 Phenomenology Symposium at the University of Pittsburgh, talk: Conformal Inverse Seesaw.
- April 2015 BLV at the University of Massachusetts, Amherst, talk: Conformal Inverse Seesaw.
- May 2014 Planck 2014 Conference in Paris, talk: Conformal Model Building.
- April 2013 BLV conference on Baryon-Lepton-Number Violation in Heidelberg, talk: Improving Electroweak Fits with TeV Scale Sterile Neutrinos.