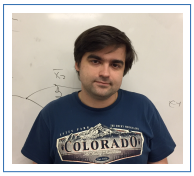

Oleg Popov

Curriculum Vitae

Research Interests

My current research focuses on model building Beyond Standart Model to solve the following problems in High Energy Physics:

- origin of Neutrino mass
- origin of Dark Matter
- the connection between the origin of neutrino masses and the existence of Dark Mater (DM)
- the origin of the mechanism that generates PMNS (Pontecorvo–Maki–Nakagawa–Sakata) matrix and Flavour structure of leptons which involves finite and continues groups to achieve this
- Phenomenology of the BSM models, their testability and signatures at the LHC
- unificaion of Electroweak and Strong Forces at the GUT scale in the light of SM extensions to solve problems like Neutrino Masses, Flavour Anomalies, Vacuum stability, etc

Besides my focus of interest mentioned above, my current and future interests also include Hierarchy problem, Self Interacting Dark Matter (SIDM) models and their phenomenology with a possible connections to the origin of Neutrino mass, Flavour structure of leptons, gauge coupling unification in SUSY and non SUSY models, origin and production mechanism of DM and neutrinos during and after Inflation.

Employment

2012– **Teaching Assistant**, ***University of California, Riverside***, Riverside, CA.

2010–2012 **Teaching Assistant**, ***Miami University***, Oxford, OH.

Education

2012– **Doctor of Philosophy (Summer 2017 expected), Master of Science (2014)**, ***University of California, Riverside***, Riverside, CA, Thesis Title:"Radiative Models of Neutrino Mass, Dark Matter, and Related Phenomena".
Advisor: Ernest Ma

2010−2012 **Master of Science by Research**, ***Miami University***, Oxford, OH, Thesis Title: "Quantum beat spectroscopy of hyperfine structure in the $8p^2P_{3/2}$ level of atomic cesium".
Advisor: Burçin Bayram

2009–2010 **Masters of Science**, *Ankara University*, Ankara, Turkey.

2005–2009 **Bachelor of Science in Physics with Honors and Distinction**, *Ankara University*, Ankara, Turkey.
Thesis Advisor: Abbas Kenan Çiftçi

2152 Physics Building, University of California – Riverside, CA 92521, USA
+1 (951) 750 3926 • opopo001@ucr.edu
ORCID:orcid.org/0000-0002-0249-8493

Fellowships & Honors

2012–2016 **Teaching Assistant Award**, *University of California, Riverside*, Riverside, CA.

2013 **Distinguished Teaching Award**, *University of California, Riverside*, Riverside, CA.

2013 **Best Poster Prize at Ohio Section of American Physical Society, OSAPS 2013**.

2012-2014 **Dean's Distinguished fellowship**, *University of California, Riverside*, Riverside, CA.

2012 **Outstanding Teaching Award**, *at Miami University*, Oxford, OH.

2009 **Best Outstanding Graduating Student**, *Bachelor of Science*, Ankara University, Ankara, Turkey.

2005-2009 **Fellowship for Distinguished International Students**.

Publication List

- "Quartified Leptonic Color, Bound States, and Future Electron-Positron Collider" Corey Kownacki, Ernest Ma, Nicholas Pollard, Oleg Popov, Mohammadreza Zakeri [arXiv:1701.07043 [hep-ph]].
- "One Leptoquark to unify them? Unification in the light of $(g-2)_\mu$, $R_{D^{(\star)}}$ and R_K anomalies,"O. Popov and G. A. White, [arXiv:1611.04566 [hep-ph]].
- "Pathways to Naturally Small Dirac Neutrino Masses," E. Ma and O. Popov, Phys. Lett. B **764C** (2017) pp. 142-144 doi:10.1016/j.physletb.2016.11.027 [arXiv:1609.02538 [hep-ph]].
- "Gauge B–L model of radiative neutrino mass with multipartite dark matter," E. Ma, N. Pollard, O. Popov and M. Zakeri, Mod. Phys. Lett. A **31**, no. 27, 1650163 (2016) doi:10.1142/S0217732316501637 [arXiv:1605.00991 [hep-ph]].
- "Phenomenology of the Utilitarian Supersymmetric Standard Model," S. Fraser, C. Kownacki, E. Ma, N. Pollard, O. Popov and M. Zakeri, Nucl. Phys. B **909**, 644 (2016) doi:10.1016/j.nuclphysb.2016.06.012 [arXiv:1603.04778 [hep-ph]].
- "Type II Radiative Seesaw Model of Neutrino Mass with Dark Matter," S. Fraser, C. Kownacki, E. Ma and O. Popov, Phys. Rev. D **93**, no. 1, 013021 (2016) doi:10.1103/PhysRevD.93.013021 [arXiv:1511.06375 [hep-ph]].
- "Neutrino Mixing and CP Phase Correlations," E. Ma, A. Natale and O. Popov, Phys. Lett. B **746**, 114 (2015) doi:10.1016/j.physletb.2015.04.064 [arXiv:1502.08023 [hep-ph]].
- "Quantum beat spectroscopy: Stimulated emission probe of hyperfine quantum beats in the atomic Cs $8p\,^2P_{3/2}$ level," Bayram, S. B. and Arndt, P. and Popov, O. I. and Güney, C. and Boyle, W. P. and Havey, M. D. and McFarland, J., PhysRevA.90.062510 10.1103/PhysRevA.90.062510 [arXiv:1409.0290 [quant-ph]].
- "Scotogenic Inverse Seesaw Model of Neutrino Mass," S. Fraser, E. Ma and O. Popov, Phys. Lett. B **737**, 280 (2014) doi:10.1016/j.physletb.2014.08.069 [arXiv:1408.4785 [hep-ph]].
- "Optical-optical double resonance circular polarization spectroscopy: Measurement of the disorientation cross section in J=1/2 Cs atoms," S.B. Bayram, D.S. Fisher, O. Popov and Z. Saglam, J. of Quantitative Spectroscopy & Radiative Transfer (JQSRT), vol.113, 2066 (2012).

Teaching

Fall 2016 **Teaching Assistant: Mathematical Methods for Physics(Graduate), PHYS231**, *University of California, Riverside*, Riverside, CA.

Spring 2016 **Teaching Assistant: Statistical Physics(Undergraduate), PHYS133**, *University of California, Riverside*, Riverside, CA.

2152 Physics Building, University of California – Riverside, CA 92521, USA
+1 (951) 750 3926 • opopo001@ucr.edu
ORCID:orcid.org/0000-0002-0249-8493

Winter 2016 **Teaching Assistant: Nuclear Physics(Undergraduate), PHYS164**, *University of California, Riverside*, Riverside, CA.

Spring 2014/15 **Teaching Assistant: Computational Physics(Undergraduate), PHYS177**, *University of California, Riverside*, Riverside, CA.

Spring 2014/15/16 **Teaching Assistant: Electromagnetic Waves(Undergraduate), PHYS136**, *University of California, Riverside*, Riverside, CA.

Fall/Winter 2014/15/16 **Teaching Assistant: Electricity & Magnetism(Undergraduate), PHYS135A/B**, *University of California, Riverside*, Riverside, CA.

Winter 2014 **Teaching Assistant: Classical Mechanics(Undergraduate), PHYS130B**, *University of California, Riverside*, Riverside, CA.

Fall 2012–Fall 2013 **Teaching Assistant: General Physics, PHYS2/40/ABC**, *University of California, Riverside*, Riverside, CA.

2010–2012 **Teaching Assistant: General Physics**, *Miami University*, Oxford, OH.

Conferences, Workshops, Seminars

June, 2016 **Theoretical Advanced Study Institute (TASI) in Elementary Particle Physics, "Anticipating the Next Discoveries in Particle Physics"**, *Colorado University, Boulder*, Boulder, CO.

May, 2016 **"Scotogenic Inverse Seesaw Model of Neutrino Mass" Talk @Phenomenology 2016 Symposium**, *University of Pittsburgh*, Pittsburgh, PA.

Aug. 2015 **SLAC Summer Institute "The Universe of Neutrinos"**.

Apl., 2015 **High Energy Physcis Journal Club Seminar**, *University of California, Riverside*.

May, 2008 **High Energy Physics Workshop**, Ankara, Turkey.

Outreach

May 2011/12 Referee for a High School Physics Projects Competition

Other Skills

English, Russian, Turkish *Advanced Level*

Delphi, Python, MadGraph, CaclHEP, FeynRules, FeynCalc, FeynArts, SARAH, and other HEP Pheno tools

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ORCID:orcid.org/0000-0002-0249-8493