

# Konstantin A. Maslov

## *Curriculum Vitae*



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### Personal

Born **June 14, 1992**, Apsheronsk, Russia  
Citizenship **Russian Federation**  
Email **kmaslov@central.uh.edu**  
Languages **Russian (native), English (fluent), French (basic)**

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### Employment

2023–present **Cyclotron Institute, Texas A&M University**, *Visiting researcher*, College Station, USA  
2023–present **University of Houston**, *NP3M Postdoctoral fellow*, Houston, USA  
2022-2023 **Central Asian University (former AKFA University)**, *Assistant professor*, Tashkent, Uzbekistan  
2021-2022 **Joint Institute for Nuclear Research**, *Research fellow at Bogoliubov Laboratory of Theoretical Physics*, Dubna, Russia  
2017-2021 **Joint Institute for Nuclear Research**, *Junior research fellow at Bogoliubov Laboratory of Theoretical Physics*, Dubna, Russia  
2015-2018 **National Research Nuclear University “MEPhI” (NRNU “MEPhI”)**, *Engineer at Theoretical Nuclear Physics Dept*, Moscow, Russia

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### Education

2015-2019 **PhD**, NRNU “MEPhI”, Moscow  
Thesis title: “Equation of state of hadronic matter within relativistic mean-field models with coupling constants and hadron masses dependent on the scalar field”  
Thesis advisor: Prof. Dmitry N. Voskresensky.  
PhD defence date: 23.09.2020.  
2009-2015 **Specialist degree in theoretical physics**, NRNU “MEPhI”, Moscow  
Thesis advisor: Prof. Dmitry N. Voskresensky.

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## Scientific interests

**Equation of state of hadronic matter and its applications to neutron stars and heavy-ion collisions**

**Phase transitions in hot and dense strongly interacting matter**

**Phenomenological models of quark matter**

**Self-consistent  $T$ -matrix approach to strongly interacting quark-gluon plasma**

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## Training

- August 2018 **Helmholtz International Summer School “Matter under Extreme Conditions in Heavy-Ion Collisions and Astrophysics”**, JINR, Dubna
- May 2017 **International School “Relativistic Heavy Ion Collisions, Cosmology and Dark Matter, Cancer Therapy”**, Oslo, Norway
- February-March 2017 **53rd Karpacz Winter School of Theoretical Physics and THOR COST Action Training School “Understanding the Origin of Matter from QCD”**, Karpacz, Poland
- June-July 2016 **ECT\* Doctoral Training Program “Nuclear, Neutrino and Relativistic Astrophysics”**, Trento, Italy
- February 2016 **IITP International Moscow School of Physics**, Moscow Region, Russia
- September 2015 **NewCompStar School “Dense Matter in Compact Stars: Experimental and Observational Signatures”**, Bucharest, Romania
- July 2015 **Helmholtz International Summer School “Dense Matter 2015”**, JINR, Dubna
- July 2014 **Helmholtz International Summer School “Nuclear Theory and Astrophysical Applications”**, JINR, Dubna

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## Personal presentations

- 2024 **Talk “Strongly interacting QGP at finite baryon density in the self-consistent T-matrix approach”**, 2024 Fall Meeting of the APS Division of Nuclear Physics, Boston, USA  
**Talk “Self-consistent T-matrix approach to strongly interacting QGP at finite baryon density”**, INT Workshop “EOS Measurements with Next-Generation Gravitational-Wave Detectors”, Seattle, USA
- 2023 **Poster presentation “PNJL equation of state with off-shell mesonic excitations”**, XXXth International Conference on Ultra-relativistic Nucleus-Nucleus Collisions “Quark Matter 2023”, Houston, USA
- 2022 **Seminar series “Modern problems of neutron star physics”**, Relativistic astrophysics group seminar at the Ulugh Bek Astronomical Institute, Tashkent, Uzbekistan
- 2021 **Invited talks “Neutrino cooling of neutron stars”**, EuCAPT Astroneutrino Theory Workshop, IEAP CTU, Prague, Czech Republic  
**Talk “Effects of Landau damping in the pion channel on the PNJL equation of state”**, Theoretical physics group seminar at the University of Wrocław, Wrocław, Poland
- 2020 **Talk “Equation of state of neutron star matter in relativistic mean-field model with in-medium effects”**, Seminar of the Relativistic astrophysics sector, Sternberg Astronomical Institute, Moscow, Russia  
**Talk “Pasta phase in hybrid hadron-quark stars”**, XXXII International (ONLINE) Workshop on High Energy Physics “Hot problems of Strong Interactions”, Logunov Institute for High Energy Physics of National Research Centre “Kurchatov Institute”, Protvino, Moscow region, Russia

- 2019 **Talk “Relativistic mean-field models of neutron-star matter and nuclear liquid-gas phase transition”**, *International workshop “Infinite and Finite Nuclear Matter”*, JINR, Dubna, Russia
- 2018 **Talk “Model dependence of the pasta-structure effects in the quark-hadron mixed phase”**, *YITP long-term workshop “New Frontiers in QCD 2018”*, Kyoto, Japan  
**Talk “Nuclear liquid-gas phase transition in realistic models of neutron star matter”**, *II International Workshop on Simulations of HIC for NICA energies*, JINR, Dubna, Russia
- 2017 **Talk “Charged  $\rho$ -meson condensate in neutron stars within RMF models”**, *International conference “The Modern Physics of Compact Stars and Relativistic Gravity”*, Yerevan, Armenia  
**Talk “ $\Delta$ -resonances and charged  $\rho$ -meson condensate in neutron stars”**, *Workshop “Nuclear, Particle physics and Cosmology”*, Oslo, Norway  
**Talk “Delta resonances and charged  $\rho$ -meson condensation in RMF models with scaled hadron masses and couplings”**, *International Mini-Workshop on Simulations of HIC for NICA energies*, JINR, Dubna  
**Poster presentation “Charged  $\rho$  meson condensation in neutron stars within RMF models with scaled hadron masses and couplings”**, *53rd Karpacz Winter School of Theoretical Physics*, Karpacz, Poland
- 2016 **Talk “The effect of inclusion of  $\Delta$  resonances in relativistic mean-field model with scaled hadron masses and coupling constants”**, *The 2nd International Conference on Particle Physics and Astrophysics*, Moscow, Russia  
**Talk “A method of stiffening the relativistic mean-field (RMF) equation of state and its application to the hyperon puzzle”**, *ECT\* Doctoral Training Program “Nuclear, Neutrino and Relativistic Astrophysics”*, Trento, Italy  
**Talk “Hyperons and maximum neutron star mass within a Relativistic Mean-Field model”**, *ITEP International School of Physics*, Moscow, Russia
- 2015 **Poster presentation “Solution of the hyperon puzzle within a Relativistic Mean-field model”**, *NewCompStar School “Dense Matter in Compact Stars: Experimental and Observational Signatures”*, Bucharest, Romania  
**Poster presentation “Making a soft hadronic equation of state hard within RMF models”**, *Strangeness in Quark Matter conference*, JINR, Dubna

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## Grants

- 2017–2021 **BASIS foundation PhD student’s personal grant**
- 2017–2019 **Russian Science Foundation grant 17-12-01427**
- 2016–2017 **Russian Foundation for Basic Research grant 16-00-00023**
- November 2015 **COST Action MP1304 “NewCompStar” STSM grant**, *Matej Bel University*, Slovakia, Project with Dr. E. E. Kolomeitsev “Neutron star composition including higher SU(3) multiplets”

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## Teaching experience

- 2022–2023 **Lecturer: University Physics**, *Central Asian University*, Tashkent, Uzbekistan
- 2022–2023 **Lecturer: Biophysics I & II**, *Central Asian University*, Tashkent, Uzbekistan
- 2016–2018 **TA: Modern problems of nuclear physics**, *NRNU MEPhI*, Moscow  
Advanced course for MSc students at the theoretical nuclear physics department of NRNU MEPhI by Prof. D. Blaschke, Prof. G. Roepke and Prof. A. Sedrakian.
- 2015–2016 **TA: Quantum mechanics, 2-semester course**, *NRNU MEPhI*, Moscow

