

MIXED CONVECTION OF LIQUID METALS

Moscow Institute of Physics and Technology (National Research University)

Degree or qualification is awarded: **PhD (Candidate of Science)**

Language of study: **English**

Mode of study: **full-time**

Duration: **4 years**

Availability of free education: **yes**

Price: **375 000 RUB**

Programme webpage at the university website: <https://eng.mipt.ru/programs/mixed-convection-of-liquid-metals/>

Programme curator: **Denis Ustyuzhaninov**

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Entry requirements:

- Master's degree / equivalent in a related field
- B2 level of English
- Good track record of publications related to the topic of the intended research
- Strong research proposal 1,500 - 3,500 words

Research supervisor:

[Ivan Belyaev](#)

PhD

Supervisor's research interests:

- MHD – affected heat transfer of incompressible media.
- Turbulence signal processing.
- Liquid metal measurements and operation.

Research highlights:

- Research activity in a field of liquid metal and molten salts heat transfer.
- Experimental methods development on velocity and temperature measurements.
- Application of the liquid metal experimental facility (HELMF) in the research program.
- Improvement of signal processing and experimental skills.

Supervisor's specific requirements:

- Experience in experimental thermophysics.
- Base of LabView, Python, ParaView.
- Heat transfer, Magnetohydrodynamics, Signal Processing, Turbulence base courses should be passed.

Main publications:

- Belyaev I. A. et al. On-off intermittency and hard turbulence in the flow of fluid in the magnetic field // Chaos. – 2019. – T. 29. – №. 8. – C. 083119.
- Belyaev I. A. et al. Temperature correlation velocimetry technique in liquid metals //Flow Measurement and Instrumentation. – 2017. – T. 55. – C. 37-43.
- Listratov Y. et al. Liquid Metal Mixed Convection in an Annulus with Twisted Tape //Applied Thermal Engineering. – 2020. – C. 115350.

Specializations within this programme