

Unit Name

Quantum Dynamics Unit
Professor Denis Konstantinov

Research Personnel

Mikhail Belianchikov, Postdoctoral Scholar
Natalia Leitao Marques Morais, Postdoctoral Scholar
Saurabh Singh, Postdoctoral Scholar
Sergei Lemziakov, Postdoctoral Scholar
Jui-Yin Lin, Postdoctoral Scholar
Vadim Samardak, PhD Student
Ka Wing Yip, PhD Student
Adam Bouheddou, Research Intern

Scholarly Contributions and Creative Productions (by Faculty)

Journal Article

1. Belianchikov, M.; Morais, N.; Konstantinov, D.
Image-Charge Detection of Electrons on Helium in an on-Chip Trapping Device. *Physical Review Applied* 2025, 23.
2. Belianchikov, M.; Morais, N.; Konstantinov, D.
Effect of Helium Surface Fluctuations on the Rydberg Transition of Trapped Electrons. *Journal of Low Temperature Physics* 2025, 219.

Scholarly Contributions (by Unit Members)

Name of Unit Member	Type	Title	Outlet	Publisher	Year Pub
Singh Saurabh	Journal Article	Interplay of densification and RGO encapsulation in boosting thermoelectric properties of indium tin oxide	Journal of Physics: Energy	IOP	2025
Singh Saurabh	Journal Article	Effect of symmetrical Ca-Mn co-doping on the structural, optical, and dielectric properties of SrTiO ₃	Ceramics International	Elsevier	FY2025
Ka Wing Yip	Poster Presentation at Conference	Current Progress in the Measurement of Electron Mobility on the Surface of Neon	OIST Global Career Workshop for Quantum Technologies		
Mikhail Belianchikov	Poster Presentation at Conference	MM-wave tomography of electron chain in on-chip microtrap	Quantum Innovation 2025		

Name of Unit Member	Type	Title	Outlet	Publisher	Year Pub
Ka Wing Yip	Poster Presentation at Conference	Recent Progress of Electron Mobility Measurement on the surface of Solid Neon	International Conference Quantum Innovation (QI 2025)		
Ka Wing Yip	Poster Presentation at Conference	Experimental Study of Electron Resistance on the surface of Neon	30th International Conference on Low Temperature Physics (LT30)		
Natalia Morais	Poster Presentation at Conference	Towards High-Precision Electron-on-Helium Qubits: A Quasioptical Microwave Approach	30th International Conference on Low Temperature Physics (LT30)		
Singh Saurabh-Jui-Yin Lin	Presentation at Conference	Advancing Electron-on-Helium Quantum Sensing From Corbino Devices to Microchannel-Integrated RF Reflectometry	The International Symposium on Quantum Science, Technology and Innovation 2025 (Quantum Innovation 2025)		
Singh Saurabh	Presentation at Conference	Enhanced room temperature thermoelectric properties in Yb-doped over-stoichiometric $Cu_{2+x}Se$	The 41st International and 7th Asian Conference on Thermoelectrics (ICT-ACT 2025)		
Ka Wing Yip	Presentation at Conference	Experimental Study of Electron Mobility on the surface of Neon	2nd International Workshop on Quantum Information Engineering (QIE2025)		
Natalia Morais	Presentation at Conference	Rydberg Tomography of Electrons on Helium in a Linear Microtrap	30th International Conference on Low Temperature Physics (LT30)		
Singh Saurabh	Presentation at Conference	Electron-onHelium Quantum Sensing: From Corbino Devices to Integrated RF Reflectometry	JAIST International Symposium on Quantum Research		
Mikhail Belianchikov	Presentation at Conference	MM-wave tomography of electron chain in on-chip microtrap	2nd International Workshop on Quantum Information Engineering (QIE2025)		
Mikhail Belianchikov	Presentation at Conference	Rydberg transition of electrons on helium in microtrap chip	APS Global Physics Summit		

External Service

Term 3 2024 - Term 2 2025 Guest Editor of the Special Issue of Journal of Low Temperature Physics, Journal of Low Temperature Physics, Guest Editor of the Special Issue of Journal of Low Temperature Physics “Quantum Technologies with Floating Charged Particles [Fiscal Year: 2024]

Outreach Activities [For Unit Members Only]

Term 1 2025 Singh Saurabh, Outreach Program with Gunma University, Gunma University [Fiscal Year: 2025-10-28]