



Dr Nugzar Suramlishvili
PhD

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Summary

Biography

1. Senior Teaching Associate - [School of Mathematics, University of Bristol](#) (Since 2016).

Postdoctoral Researcher in Applied Mathematics - [School of Mathematics, University of Bristol](#), 2013 - 2016.

Research Associate in Superfluids - [School of Mathematics and Statistics, Newcastle University](#), 2010 - 2016.

Royal Societe / NATO Postdoctoral Research Fellow - [Department of Physics, Lancaster University](#), 2003-2004.

Senior Researcher in Condensed Matter Theory, [Andronikashvili Institute of Physics](#), Tbilisi Georgia, 1998-present.

PhD in Mathematics and Physics - Quantum solids and liquids (December 1997), [Andronikashvili Institute of Physics](#).

- PhD thesis: "*Coherently precessing states of half and double magnetization insuperfluid phases of liquid ^3He and antiferromagnetic U2D2 solid ^3He* ".

Research advisor: Professor Giorgi Kharadze.

Magister in Mathematics and Physics - Faculty of Physics, [Javakhishvili Tbilisi State University](#), Georgia (1990).

Thesis: "Magnetically Ordered Electron States on Two Dimensional Squire Lattice".

Research advisor: Professor Gia Japaridze.

Teaching

School of Matematics, University of Bristol (2013-2016):

Tutorial subjects: [Calculus 1](#), [Mechanics 1](#), [Computational Mathematics](#), [Analysis 1B](#), [Introduction to group theory](#).

- Example classes: [Mechanics 2](#), [Mechanics 23](#).

Faculty of Exact and Mathematical Sciences, Javakhishvili Tbilisi State University (2009):

Lecture course: Electrodynamic of continuous media.

Keywords

- Surface singularities
- Vortex dynamics and quantum turbulence in Fermi superfluids
- Andreev reflection of quasiparticles and visualisation of quantum turbulence
- Coherent spin and orbital angular momentum dynamics of Fermi superfluids.

Memberships

Organisations

[School of Mathematics](#)

Applied Mathematics

- [Applied Mathematics](#)

Mathematical Physics

- [Mathematical Physics](#)

Research themes

- [Fluids and Materials](#)
- [Fluid Dynamics](#)

Recent publications

- Eggers, J & Suramlishvili, N, 2017, '[Singularity theory of plane curves and its applications](#)'. *European Journal of Mechanics - B/Fluids*, vol 65., pp. 107-131
- Tsepelin, V, Baggaley, AW, Sergeev, YA, Barengi, CF, Fisher, SN, Pickett, GR, Jackson, MJ & Suramlishvili, N, 2017, '[Visualization of quantum turbulence in superfluid \$^3\text{He-B}\$: Combined numerical and experimental study of Andreev reflection](#)'. *Physical Review B*, vol 96.
- Sergeev, YA, Barengi, CF, Fisher, SN, Tsepelin, V & Suramlishvili, N, 2015, '[Scattering length of Andreev reflection from quantized vortices in \$^3\text{He-B}\$](#) '. *Physical Review B: Condensed Matter and Materials Physics*, vol 91.
- Suramlishvili, N, Eggers, JG, Hoppe, J & Hynes, M, 2015, '[Singularities of relativistic membranes](#)'. *Geometric Flows*, vol 1., pp. 17-33
- Baggaley, AW, Tsepelin, V, Barengi, CF, Fisher, SN, Pickett, GR, Sergeev, YA & Suramlishvili, N, 2015, '[Visualizing Pure Quantum Turbulence in Superfluid \$^3\text{He}\$: Andreev Reflection and its Spectral Properties](#)'. *Physical Review Letters*, vol 115.
- Suramlishvili, N, Fisher, SN, Pickett, GR & Skyba, P, 2012, '[Decay of persistent precessing domains in \$^3\text{He-B}\$ at very low temperatures](#)'. *Physical Review B: Condensed Matter and Materials Physics*, vol 86.
- Suramlishvili, N, Baggaley, AW, Barengi, CF & Sergeev, YA, 2012, '[Cross-sections of Andreev scattering by quantized vortex rings in \$^3\text{He-B}\$](#) '. *Physical Review B: Condensed Matter and Materials Physics*, vol 85.
- Suramlishvili, N, Sergeev, YA, Barengi, CF & van Dijk, PJ, 2010, '[Two-dimensional model of interactions between thermal quasiparticles and turbulent structures in \$^3\text{He-B}\$](#) '. *EPL*, vol 90.
- Suramlishvili, N, Sergeev, YA & Barengi, CF, 2009, '[Visualization of quantum turbulence in \$^3\text{He-B}\$ by thermal excitations](#)'. in: *Visualization of quantum turbulence in $^3\text{He-B}$ by thermal excitations*. Springer Berlin Heidelberg, pp. 285-288
- Barengi, CF, Sergeev, YA, Suramlishvili, N & van Dijk, PJ, 2009, '[Interaction of ballistic quasiparticles and vortex configurations in superfluid \$^3\text{He-B}\$](#) '. *Physical Review B: Condensed Matter and Materials Physics*, vol 79., pp. 1-11

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