Georgios Palkanoglou

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Born: December 17, 1995—Athens, Greece
Nationality: Greek

Current position

Postdoctoral Researcher, TRIUMF Canada's Particle Accelerator Centre, Vancouver

Education

2019-2023 PH.D. in Physics, University of Guelph
Dissertation: *Pairing in Nuclear and Cold Atomic Systems*
2018-2019 M.SC. in Physics, University of Guelph — 96.5/100 GPA
Thesis: *Approaching the Thermodynamic Limit in BCS Theory*
2013-2017 B.SC. (HONOURS) in Physics; National and Kapodistrian University of Athens — GPA 8.68/10 (Top 6%)

Awards & Honours

2020 Constantine and Patricia Mavroyannis Scholarship
2019-2020 Dean's Graduate scholarship (University of Guelph)
2019 International Doctoral Training Scholarship - Ph.D.'s (University of Guelph)

Conference organizing

2025 Lead organizer of the ESNT workshop (with CINP support) "*Ab initio many-body calculations: where has the pairing gone?*"
2025 Lead organizer of the TRIUMF workshop "*SMEFT meets ChEFT*"

Spokesperson of Collaboration

2025 S1936 at TRIUMF: *Beam Development of Light Lanthanides for Nuclear Structure Investigations Approaching* $N = Z$

Teaching experience

2023	Graduate Teaching Assistant in Physics of Music, Department of Physics, University of Guelph
2021	Graduate Teaching Assistant in Quantum Mechanics, Department of Physics, University of Guelph
2020	Graduate Teaching Assistant in (graduate) Quantum Field Theory, Department of Physics, University of Guelph
2019-	Private Tutor in Undergraduate Physics
2018-	Graduate Teaching Assistant in Applied Physics, Department of Physics, University of Guelph
2013-2017	Private Tutor in Physics, Maths, and Geometry

Student co-Supervision

Michael Stuck, Undergraduate Co-op student, University of Guelph, 2021-2022
Kareena Bhalla, Undergraduate Co-op student, University of Guelph, 2022

Publications

Journal articles

2025 *Subleading three-nucleon contact forces in light nuclei*
G. Palkanoglou and P. Navratil
(in preparation)

2025 *Multimodal fermionic superfluidity*
Y. Ma, G. Palkanoglou, J. Carlson, S. Gandolfi, A. Gezerlis, G. Given, D. Lee, K. E. Schmidt, and J. Yu
(in preparation)

2025 *Efficient antisymmetrization of cluster wavefunctions*
G. Palkanoglou
(in preparation)

2025 *Efficient recast of the BCS method*
G. Palkanoglou and A. Gezerlis
(in preparation)

2025 *Symmetry properties of pairing correlations in heavy deformed nuclei*
G. Palkanoglou and A. Gezerlis
(in preparation)

2024 *Spin-Triplet Pairing in Heavy Nuclei is Stable Against Deformation*
G. Palkanoglou, M. Stuck, and A. Gezerlis
Phys. Rev. Lett. 134, 032501 (2025)
arXiv:2402.13313

2022 *The $^1S_0$ pairing gap in neutron matter*
S. Gandolfi, G. Palkanoglou, J. Carlson, A. Gezerlis, and K. E. Schmidt
Condens. Matter **2022**, 7(1), 19
arXiv:2201.01308

2021 *Superfluid neutron matter with a twist*
G. Palkanoglou and A. Gezerlis
Universe **2021**, 7(2), 24
arXiv:2012.04663
*Marked as a Feature Paper

2020 *From odd-even staggering to the pairing gap in neutron matter*
G. Palkanoglou, F. K. Diakonos, and A. Gezerlis
Phys. Rev. C **102**, 064324 (2020)
arXiv:2005.05985

Proceedings

2019 *Effective mass and pairing gap in neutron matter*
G. Palkanoglou, N. Ismail, M. Buraczynski, and A. Gezerlis
J. Phys.: Conf. Ser. 1643 012132 (2020).

Talks & Seminars

2025 Invited *How to describe isocscalar pairing in heavy deformed nuclei and measure its effects*
ACOT meeting, TRIUMF, Vancouver, BC, Canada

2025 Invited *Putting the subleading three nucleon force to use*
PAINT25, TRIUMF, Vancouver, BC, Canada

2025 *S1936 Progress Report: Beam Development of Light Lanthanides for Nuclear Structure Investigations Approaching $N = Z$*
NP-EEC, TRIUMF, Vancouver, BC, Canada

2024 Invited: *Exotic pairing phases in nuclei and neutron matter*
T-2 Seminar, LANL, Los Alamos, NM, USA

2024 Invited: *Exotic nuclear superfluidity in heavy nuclei*
3rd APCTP-TRIUMF joint workshop, PKNU, Busan, South Korea

2024 Invited: *Nuclear superfluidity in nuclei and neutron matter*
National and Kapodistrian University of Athens, Athens, Greece

2024 *Exotic nuclear superfluidity in heavy nuclei*
2024 CeNAM Frontiers, University of Notre Dame, South Bend, IN, USA

2024 *Exotic nuclear superfluidity in heavy nuclei*
Theory Canada 16, Western University, London, ON, Canada

2024 *Exotic nuclear superfluidity in heavy nuclei*
CAP Congress 2024, Western University, London, ON, Canada

2024 Invited: *(Pathways to) Exotic pairing in heavy nuclei*
PAINT24 - Workshop on Progress In Ab Initio Nuclear Theory, TRIUMF, Vancouver, BC, Canada

2023 Invited: *Novel pairing and testing EFT interactions in neutron matter and nuclei*
Michigan State University

2023 *Mixed-spin pairing in nuclear and cold atomic systems*
(Virtual) Warsaw University of Technology
(Job Interview)

2023 *Mixed-spin pairing in nuclear and cold atomic systems*
(Virtual) TRIUMF Theory Group
(Job Interview)

2023 Invited Lecture: *Introduction to Linguistics: Acoustics & Phonetics*
Introduction to Linguistics
School of Languages and Literature, University of Guelph, Guelph, ON, Canada

2023 *Singlet and triplet pairing in nuclear and cold atomic systems*
2023 Canadian Association of Physicists Congress
University of New Brunswick, Fredericton, NB, Canada

2023 *Singlet and triplet pairing in nuclear and cold atomic systems*
60th Winter Nuclear and Particle Physics Conference
Banff, AB, Canada

2023 *Mixed-spin pairing in nuclear and cold atomic systems*
Toronto Ultracold Atom Network (TUCAN) meeting
University of Toronto, Toronto, ON, Canada

2022 *The S-wave pairing gap in neutron matter*
2022 Canadian Association of Physicists Congress
*Marked as the 3rd best presentation in the Division of Theoretical Physics (DTP)

2021 *Superfluid neutrons: from particles to matter*
2021 Canadian Association of Physicists (Virtual) Congress
*Tied as the 2nd best presentation in the Division of Theoretical Physics (DTP)

2021 *Superfluid neutron matter with a twist*
58th Winter Nuclear and Particle Physics (Virtual) Conference

* Marked as the 2nd best presentation in Theoretical Physics

2021 *Superfluid neutron matter with a twist*
(Virtual) Graduate Seminar Series
University of Guelph, Guelph, ON, Canada

2020 *From odd-even staggering to the pairing gap in neutron matter*
2020 Canadian Association of Physicists (Virtual) Congress

2020 *From odd-even staggering to the pairing gap in neutron matter*
57th Winter Nuclear and Particle Physics Conference
Banff, AB, Canada

2018 *A Superconducting Star*
Graduate Seminar Series
University of Guelph, Guelph, ON, Canada

Conferences & Summer schools attended

2024 3rd APCTP-TRIUMF joint workshop: From Nuclei to Neutron Stars, PKNU, Busan, South Korea
2024 2024 CeNAM Frontiers, University of Notre Dame, South Bend, Indiana, USA
2024 2024 C.A.P Congress, Western University, London, Ontario, Canada
2024 Theory Canada 16, Western University, London, Ontario, Canada
2024 PAINT24 - Workshop on Progress In Ab Initio Nuclear Theory, TRIUMF, Vancouver, British Columbia, Canada
2023 2023 C.A.P Congress, University of New Brunswick, Fredericton, New Brunswick, Canada
2023 60th Winter Nuclear and Particle Physics (Virtual) Conference, Banff, AB, Canada
2022 2022 C.A.P Congress, McMaster University, Hamilton, Ontario, Canada
2021 2021 C.A.P (Virtual) Congress
2021 58th Winter Nuclear and Particle Physics (Virtual) Conference
2020 2020 C.A.P (Virtual) Congress
2020 57th Winter Nuclear and Particle Physics Conference, Banff, AB, Canada
2017 The 2017 Onassis Foundation Lectures in Physics: "Quantum physics frontiers explored with cold atoms, molecules and photons", Heraklion, Greece
2017 The 2017 Petnica Summer Institute summer school on Cosmology, Petnica, Serbia
2016 The 3rd Xmas Theoretical Physics Workshop, Athens, Greece

Computing skills

Languages

Fortran, Python, Bash, MATLAB, Mathematica, C++, HTML

Software

LaTeX, PLUTO, Logger Pro

Outreach & Service

2022 Research Information Session, University of Guelph
2021 Volunteer judge for the 57th Annual Canadian Undergraduate Physics Conference (CUPC)
2019 Volunteer for STEM Week 2019 organized by the University of Guelph, Guelph Civic Museum
2018 Volunteer for STEM Week 2018 organized by the University of Guelph, Guelph Civic Museum

Languages

Greek (native), English (fluent), Farsi (beginner), Spanish (beginner), German (beginner)

Last updated: May 8, 2025