University of Regina

DEPARTMENT OF PHYSICS

ACADEMIC UNIT REVIEW SELF STUDY ACADEMIC CV'S

2015 – 2025

Mauricio Barbi

Professor

mauricio.barbi@uregina.ca, (306) 585 4260

Education and Professional Development

Ph.D. Physics, Federal University of Rio de Janeiro
M.Sc. Physics, Federal University of Santa Catarina
B.Sc. Physics, Federal University of Rio de Janeiro

Employment History

2018 – present	Professor, University of Regina, Regina, SK, Canada
2009 – 2018	Associate Professor, University of Regina, SK, Canada
2004 – 2019	Assistant Professor, University of Regina, SK, Canada
2003 – 2004	Visiting Scientist, DESY
1999 – 2003	Research Associate, McGill University, QC, Canada

Teaching History

PHYS 103	Essential Physics: Ideas and Applications
PHYS 242	Introduction to Modern Physics
PHYS 442	Introduction to Elementary Particle Physics
PHYS 471	Advanced Physics Laboratory
PHYS 498	Honours Research Project
PHYS 499	Honours Research Thesis
PHYS 871	Advanced Experimental Physics
PHYS 887AD	Experimental Techniques of Subatomic Physics
PHYS 890AG	Synchroton Radiation Techniques and Applications

Student Supervision

Name	Position	Dates
Jerit Mitchell	MSc → PhD student	2019–present
Bruno Ferrazzi	MSc → PhD student	2018–present
Deesha Divecha	PhD student	2022–present
Shayaan Sajid	MSc student	2021–present
Luan Koerich	PhD student	2019–2023
Anezka Kolaceke	PhD student	until 2018
Sirous Yousefnejad	PhD student	2023–present
Divya Patel	MSc → PhD student	2019–present
Deepak Tiwari	Postdoctoral Fellow	2021–2023
Luan Koerich	Postdoctoral Fellow	2024–present
Nick Hastings	Postdoctoral Fellow	until ~2015

Undergraduate Students (last 10 years)

- Trey Chernoff (2022–2023)
- Madison Blatchford (2022–2023)

University Service

Chair, Faculty of Science Student Appeals Committee (2015–present)
Graduate Program Coordinator (2015–2020)
Member, Physics Curriculum Committee
Member, 3rd and 4th Year Laboratory Committee
Coordinator, Prairie Universities Physics Seminar Series (2013–2018)
Coordinator, Physics Seminar Series (2012–2018)
Member, Faculty Review Committee
Member, Faculty of Graduate Studies & Research Council
Member, Canadian Association of Physicists (CAP)
Member, Hyper-K and IWCD International Board
Member, Hyper-K Speakers' Board
Member, HALO-1kT Executive Board
Member, WCTE International Board

Scholarly Research

• Neutrino physics and detector development (T2K, Hyper-K, IWCD, WCTE, HALO-1kT).
• Synchrotron and neutron imaging applied to paleontology.
• Soft-tissue preservation, taphonomy, amber inclusions, and organic survival.

Selected Publications (2015–2025)

I have 84 publications in the past 10 years. The full list can be found in Google Scholar.

• Mitchell, J.L., Barbi, M., McKellar, R.C. (2025). In situ analysis of vascular structures in fractured Tyrannosaurus rex rib. Scientific Reports, 15, 20327.

• Mitchell, J.L., Barbi, M., et al. (2023). Morphological and organic spectroscopic studies of a 44-million-year-old leaf beetle in amber with endogenous remains of chitin. Scientific Reports, 13, 5876.

• Barbi, M. et al. (2019). Structural and microanatomical description of hadrosaur skin. PeerJ, 7, e7910.

• Kolaceke, A., Barbi, M. et al. (2017). Amber taphonomy and soft-tissue imaging in fossil insects. [Journal].

• Hyper-Kamiokande Collaboration (2025). Sensitivity of the Hyper-Kamiokande experiment to neutrino oscillation parameters using accelerator neutrinos. arXiv:2506.16641.

• Hyper-Kamiokande Collaboration (2025). Hyper-K input to the update of the European Strategy for Particle Physics. arXiv:2505.15019.

• Gola, M. et al. (2025). Assembly, testing, and installation of mPMTs for the Water Cherenkov Test Experiment. arXiv:2504.07216.

• T2K Collaboration (2024). First joint oscillation analysis of Super-Kamiokande atmospheric and T2K accelerator neutrino data. Phys. Rev. Lett. 134, 011801.

• T2K Collaboration (2023). First measurement of muon neutrino charged-current interactions on hydrocarbon without pions. Phys. Rev. D 108, 112009.

• T2K Collaboration (2023). Measurements of neutrino oscillation parameters using 3.6×10^{21} POT. Eur. Phys. J. C 83, 782.

• T2K Collaboration (2023). Coherent charged pion production cross sections on carbon. Phys. Rev. D 108, 092009.

• T2K Collaboration (2023). Updated $\nu\mu$ and $\bar{\nu}\mu$ disappearance measurements. Phys. Rev. D 108, 072011.

• Hyper-Kamiokande Collaboration (2022). Construction status and prospects of Hyper-Kamiokande. Proc. Sci. 395.

• T2K Collaboration (2022). Scintillator ageing studies for T2K detectors. JINST 17, P10028.

• EMPHATIC Collaboration (2022). Measurement of proton–carbon forward scattering. Phys. Rev. D 106, 112008.

• Hyper-Kamiokande Collaboration (2021). Supernova model discrimination with Hyper-Kamiokande. ApJ 916, 15.

Marcella Berg

Assistant Professor

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Education and Professional Development

2015 – 2018 Ph.D. Physics, Niels Bohr Institute, University of Copenhagen, Denmark
2011 – 2014 M.Sc. Physics, Niels Bohr Institute, University of Copenhagen, Denmark
2007 – 2011 B.Sc. (Hons) Physics, Niels Bohr Institute, University of Copenhagen, Denmark

Employment History

2022 – Present Assistant Professor (tenure track), University of Regina, SK, Canada
2020 – 2022 Instrument Scientist, Forschungszentrum Jülich, Germany
2018 – 2022 Postdoctoral Fellow (Independent Research Fund Fellowship Grant), Oak Ridge National Laboratory, TN, USA

Teaching History

PHYS 890BE Introduction to Molecular Dynamics: Principles, Applications (2025)
PHYS 342 Atomic Physics (2024, 25, 26)
PHYS 890BC Introduction to X-ray and Neutron Scattering (2024)
PHYS 142 From Quarks to Cosmos (2023, 24, 25, 26)

Student Supervision

Name	Position	Dates of supervision
Gonzalo Rumi	Post-doctoral fellow	February 2026 (Anticipating)
Aiden Stadeski	BSc co-op student	September 2025 – December 2026
Nazanin Kiamarsi	MSc student	September 2024 - Present
Jinal Shah	BSc summer student	May 2024- August 2024
Jerit Michell	Ph.D student	September 2023- Present

University Service

2025 – 2026	Topic Chairs for *Neutron and Society* for American Conference for Neutron Scattering
2025 – present	Canadian Association of Physicists (CAP) Institutional Representative, University of Regina
2024 – present	Student Appeals Committee, University of Regina
2024 – present	Canadian Institute for Neutron Science (CINS) Science Council
2024 – present	Canadian Light Source Beamtime Review Committee
2024 – present	Oak Ridge National Laboratory Beamtime Review Committee
2022 – 2023	External, Computer Science Faculty Search Committee, University of Regina
2023 – 2024	Canadian Access Route to ISIS Beamtime Review
2022 – present	Departmental CO-OP coordinator, University of Regina
2022 – present	Committee of friendly professors, Physics 498 Presentations, University of Regina

* In addition to the above, I also served as a committee member for 3 MSc and 1 PhD thesis defenses in physics and chaired 3 MSc thesis defenses in Computer Science and 1 PhD thesis defense in Biology. I have volunteered at the 2023 Canadian Conference for Undergraduate Women in Physics, Regina, SK, and the 2024 2SLGBTQ+ in STEM Canada Conference, Regina, SK.

Scholarly Research

- Wang, Hui; Osti, Naresh; Allgaier, Jurgen; Berg, Marcella C.; et al. (2023). Dynamics of polymer electrolyte with LiTFSI. EPJ Conferences 286.
- Dhiman, I.; Berg, M. C.; Cole, D. R.; Gautam, S. (2023). CO_2 in Mg-MOF-74. Applied Surface Science 612.
- Dhiman, I.; Berg, M. C.; Smith, J. C.; Petridis, L.; Gautam, S. (2022). Odd-even effect in n-alkanes. PCCP 24.
- Larsen, S. R.; Michels, L.; dos Santos, E. C.; Berg, M. C.; et al. (2020). Fluorohectorite characterization. Microporous and Mesoporous Materials 306.
- Rasmussen, M. K.; Pereira, J. E. M.; Berg, M. C.; et al. (2019). Dynamics of Encapsulated Hepatitis B Surface Antigen. Eur. Phys. J. Spec. Top.
- Berg, M. C.; Benetti, A. R.; Telling, M. T. F.; et al. (2018). Nanoscale Mobility in Dental Restorative Cements. ACS Applied Materials & Interfaces.
- Berg, M. C.; Dalby, K. N.; Tsapatsaris, N.; et al. (2017). Water Mobility in Chalk. J. Phys. Chem. C 121.
- Berg, M. C.; Jacobsen, J.; Momsen, N. C. R.; Benetti, A. R.; Telling, M. T. F.; Seydel, T.; Bordallo, H. (2016) N. Water Dynamics in Glass Ionomer Cements. Eur. Phys. J. Spec. Top, 225 (4), 773–777.

Gwen Grinyer

Professor

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Education and Professional Development

2004 – 2008	Ph.D. Nuclear Physics, University of Guelph, ON, Canada
2002 – 2004	M.Sc. Nuclear Physics, University of Guelph, ON, Canada
1998 – 2002	B.Sc. (Hons) Physics, McMaster University, ON, Canada

Employment History

2025 – present	Professor, University of Regina, SK, Canada
2021 – 2025	Associate Professor (tenure), University of Regina, SK, Canada
2017 – 2021	Assistant Professor (tenure track), University of Regina, SK, Canada
2010 – 2017	Research Scientist, Commissariat a l'Energie Atomique (CEA), France

Teaching History

PHYS 831	Advanced Nuclear Physics (2026)
PHYS 432	Nuclear Physics (2018, 19, 20, 23, 24, 26)
PHYS 311	Electromagnetism (2023, 24)
PHYS 201	Electricity and Magnetism (2018, 19, 20, 21, 22, 23, 24)
PHYS 112	Waves and Optics (2019, 20, 21, 22)

Student Supervision

Name	Position	Dates of supervision
Emile Cantacuzène	Post-doctoral fellow	November 2025 – present
Fatima Aljarrah	MSc student	September 2025 – present
Artemis Tsantiri	Post-doctoral fellow	July 2025 – present
Zach Sullivan	BSc summer student	May 2025 – August 2025
Sydney Plante	MSc student	September 2024 – present
Dhruval Shah	BSc summer student	May 2024 – August 2024
Mira Quinn	MSc student	September 2023 – present
Dhruval Shah	BSc honours thesis project	September 2023 – April 2024
Dhruval Shah	BSc summer student	May 2023 – August 2023
Jizhong Liu	MSc student	September 2022 – August 2024
Dhruval Shah	BSc summer student	May 2022 – August 2022

Dhruval Shah	BSc summer student	May 2021 – August 2021
Jay Hyung Suh	BSc summer student	May 2000 – August 2000
Isaac Labrie Boulay	BSc summer student	May 2000 – August 2000
Nastaran Saei	MSc student	September 2019 – August 2022
Alireza Talebitaher	Post-doctoral fellow	Nov 1, 2019 – Aug 31, 2021
Kushal Kapoor	Post-doctoral fellow	September 2019 – December 2021
Alireza Talebitaher	Post-doctoral fellow	November 2019 – August 2021
Jay Hyung Suh	BSc summer student	May 2019 – August 2019
Shivani Sharma	MSc student	September 2018 – August 2020
Michael Hladun	BSc summer student	May 2018 – August 2018
Jerit Mitchell	BSc summer student	May 2018 – August 2018

*In addition to the above, I also served as a co-supervisor to Chris Griffin (TRIUMF Post-doctoral fellow) from September 2022 to August 2024 and Cameron Shenton (MPhys from the University of Surrey, UK) from August 2023 to January 2024.

University Service

2025 – present	Chair, Physics Academic Unit Review Committee, University of Regina
2022 – present	President, Canadian Institute of Nuclear Physics (CINP)
2020 – present	Equity Diversity and Inclusion (EDI) Committee, University of Regina
2025 – present	Coordinator (Eastern Prairies), Canadian Association of Physicists Lecture Tour
2018 – present	Organizing Committee, Winter Nuclear and Particle Physics Conference
2024 – 2025	Member, Nuclear Science Advisory Committee (NSAC), DOE and NSF, USA
2024	Faculty Lead, 2SLGBTQ+ in STEM Canada Conference, Regina SK
2023	Faculty Lead Canadian Conference for Undergraduate Women in Physics, Regina SK
2023	Member, Science Faculty Review Committee, University of Regina
2022 – 2025	National Coordinator, Canadian Association of Physicists (CAP) Lecture Tour
2021 – 2022	Chair, Physics Faculty Search Committee, University of Regina
2021 – 2025	Board of Directors, University of Regina Queer Initiative (URQI)
2020 – 2022	Executive of Council, Faculty of Science member, University of Regina
2020 – 2022	Coordinator (Eastern Prairies), Canadian Association of Physicists Lecture Tour
2019 – 2023	Seminar Coordinator, Department of Physics, University of Regina
2019 – 2022	Regional Coordinator, Prairie University Physics Seminar Series (PUPPS)
2018 – 2022	Board of Directors, Canadian Institute of Nuclear Physics (CINP)
2018 – 2022	Equity Committee, University of Regina Faculty Association (URFA)
2018 – 2020	Chair Elect, Chair and Past Chair, TRIUMF Users Executive Committee (TUEC)

* In addition to the above, I also served as an external examiner for 5 PhD theses in Calgary, Winnipeg, Denmark, South Africa, and Australia, as well as 3 MSc theses and 1 MEd thesis at the U of R. I have also sat on the committee for 3 MSc thesis defenses in physics, served on the PhD thesis advisory committee for 3 students, and chaired 5 student defenses in Kinesiology, Biology, and Earth Sciences.

Scholarly Research

Over the last 10 years, I have authored or co-authored 35 peer-reviewed articles, the 20 most recent of which are provided below. Additional publications can be found on my Google Scholar page.

35. *Unbound neutron v0d3/2 strength in ^{17}C and the N=16 shell gap*
J.Lois-Fuentes *et al.* Physics Letters B **874**, 139600 (2025)
34. *Re-evaluation of structures in ^{70}Se from combined conversion electron and γ-ray spectroscopy*
J.T.Smallcombe *et al.* Physical Review C **110**, 024318 (2024)
33. *Cross-shell states in ^{15}C: a test for p-sd interactions*
J.Lois-Fuentes *et al.* Physics Letters B **845**, 138149 (2023)
32. *Elucidating the nature of proton radioactivity of ^{53m}Co on the golden anniversary of its discovery*
L.G.Sarmiento *et al.* Nature Communications **14**, 5961 (2023)
31. *Energy loss profile measurements using ACTAR TPC demonstrator active target*
A.Camaiani *et al.* Nuclear Instruments and Methods in Physics Research B **542**, 188 (2023)
30. *First evidence of axial shape asymmetry and configuration coexistence in ^{74}Zn*
M.Rocchini *et al.* Physical Review Letters **130**, 122502 (2023)
29. *Women and LGBT people aren't tokens - don't treat them as such*
G.Grinyer, *Nature,* **612**, S92 (2022)
28. *Proton 3D tracking and emission time from a short-lived isomer with ACTAR TPC*
J.Giovinazzo *et al.* Nuclear Instruments and Methods in Physics Research A **1042**, 167447 (2022)
27. *Improved measurement of the 0^+_2 to 0^+_1 E0 transition strength for ^{72}Se with SPICE*
J.T.Smallcombe *et al.* Physical Review C **106**, 014312 (2022)
26. *Mirror symmetry at mass A=54: E4 effective charges near doubly magic ^{56}Ni*
D.Rudolph *et al.* Physics Letters B **830**, 137144 (2022)
25. *High-precision half-life determination of ^{14}O via direct β counting*
S.Sharma *et al.* European Physical Journal A **58**, 83 (2022)
24. *Ground state of super-heavy ^{7}H*
M.Caamano *et al.* Physics Letters B **829**, 137067 (2022)
23. *Mirror nucleon removal reactions in p-shell nuclei*
A.N.Kuchera *et al.* Physical Review C **105**, 034314 (2022)
22. *First direct measurement of ^{59}Cu(p,α)^{56}Ni: A step towards constraining the Ni-Cu cycle in the cosmos*
J.S.Randhawa *et al.* Physical Review C **104**, L042801 (2021)
21. *Coulomb excitation of ^{80,82}Kr and a change in structure approaching N=Z=40*
S.A.Gillespie *et al.* Physical Review C **104**, 044313 (2021)
20. *4D imaging of drip-line radioactivity – proton emission from ^{54m}Ni with ACTAR TPC*
J.Giovinazzo *et al.* Nature Communications **12**, 4085 (2021)
19. *Performance tests of a LaBr3:Ce scintillation detector coupled to the GET front-end ASIC*
O.Poleshchuk *et al.* Nuclear Instruments and Methods in Physics Research A **987**, 164863 (2021)
18. *Low-lying single-particle structure of ^{17}C and the N = 14 sub-shell closure*
X.Pereira-Lopez *et al.* Physics Letters B **811**, 135939 (2020)
17. *Signature of a possible alpha-cluster state in N=Z doubly-magic ^{56}Ni*
S.Bagchi *et al.* European Physical Journal **56**, 290 (2020)
16. *High precision branching ratio measurement and spin assignment implications for ^{62}Ga decay*
A.D.MacLean *et al.* Physical Review C **102**, 054325 (2020)

Garth Huber

Professor of Physics
huberg@uregina.ca, (306)585-4240

Education and Professional Development

Degree	Area of Study	Institution	Date
Ph.D.	Experimental Intermediate Energy Nuclear Physics	University of Regina	February, 1988
B.Sc.	Physics (High Honours, Co-Op)	University of Regina	May, 1984
B.Sc.	Mathematics (Great Distinction)	University of Regina	May, 1984

Employment History (Last 10 years)

Professor (Full)	University of Regina	July, 2003 - present
Executive Director	Canadian Institute of Nuclear Physics	May, 2013 – June, 2026

Teaching History (Last 10 years)

Course	Title	Years Taught
PHYS 201	Electricity & Magnetism	2016, 17
PHYS 311	Electromagnetism I	2025
PHYS 322	Physical Optics and Electromagnetic Radiation	2020, 22
PHYS 342	Atomic Physics	2019, 21, 23
PHYS 442	Introduction to Elementary Particle Physics	2024, 25
PHYS 800	Classical Electrodynamics	2016, 17, 19, 20, 22, 23, 25
PHYS 834	Intermediate Energy Nuclear Physics	2018 (co-taught with Papandreou)
PHYS 838	The Structure of the Proton	2022, 24
PHYS 839	The Structure of the Proton II	2023, 24

Supervision (Last 10 years)

Name	Position	Dates of supervision
Abdennacer Hamdi	PDF	2023/8-2026/8
Stephen Kay	PDF	2018/8-2023/5
Philippe Martel	PDF at Mainz	2013/10-2020/3 (co-supervised w/ D. Hornidge)
Zafar Ahmed	PDF	2013/7-2018/6
Vijay Kumar	Short-term PDF	2024/9-2025/6 and 2025/9-12
Dilli Paudyal	Short-term PDF	2017/9-2018/12
Awais Bin Zahid	PhD student	2026/1-
Nermin Sadoun	PhD student	2025/9-
Alicia Postuma	PhD student	2022/9 Started as MSc student 2023/5 Fast tracked to PhD program

Muhammad Junaid	PhD student	2021/1-
Nathan Heinrich	PhD student	2020/9 Started as MSc student 2021/6 Fast tracked to PhD program
Ali Usman	PhD student	2019/7-2025/5
Vijay Kumar	PhD student	2018/9-2024/8
Wenliang Li	PhD student	2013/1-2017/10
Dilli Paudyal	PhD student	2012/8-2017/8
Love Preet	MSc student	2021/12-2023/12
Rory Evans	MSc student	2016/9-2019/8
Ryan Ambrose	MSc student	2016/9-2018/12
Samip Basnet	MSc student	2015/9-2018/8
Love Preet	Research Associate	2024/1-2025/3
Ivan Zhenchuk	BSc researcher	summer 2025
Zach Sullivan	BSc researcher	summer 2024
Portia Switzer	BSc researcher	summer 2023
Emma Kirby	BSc Co-Op student	2021/2-2021/4
Nathan Heinrich	BSc researcher	summer 2019
Coulter Walls	BSc researchers	summer 2018
Michael Hladun	BSc Honours project	2017/9-2018/4
Alexander Bacchiu	BSc Honours project	2016/9-2017/4
Matthew Strugari	BSc researcher	summer 2016

Recipient of the 2024 Award for Outstanding Graduate Supervision, University of Regina

External Service (Last 10 years)

- Canadian Nuclear Physics Long Range Planning Brief Committee, 2015, 20, 25.
- American Physical Society – Division of Nuclear Physics (DNP) Program Committee, 2024-2026.
- American Physical Society – Topical Group on Hadronic Physics (GHP): 2018-Vice Chair, 2019-Chair-Elect, 2020-Chair, 2021-Past Chair.
- Jefferson Lab Hall C Users Executive Committee, 2024-2026.
- Jefferson Lab User's Group Board of Directors (UGBOD), June 2014-16.
- U.K. Science and Technology Facilities Council (STFC): Nuclear Physics Grants Panel 2023
- US National Science Foundation (NSF) Experimental Nuclear Physics Review Panel (ENP) 2018, and referee 2025, 24, 22, 21, 20, 16
- US Department of Energy (DOE) referee 2016, 19, 20, 22, 23, 24
- PhD External examiner: N. Tasneem University of Victoria 2017, B. Cao, University of Uppsala 2026
- Tenure & promotion evaluations: University of Giessen 2024, Catholic University of America 2023, University of Winnipeg 2022, LBNL 2022, Al al Bayt University 2019, University of Manitoba 2018, Memorial University of Newfoundland 2018, 22
- Referee: E.W.R. Steacie Memorial Fund Prize, 2017, 18, 19
- Referee: Physics Letters B 2025, Association of Asia Pacific Physical Societies (AAPPS) Bulletin 2023, Particles 2018
- Astroparticle Physics Community Planning Committee, McDonald Astroparticle Institute, 2019
- TRIUMF Policy and Planning Advisory Committee (PPAC), 2017
- RCMP Homicide Investigation Report (with G.J. Lolos, Z. Papandreou), Sept 2016
- Editorial Committee, Particles (MDPI Journal), 2017-
- Subject Editor for Nuclear Physics, FACETS, 2015-18

University Service (Last 10 years)

- Faculty of Science Associate Dean (Research) Search Advisory Committee, 2022
- Department of Physics CRC2 Chair Subatomic Physics Phenomenology Search Committee, 2021-22
- President's Research Seed Grant Advisory Committee – 2019-2021
- Faculty of Graduate Studies and Research, NSERC CGS-M selection committee, 2021
- Faculty of Graduate Studies and Research, Undergraduate Research Award selection committee, 2020
- Campus Promotion Committee, 2020
- Physics Search Committee, Chair, 2016–17
- Council Committee on Academic Mission, 2015–18
- Chair of Academic Unit Reviews Subcommittee 2016–17
- Physics Academic Review Steering Committee, 2015–16
- Dean of Science Search Committee, 2015–16 and 2016–17
- Faculty of Graduate Studies Ph.D. Committee, 2013–16
- Science Representative to the Faculty of Engineering, 2011–16
- Physics Curriculum Committee, 2004–, Chair since 2007

Scholarly Research (Last 10 years)

Since 2015, I have co-authored 88 peer-reviewed articles, with another 7 presently under review. A selection of recent papers from my group are listed below. Please see my Google Scholar page for more publications.

- A.C. Postuma, et al., *Probing hard/soft factorization via beam-spin asymmetry in exclusive pion electroproduction from the proton*, submitted to Phys. Lett. B, 2025
- S. Ali, et al., *The SHMS 11 GeV/c Spectrometer in Hall C at Jefferson Lab*, Nucl. Instr. Meth. A **1083** (2025) 171070, arXiv: 2503.08706 [physics.ins-det]
- Z. Ahmed, R.S. Evans, I. Goel, G.M. Huber, S.J.D. Kay, W.B. Li, L. Preet, A. Usman, *DEMPgen: Physics event generator for Deep Exclusive Meson Production at Jefferson Lab and the EIC*, Comp. Phys. Communic. **308** (2025) 109444 1-22, arXiv: 2403.06000 [hep-ph]
- J. Arrington, et al., *The Solenoidal Large Intensity Device (SoLID) for JLab 12 GeV*, J. Phys. G **50** (2023) 110501 1-58, arXiv:2209.13357 [nucl-ex]
- A. Bylinkin, et al., *Detector Requirements and Simulation Results for the EIC Exclusive, Diffractive and Tagging Physics Program using the ECCE Detector Concept*, Nucl. Instr. Meth, A **1052** (2023) 168238 1-40 , arXiv: 2208.14575
- G.M. Huber, W.B. Li, W. Cosyn, B. Pire, *u-Channel Color Transparency Observables*, MDPI Physics Special Issue on the Jefferson Lab Color Transparency Workshop 2022 451-461, arXiv: 2202.04470 [hep-ph]
- C. Ayerbe Gayoso, et al., *Progress and Opportunities in Backward angle (u-channel) Physics*, Eur. Phys. J. A **57** (2021) 342 1-28, arXiv: 2107.06748 [hep-ph]
- D. Paudyal, et al., *Extracting the spin polarizabilities of the proton by measurement of Compton double-polarization observables*", Phys. Rev. C **102** (2020) 035205 1-7, arXiv: 1909.02032 [nucl-ex]
- S. Basnet, et al., *Exclusive π^+ electroproduction off the proton from low to high $-t$*, Phys. Rev. C **100** (2019) 065204 1-8, arXiv: 1911.11681 [nucl-ex]
- A.C. Aguilar, et al., *Pion and kaon structure at the Electron-Ion Collider*, Eur. Phys. J. A **55** (2019) 190 1-15. arXiv: 1907.08218 [nucl-ex]
- W.B. Li, et al., *Unique access to u-channel physics: Exclusive Backward-Angle Omega Meson Electroproduction*, Phys. Rev. Lett. **123** (2019) 182501 1-6, arXiv: 1910.00464 [nucl-ex]

Stamatios Katsaganis

Lab Instructor

stamatios.katsaganis@uregina.ca, (306) 585 4205,

Education and Professional Development

2007 – 2011	M.Sc. Nuclear Physics, University of Regina, SK, Canada
1999 – 2005	B.Sc. Physics, National and Kapodistrian Univesity of Athens, Greece

Employment History

2024 – present	Lab Instructor III (tenure), University of Regina, SK, Canada
2021 – 2024	Lab Instructor II (tenure track), University of Regina, SK, Canada
2017 – 2021	Lab Instructor I, University of Regina, SK, Canada
2017 – 2019	Sessional Lecturer, University of Regina, SK, Canada

Teaching History

PHYS 109 LAB	General Physics I (2015, 16, 17, 19, 20, 21)
PHYS 111 LAB	Mechanics (2018, 19, 20, 23, 24, 26)
PHYS 112 LAB	Waves and Optics (2023, 24)
PHYS 119 LAB	General Physics II (2023, 24)
PHYS 201 LAB	Electricity and Magnetism (2018, 19, 20, 21, 22, 23, 24)
PHYS 242 LAB	Modern Physics (2019, 20, 21, 22)
PHYS 261 LAB	Heat and Thermodynamics (2023, 24)

University Service

2025	Astronomy donor event, (Demonstrations)
2025	St' Peters' school visit at the UofR (Demonstrations)
2023-present	Member of the Outreach review committee University of Regina
2023	LGBTQ+ student group (STEM) (Demonstrations)
2023	Le Boldus visit at the UofR (Demonstrations/Hands on activities)
2023	University of Regina – FNU (Presentation/Demonstrations)
2022	University of Regina – FNU (Presentation/Demonstrations)
2022	University of Regina Demonstrations for indigenous student group
2022	LGBTQ+ student group (STEM) (Demonstrations)
2022	Balgonie Career Fair Event (Presentation/Demonstrations/Recruitment)

2022	University of Regina 2022 Demonstrations for student group ages 6-8
2021-present	Member of the Lab Instructor review commitee
2019	University of Regina Fall Open House, (Presentation/Demonstrations)
2019	University of Regina Spring Open House, (Presentation/Demonstration)
2019	University of Regina, Faculty of Science Open House, (Demonstrations)
2019	University of Regina Multiple schools Grade 11 Preview, (Demonstration)
2019	St. Dominic School visit at the UofR, (Density, Electricity and Magnetism Demonstrations)
2017-present	Regional Science Fair, (Judge)
2017	National Science Fair at University of Regina, (Judge)

Nikolay Kolev

Assistant Professor

kolev20n@uregina.ca, (306) 585 4262,

Education and Professional Development

PhD, University of Houston, 2003.

BSc, Sofia University, 1994.

Employment History

2015-2017 Lecturer (tenured), Department of Physics, University of Regina.

2017 – present Assistant Professor, Department of Physics, University of Regina

Teaching History

PHYS 109 Introductory Physics I

PHYS 119 Introductory Physics II

PHYS 251/351 Mathematical Physics I

PHYS 261 Heat and Thermodynamics

PHYS 292/392 Physics of Continuous Media

PHYS 342 Atomic Physics

PHYS 362 Statistical Mechanics

PHYS 421 Solid State Physics

PHYS 887AE Computer Simulations in Particle Physics

Two graduate reading classes on neutrino physics

Student Supervision

List undergraduate students, graduate students, post-doctoral fellows, and other relevant trainees carrying out research or other original scholarly activity under your direct supervision within the past ten years. Use the table below to list names, position, and dates of supervision. Additional comments can be made below the table.

Name	Position	Dates of supervision
Luan Koerich (co)	postdoc	May 2024 - present
Deepak Tiwari (co)	postdoc	May 2021 – April 2023
Bruno Pereira-Ferrazzi	PhD student	September 2022 - present
Sirous Yousefnejad	PhD student	January 2021 - present
Luan Koerich (co)	PhD student	September 2019 – August 2022
Bruno Pereira-Ferrazzi	MSc student	September 2019 – August 2022
Deesha Divecha (co)	PhD student	September 2022 – August 2024
Shayaan Sajid (co)	MSc student	September 2020 – August 2023
Divyaben Patel (co)	MSc student	September 2018 – August 2020
Kharia Elmradi	MSc student	September 2017 – August 2022

(co) denotes co-supervisor

University Service

Department Graduate Coordinator

Faculty Review Committee

Department Coop Coordinator

Faculty Student Appeals Committee

Department Curriculum Committee

Faculty Representative to Arts

Department Honours Students Committee

United Way Canvasser

URFA Council and Executive Committee

Scholarly Research

M. Gola et al.,"Assembly, testing, and installation of mPMT photosensor for the Water Cherenkov Test Experiment", Nuclear Instruments and Methods A 1081 (2026) 170903.

K. Abe et al.,"Hyper-Kamiokande: Neutrino Astrophysics and Status", PoS ICRC2025 (2025) 1215.

K. Abe et al., "Sensitivity of the Hyper-Kamiokande experiment to neutrino oscillation parameters using acceleration neutrinos", accepted by the European Physics Journal C (2025).

M Pavin et al., "Measurement of proton-carbon forward scattering in a proof-of-principle test of the EMPHATIC spectrometer", Physical Review D 106 (2022) 11.

K. Abe et al., "Supernova Model Discrimination with Hyper-Kamiokande", Astrophysical Journal 916 (2021) 1.

R. Allahverdi, M. Dalchenko, B. Dutta, A. Florez, Y. Gao, T. Kamon, N. Kolev, R. Mueller, M. Segura, "Distinguishing standard model extensions using monitor chirality at the LHC", Journal of High Energy Physics 12 (2016) 046.

B. Dutta, Y. Gao, T. Ghosh, T. Kamon, N. Kolev, "Explaining the CMS dilepton mass endpoint in the NMSSM", Physics Letters B 749 (2015) 326.

K. Abe et al., "The Hyper-Kamiokande experiment: input to the update of the European Strategy for Particle Physics", arXiv:2506.16641 (2025).

M. Pavin et al. (EMPHATIC Collaboration), "A Measurement of Proton-Carbon Forward Scattering in a Proof-of-Principle Test of the EMPHATIC Spectrometer", arXiv:2106.15723 (2021).

T. Akaishi et al. (EMPHATIC Collaboration), "A Proposed Experiment to Measure Hadron Scattering and Production Cross Sections for Improved Neutrino Flux Predictions", arXiv:1912.08841 (2019).

N. Kolev "A Chat about Math, the Universe and Darkness", PUPSS 2021 series, University of Calgary, University of Manitoba, University of Lethbridge (2021).

N. Kolev, "Classical Physics: Particles, Fields and Interactions", 4-th Annual Physics Teachers Workshop (2019).

N. Kolev, "The Dark Side of the Universe", Science Center Public Lecture (2018).

Samantha Lawler

Associate Professor of Astronomy

samantha.lawler@uregina.ca, (306) 586 4242

Education and Professional Development

2009 – 2013	Ph.D. Astronomy, University of British Columbia, BC, Canada
2007 – 2009	M.A. Astronomy, Wesleyan University, CT, USA
2001-2005	B.S. Astrophysics, California Institute of Technology, CA, USA

Employment History

2023 – present	Assoc. Prof. (tenure), University of Regina (Campion College), SK, Canada
2019 – 2023	Asst. Prof. (tenure track), University of Regina (Campion College), SK
2015 – 2019	Plaskett Fellow, NRC-Herzberg, BC, Canada
2013 – 2015	Postdoctoral Fellow, University of Victoria, BC, Canada

Teaching History

ASTR 390	Selected Topics in Astrophysics (23F)
ASTR 119	Astrobiology (20F, 21F, 22F, 24W, 25W)
ASTR 201	Solar System Astronomy (20W, 21W, 22W, 23W, 24F)
ASTR 101	Intro to Astronomy (19F, 20W+F, 21W+F, 22W+F, 23W+F, 24W+F, 25W)
ASTR 255	Planetary Science (15W, 18W, 19W – University of Victoria)

Student Supervision

Name	Position	Dates of supervision
Jaidyn Draper	UG Research Asst, Honours BSc	S24, S25-present
Mark Comte	Research Asst.	W21-F24, F25
Adam Herriot	UG Research Asst.	F24-W25
Mriana Yadkoo	UG Research Asst.	W24
Madison Blatchford	Honours BSc	F22-W23
Breanna Crompvoets	Honours BSc	F20-S21
Emily Crumley	UG Research Asst.	F20-S21, W22
Lowell Peltier	Research Asst.	F20-S21
Mriana Yadkoo	Co-op student	F20

Abdelrahman Rabaa	Co-op student	F20

In addition to the above University of Regina students, I have been:

- co-supervisor for University of Canterbury PhD student Rosemary Dorsey (W21-W25)
- co-supervisor for University of Victoria PhD student Lowell Peltier (F21-present)
- supervisor for University of Victoria BSc Honours student Cameron Semenchuck (S22-W24)
- external examiner for University of Victoria MSc student Fletcher Waller (W24)
- supervisor for University of Toronto BSc student Maelle Magnan (S23)
- supervisor for Kwantlen Polytechnic Honours BSc student Erinn Psajd (F21-W22)
- supervisor for University of Victoria Honours BSc student Fletcher Waller (S18-W19)

University Service

S25 – present Director on the Board of the Canadian Astronomical Society (CASCA)
S25 – present Chair of the Committee for the Protection of Astronomy and the Space Environment (COMPASSE), American Astronomical Society (AAS)
W25 – present Division for Dynamical Astronomy Awards Committee (AAS)
F24 – present Founder/co-chair of the Canadian Dark & Quiet Skies Group (CASCA)
S23-W24 Academic Review Committee (Campion)
S23-F24 URFA Bargaining Advisory Committee (Campion)
W23 – present COMPASSE committee (AAS)
W23-W24 Local organizing committee for Queer in STEM Canada Conference (UR)
dates withheld Galactic Chair, Canadian National Time Allocation Committee (CASCA)
dates withheld Panelist for NASA grant allocation committee (NASA)
W23 – S25 Indigenous Engagement Committee (CASCA)
W22- W24 Environmental Sustainability Committee (Campion)
W22-present Women in Science and Engineering executive committee (UR)
W21 – W22 Lead organizer for Canadian Virtual Astronomy Seminar (CASCA)
F21-S22 Chair of Awards Committee (CASCA)
S20-W22 Sessional Appointments and Research Committee (Campion)
F19-S21 Awards Committee (CASCA)
F19-S20 Future Faculty Hires Committee (Campion)
W19-W23 Founder/vice-chair Postdoc Committee (CASCA)
dates withheld Referee for *Nature, Astrophysical Journal, Astronomical Journal, Planetary Science Journal, Advances in Space Research, Nature Astronomy, Journal of Space Safety Engineering, Open Journal of Astrophysics*
*Visits to local schools and remote schools: at least a couple per semester.
*Science communication via media interviews on astronomy topics: at least one per week on average since 2021.

Scholarly Research

Over the last 10 years, I have authored or co-authored 42 research articles and 21 science communication articles for the general public. Additional publications are on my faculty webpage. The most recent publications are listed below.

63. **Small Bodies in the Outer Solar System**
Lawler S & Pike R, book chapter for *The Encyclopedia of Astrophysics* Volume 1 (2026)
62. **LiDO: Exploring the Stable Plutino Phase Space**
Lawler S et al. *The Planetary Science Journal* (2025)
61. **Keep Calm and Orbit On (column): Reflect Orbital is the Worst**
Lawler S. *Journal of the Royal Astronomical Society* (2025)
60. **The visibility of the Otautahi-Oxford interstellar object population model in LSST**
Dorsey R et al. *The Planetary Science Journal* (2025)
59. **Discovery and dynamics of a Sedna-like object with a perihelion of 66 au**
Chen Y et al. *Nature Astronomy* (2025)
58. **Keep Calm and Orbit On (column): Ten Times the Fun**
Lawler S. *Journal of the Royal Astronomical Society* (2025)
57. **The Surfaces of Small to Midsize Plutinos**
Collyer C et al. *The Planetary Science Journal* (2025)
56. **LiDO: Discovery of a 10:1 Resonator with a Novel Libration State**
Pike R et al. *The Planetary Science Journal* (2025)
55. **Keep Calm and Orbit On (column): Saturn's 128 New Moons (Oops!)**
Lawler S. *Journal of the Royal Astronomical Society* (2025)
54. **What goes up must come down**
Lawler S. *Live Science* (2025)
53. **A New, Deadly Era of Space Junk Is Dawning, and No One Is Ready**
Lawler S. *Scientific American* (2024)
52. **SpaceX space junk crashed onto Saskatchewan farmland, highlighting a potential impending disaster**
Lawler S. *The Conversation Canada* (2024)
51. **As the skies become crowded with satellites, will it affect viewing the solar eclipse?**
Lawler S. et al. *The Conversation Canada* (2024)
50. **An Astronomer's Lament: Megaconstellations are Ruining Space Exploration**
Lawler S. *The Conversation Canada* (2024)
49. **Satellite Visibility During the 2024 April Total Eclipse**
Lawler S et al. *Research Notes of the American Astronomical Society* (2024)
48. **Bright satellites are disrupting astronomy**
Lawler S. *Nature News & Views* (2023)
47. **A study of the high-inclination population in the Kuiper belt**
Li J et al. *Monthly Notices of the Royal Astronomical Society* (2023)
47. **FOSSIL. III. Lightcurves of 371 Trans-Neptunian Objects**
Ashton E et al. *The Astrophysical Journal Supplement Series* (2023)
46. **OSSOS. XXVII. Population Estimates for Theoretically Stable Centaurs between Uranus and Neptune**
Dorsey R et al. *The Planetary Science Journal* (2023)
46. **OSSOS XXV: The Populations and Orbital Distributions of the Distant Resonant TNOs**
Crompvoets B et al. *The Planetary Science Journal* (2022)
45. **Visibility Predictions for Near-Future Satellite Megaconstellations**
Lawler S et al. *The Astronomical Journal* (2022)
44. **The case for space environmentalism**

Nader Mobed

Professor

nader.mobed@uregina.ca, (306) 585 4359

Education and Professional Development

1979 – 1984	Ph.D. Nuclear Physics, McGill University, QC, Canada
1977 – 1979	M.Sc. Nuclear Physics, McGill University, QC, Canada
1973 – 1977	B.Sc. Physics, Pahlavi University, Iran

Employment History

2010 – present	Professor, University of Regina, Regina, SK, Canada

Teaching History

PHYS 835	Elementary Particles (2021, 22, 24)
PHYS 803	Quantum Field Theory (2017, 19, 22, 23)
PHYS 801	Advanced Quantum Mechanics (2018, 20, 23, 24, 25)
PHYS 432	Nuclear Physics (2016)
PHYS 401	Quantum Mechanics I (2017, 25)
PHYS 362	Statistical Mechanics (2016, 17, 19, 23, 25)
PHYS 251	Mathematical Physics I (2020, 24)
PHYS 202	Classical Mechanics I (2017, 18, 23, 25)

Student Supervision

Name	Position	Dates of supervision
		expand table as required with tab key

University Service

2009 – 2022	Associate Dean of Science (Academic)
2013 – 2020	Head of Physics Department
2025	Campus Promotion Committee
2018 – 2019	Member, University of Regina Academic Integrity Committee
2019	Member, Astronomy Faculty Search Committee, Campion College
2016	Member, 3 Faculty Search Committees, Faculty of Engineering and Applied Science
2016	Member, Search Committee for Associate Dean (Academic), Faculty of Engineering and Applied Science
2009 – 2016	The University of Regina Representative on the Admissions Committee - College of Medicine - University of Saskatchewan
2016 – 2025	External Examiner: 15 MSc theses at the University of Regina (Engineering and Applied Science, Computer Science, Mathematics and Statistics, Education)
2022	External Examiner: 1 Physics PhD thesis, McGill University
2016 – 2025	Member: 18 PhD Supervisory Committees at the University of Regina (Engineering and Applied Science, Mathematics and Statistics, Physics)
2016 – 2025	Member: 5 MSc theses defense committees at the University of Regina (Physics)
2016 – 2025	Chair: 32 MSc and 2 PhD theses oral defenses at the University of Regina
2016 – 2025	Referee for journal articles: Annalen der Physik (1), Canadian Journal of Physics (2), Modern Physics Letters (2), Galaxies (2)
2019 – present	Examiner for Quantum Mechanics, Technical Exam Program, Professional Engineers Ontario

Scholarly Research

Pierre-Philippe Ouimet

Assistant Professor

pierre-philippe.ouimet@uregina.ca, (306) 337-2238,

Education and Professional Development

1998-2005 Ph.D. Theoretical Particle Physics, University of Regina, SK, Canada

1994-1998 B.Sc. (Hons) Physics, University of Alberta, Edmonton, AB, Canada

Employment History

2020-present Assistant Professor (Tenured), University of Regina, SK, Canada

2009-2020 Lecturer (Tenured), University of Regina, SK, Canada

Teaching History

100 Level Classes: Phys 109: General Physics I (2015, 19, 20, 21) , Phys 119 General Physics II (2015, 16, 18 *to* 20, 25), Phys 142 From Quarks to the Cosmos (2019 *to* 22).

200 Level Classes: Phys 202 Classical Mechanics I (2015, 16, 24).

300 Level Classes: Phys 301 Classical Mechanics II (2015, 16, 18 *to* 25), Phys 352 Mathematical Physics II (2015 *to* 19, 21)

400 Level Classes Phys 401 Quantum Mechanics I (2015, 16, 18 *to* 24), Phys 411 Advanced Classical Mechanics (2016, 20, 22), Phys 498/499 Honours Seminar (2023 *to* 25),

Graduate Level Classes: Phys 803 Quantum Field Theory I (2025), Phys 805 Quantum Field Theory II (2022)

Student Supervision

Name	Position	Dates of supervision
Shafakat Arifeen	M.Sc. Student	September 2021 to October 23
Shayne Gryba	Honours Thesis	September 2014 to April 2015

In addition I have continued in an unofficial co-supervisory role for Shafakat Arifeen, who is now a PhD student a the University of Alberta.

University Service

International Science Fair Involvement:

July 2018: Invited Judge at the Yakutia International Science Games in Yakutia, Russian Federation.

National Science Fair Involvement and conference organization:

June 2022 to May 2023: Chief Judge (Recruitment) for the Canada Wide Science Fair 2023. *January 2018 to present*: Member of the Canadian Judge Advisory Panel for the Canada Wide Science Fair. *June 2014 to June 2017:* Chief Judge (Recruitment) for the Canada Wide Science Fair 2017.

June 2024 to June 2024: Organizing committee for Theory Canada 17.

Regional Science Fair Involvement:

March 2010 to present: Chief Judge for the Regina Regional Science Fair.

University Wide Committees

Winter 2013 to Winter 2016: Member of the Council Budget Committee.

Faculty of Science Committees

Fall 2021 to present: Member of Faculty of Science Scholarship Committee. *Fall 2016 to Winter 2021:* Member of Science Admissions and Studies Committee. *Fall 2018 to Fall 2020:* Member of Science Faculty Review Committee. *Fall 2012 to Winter 2016:* Science Representative to Campion College Faculty Forum.

Department of Physics Committees

Fall 2021 to Winter 2022: Member of Tier 2 CRC Search Committee. *Fall 2020 to Winter 2021:* Member of Lab Instructor Search Committee. *Winter 2007 to present:* Member of the department of Physics outreach committee.

Scholarly Research

1) Matti Kalliokoski, Vasiliki A. Mitsou, Marc de Montigny, Abhinab Mukhopadhyay, **Pierre-Philippe A. Ouimet**, James Pinfold, Ameir Shaa and Michael Staelens. 2025. *Minicharged Particle Sensitivity of the MAPP Outrigger Detector.* Accepted for publication in: The European Physical Journal Special Topics issue titled The MoEDAL-MAPP Experiment - The LHC's First Dedicated Search Experiment for BSM Physics. It is already up online at https://doi.org/10.1140/epjs/s11734-025-01888-2

2) Tong Wan, Juliette Pimbert, Reshawna L. Chapple, Ying Cao, **Pierre-Philippe A. Ouimet**. 2025. *Characterizing Discourse Group Roles in Inquiry-based University Science Labs.* Phys. Rev. Phys. Educ. Res. 21, 020104.

3) B. Acharya et al. 2025. *Search for Highly-Ionizing Particles in pp Collisions During LHC Run-2 Using the Full MoEDAL Detector.* Phys. Rev. Lett. 134, 071802.

4) B. Acharya et al. 2024. *MoEDAL search in the CMS beam pipe for magnetic monopoles produced via the Schwinger effect.* Phys. Rev. Lett. 133, 071803.

5) Matti Kalliokoski, Vasiliki A. Mitsou, Marc de Montigny, Abhinab Mukhopadhyay, **Pierre-Philippe A. Ouimet**, James Pinfold, Ameir Shaa, Micael Staelens. 2024.*Searching for Minicharged Particles at the Energy Frontier with the MoEDAL-MAPP Experiment at the LHC.* J. High Energ. Phys. 2024, 137.

6) Marc de Montigny, **Pierre-Philippe A. Ouimet**, James Pinfold, Ameir Shaa, Michael Staelens. 2023. *Minicharged Particles at Accelerators: Progress and Prospects.* Accepted for publication in: The European Physical Journal Special Topics issue titled The MoEDAL-MAPP Experiment - The LHC's First Dedicated Search Experiment for BSM Physics. A preprint of this paper is available at https://arxiv.org/abs/2307.07855

7) Luciano M. Abreu, Pedro C. S. Brandao, Marc de Montingy, **Pierre-Philippe A. Ouimet**. 2022. *An Effective Field Theory Treatment of the Production and Annihilation of Magnetic Monopoles and their Relic Abundance.* Euro. Phys. J. C 82, 880.

8) Ying Cao, **Pierre-Philippe Ouimet**, Tong Wan. 2022. *Emergent Explicit Regulation in Collaborative College Science Classrooms.* Paper presented at 2022 ASEE Annual Conference & Exposition, Minneapolis, MN. https://strategy.asee.org/41060

9) B. Acharya et al. 2022. *Search for Highly-Ionizing Particles in pp Collisions at the LHC's Run-1 Using the Prototype MoEDAL Detector.* Eur. Phys. J. C 82, 694.

10) B. Acharya et al. 2022. F*irst experimental search for production of magnetic monopoles via the Schwinger mechanism*. Nature 602, 63-67. https://doi.org/10.1038/s41586- 021-04298-1

11) B. Acharya et al. 2021. *First Search for Dyons with the Full MoEDAL Trapping Detector in 13 TeV pp Collisions.* Published in Phys. Rev. Lett. 126, 071801.

12) L.M. Abreu, M. de Montigny and **P.P.A. Ouimet**. 2020. *An effective field theory approach to monopolium*. The European Physical Journal Plus 135:543.

13) Mariana Frank, Marc de Montigny, **Pierre-Philippe A. Ouimet**, James Pinfold, Ameir Shaa, Michael Staelens. 2020. *Searching for Heavy Neutrinos with the MoEDAL-MAPP Detector at the LHC.* Phys. Lett. B802 (2020) 135204.

14) Ying Cao, Aikaterini Mari, **Pierre-Philippe A. Ouimet**, Amreen Nasim Thompson, Jenay R Sermon. 2019. *Emergent Explicit Group Regulation in Small Group Scientific Activities.* Published in 2019 PERC Proceedings [Provo, Utah, July 24-25, 2019], edited by Y. Cao, S. Wolf and M. B. Bennett, doi:10.1119/perc.2019.pr.Cao.

15) C.A. Hass, Florian Genz, Mary Bridget Kustusch, **Pierre-P. A. Ouimet**, Katarzyna Pomian, Eleanor C. Sayre, Justyna P. Zwolak. 2018. Studying community develop- ment: a network analytical approach. Published in 2018 PERC Proceedings [Wash- ington, DC, August 1-2, 2018], edited by A. Traxler, Y. Cao, and S. Wolf, doi: 10.1119/perc.2018.pr.Hass.

Zisis Papandreou

Professor and Department Head

zisis@uregina.ca, (306) 585 5379

Education and Professional Development

1984 – 1989	Ph.D. Nuclear Physics, University of Regina, SK, Canada
1980 – 1984	B.Sc. (Hons) Physics, University of Regina, SK, Canada

Employment History

2019 – present	Department Head, University of Regina, SK, Canada
2005 – present	Professor, University of Regina, SK, Canada
1998 – 2004	Associate Professor (tenure), University of Regina, SK, Canada
1995 – 1998	Assistant Professor (tenure track), University of Regina, SK, Canada
1993 – 1995	Assistant Professor (tenure track), George Washington University, USA
1990 – 1993	Research Associate, Physics Laboratory, Utrecht University, Netherlands

Teaching History

PHYS 111	Mechanics (2018, 19, 20, 21, 22, 24, 25)
PHYS 112	Waves and Optics (2015, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25)
PHYS 202	Classical Mechanics I (2022)
PHYS 261	Heat and Thermodynamics (2015)
PHYS 301	Classical Mechanics II (2017, 23)
PHYS 319	Health Physics (2015, 17, 18, 20)
PHYS 834	Intermediate Energy Nuclear Physics (2018)
PHYS 887AZ	Strong Interactions and Photon Polarization (2018)

Student Supervision

Name	Position	Dates of supervision
Tegan Beattie	Research Associate	May 2019 – present
Varun Neelamana	Post-doctoral fellow	September 2024 – May 2025
Jonathan Zarling	Post-doctoral fellow	August 2019 – July 2024
Ahmed Foda	Post-doctoral fellow	August 2021 – March 2022

Andrei Semenov	Research Scientist	May 2007 – April 2018
Irina Semenova	Research Associate	May 2007 – April 2018
Harsimran Singh	PhD student	September 2024 – present
Varun Neelamana	PhD student	July 2020 – August 2024
Kathik Suresh	PhD student	July 2019 – August 2023
Ahmed Foda	PhD student	September 2015 – December 2020
Noemi Ochoa	PhD student	September 2014 – May 2016
Tegan Beattie	PhD student	May 2014 – May 2019
Akshay Ramasubramanian	MSc student	September 2025 – present
Halen Davies	MSc student	September 2025 – present
MacQuarrie Thomson	MSc student	September 2024 – present
Gabriel de Biase	MSc student	May 2022 – present
Azizah Mahmood	MSc student	September 2020 – August 2024
Kyle Thompson	MSc student	September 2016 – August 2018
Jamie Fortun-Stoker	MSc student	September 2013 – August 2015
Emily Pepper	BSc USRA summer student	May 2025 – August 2025
Madelyn Kaban	BSc USRA summer student	3 summers; 2022, 2023, 2024
Madison Blatchford	BSc USRA summer student	May 2023 – August 2023
Zeel Patel	BSc Coop thesis project	September 2024 – December 2024
James Giroux	BSc honours thesis project	September 2020 – May 2021
James Giroux	BSc USRA summer student	3 summers; 2019, 2020, 2021
Coulter Walls	BSc honours thesis project	September 2018 – April 2019
Breanna Crompvoets	BSc UGRA summer student	May 2019 – August 2019
Dhillon Ross	BSc summer student	May 2019 – August 2019
Colleen Henschel	BSc honours thesis project	2 summers; 2016, 2018

University Service

2019 – present Department Head, Department of Physics, University of Regina
2017 – present Chair, Pub Talk Committee, Faculty of Science, University of Regina
2016 – present Member (Elected), Executive of Council, University of Regina
2015 – present Chair, Outreach Committee, Department of Physics, University of Regina
2015 – present Undergraduate Advisor, Department of Physics, University of Regina
2016, 2021 Author of two plans for Fedoruk Centre Chairs in Physics, University of Regina
2021 – 2022 Member, Search Committee for Provost, University of Regina
2020 – 2022 Member, Search Committee for Associate VP Research, University of Regina
2020 – 2020 Acting Department Head, Department of Geology, University of Regina
2019 – 2019 Internal Reviewer, Academic Unit Review, Faculty of Engineering University of Regina
2018 – 2019 Organizing Committee, Winter Nuclear and Particle Physics Conference
2015 – 2016 Member, Faculty Review Committee, Faculty of Science, University of Regina

* I also served as an external examiner for two PhD theses at Lakehead University and University of Manitoba, and Chair of PhD defence and a MSc (Biology, U of Regina), and served as Committee and Ex Officio Member of several Department of Physics Graduate Student Committees.

Scholarly Research

Over the last 10 years, I have authored or co-authored 45 peer-reviewed articles, the 17 most recent of which are provided below. Additional publications can be found on my Google Scholar page.

151. *Measurement of the total compton scattering cross section between 6.5 and 11 GeV*
F. Afzal *et al.* Physics Letters B **870**, 139914 (2025)
150. *Evaluation of the response to electrons and pions in the scintillating fiber and lead calorimeter for the future electron-ion collider*
H. Klest *et al.* JINST **20 07**, P07028 (2025)
149. *Measurement of spin-density matrix elements in phi(1020)-> K_S^0K_L^0 photoproduction with a linearly polarized photon beam at E_gamma=8.2–8.8~GeV*
F. Afzal *et al.* Physical Review C **112**, 025203 (2025)
148. *First measurement of a_2^0(1320) polarized photoproduction cross section*
F. Afzal *et al.* Physical Review C **112**, 015204 (2025)
147. *First Measurement of Near-Threshold and Subthreshold J/psi Photoproduction off Nuclei*
J.R. Pybus *et al.* Physical Review Letters **134**, 201903 (2025)
146. *Measurement of Spin-Density Matrix Elements Delta++(1232) photoproduction*
F. Afzal *et al.* Physics Letters B **863**, 139368 (2025)
145. *Upper Limit on the Photoproduction Cross Section of the Spin-Exotic pi1(100)*
F. Afzal *et al.* Physical Review Letters **133**, 26 (2024)
144. *Search for axion-like particles through nuclear Primakoff production using the GlueX detector*
J.R. Pybus *et al.* Physics Letters B **855**, 138790 (2024)
143. *The present and future of QCD*
P. Achenbach *et al.* Nuclear Physics A **1047**, 139914 (2024)
142. *Measurement of Spin-Density Matrix Elements in rho (770) Production with a Linearly Polarized Photon Beam at E_gamma=8.2-8.8GeV*
S. Adhikari *et al.* Physical Review C **108**, 055204 (2023)
141. *Measurement of the J/psi photoproduction cross section over the near-threshold kinematic region*
S. Adhikari *et al.* Physical Review C **108**, 025201 (2023)
140. *Evaluation of longitudinal double-spin asymmetry measurements in semi-inclusive deep-inelastic scattering from the proton for the ECCE detector design*
C. Van Hulse *et al.* Nuclear Instruments and Methods A **1056**, 168563 (2023)
139. *Strong Interaction Physics at the Luminosity Frontier with 22 GeV Electrons at Jefferson Lab*
A. Accardi *et al.* Eur. Phys. J. A **60** (2024) 173 (2023)
138. *Precision studies of QCD in the low energy domain of the EIC*
V.D. Burkert *et al.* Progress in Particle and Nuclear Physics **131** 04032 (2023)
137. *Design and Simulated Performance of Calorimetry Systems for the ECCE Detector at the Electron Ion Collider*
F. Bock *et al.* Nuclear Instruments and Methods A **1055**, 168464 (2023)
136. *Detector requirements and simulation results for the EIC exclusive, diffractive and tagging physics program using the ECCE detector concept*
A. Bylinkin *et al.* Nuclear Instruments and Methods A **1052**, 168563 (2023)
135. *ECCE Sensitivity Studies for Single Hadron Transverse Single Spin Asymmetry Measurements*
R. Seidl *et al.* Nuclear Instruments and Methods A **1049**, 168017 (2023)

Shaun Szymanski

Lab Instructor III

shaun.szymanski@uregina.ca, (306) 585 4243,

Education and Professional Development

Certificate of Machinist 2025

Saskatchewan Polytechnic

M.Sc. Theoretical Physics 2010

Thesis: *The Strange Quark Mass in Lattice QCD*

Supervisor: Dr. R. Lewis

University of Regina

B.Sc. Physics and Mathematics 2003

University College of the Fraser Valley

Employment History

Lab Instructor III 2017-present

Department of Physics, University of Regina

Lab Instructor II 2011-2017

Department of Physics, University of Regina

Teaching History

Physics 109 - General Physics I Lab

Physics 119 - General Physics II Lab

Physics 111 – Mechanics Lab

Physics 112 - Waves and Optics Lab

Physics 201 - Electricity and Magnetism Lab

Physics 242 - Introduction to Modern Physics Lab

Physics 261 - Heat and Thermodynamics Lab

Physics 392 - Physics of Continuous Media Lab

Student Supervision

N/A

University Service

Physics Laboratory Demonstrations

Virtual Demonstrations for Indigenous Students at FNUniv Event	2022
Regina Montessori School (General Physics)	2019
St. Dominic School (Density, Electricity and Magnetism)	2019
Lumsden School (Waves)	2019
Prairie Sky School Division (Optics)	2019
Winston Knoll High School (Electricity and Magnetism)	2019
Visiting Students to FNUniv (General Physics)	2019
Girl Guides of Canada All Night Event (Organized Multi-Disciplinary Event)	2019
Science Camp Hosted by FNUniv (General Physics)	2018
St. Dominic School (Waves)	2017
Girl Guides of Canada All Night Event (Organized Multi-Disciplinary Event)	2017
St. Dominic School (Waves)	2015

Girl Guides of Canada All Night Event (Organized Multi-Disciplinary Event)	2015
Vibank High School Students (Waves)	2015
Southey High School Students (Waves)	2014

Event Participation

University of Regina Spring Open House (Demonstrations)	2023
Canadian Conference for Undergraduate Women in Physics (Demonstrations)	2023
University of Regina Fall Open House (Presentation/Demonstrations)	2022
Balgonie Career Fair (Dept. of Physics Table with Demonstrations)	2022
University of Regina Fall Open House (Presentation/Demonstrations)	2019
Balgonie Career Fair (Dept. of Physics Table with Demonstrations)	2019
University of Regina Spring Open House (Presentation/Demonstration)	2019
University of Regina Faculty of Science Open House (Presentation/Demonstrations)	2019
University of Regina Grade 11 Preview (Presentation/Demonstration)	2019
University of Regina Grade 11 Sneak Peak (Presentation/Demonstration)	2018
Moose Jaw Career Fair (Dept. Of Physics Table with Demonstrations)	2018
University of Regina Fall Open House (Presentation/Demonstrations)	2018
University of Regina Grade 11 Preview (Presentation/Demonstration)	2017
University of Regina Grade 11 Preview (Presentation/Demonstration)	2016
University of Regina Dept. of Physics Open House (Co-Organized)	2016
Science Rendezvous (Demonstrations)	2016
Science Rendezvous (Demonstrations)	2015

Community Service

Regina Regional Science Fair Judge	2005-2018
National Science Fair Judge	2017

Gojko Vujanovic

Assistant Professor
Canada Research Chair – Tier 2

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Education and Professional Development

2010 – 2015	Ph.D. Nuclear Physics, McGill University, QC, Canada
2008 – 2010	Visiting Researcher in Astrophysics, University of Toronto, ON, Canada
2006 – 2008	M.Sc. Nuclear Physics, McGill University, QC, Canada
2003 – 2006	B.Sc. (Hons) Physics, McGill University, QC, Canada

Employment History

2022 – present	Assistant Professor (tenure track), University of Regina, SK, Canada
2020 – 2022	Postdoctoral Research Associate, Wayne State University, MI, USA
2018 – 2020	Postdoctoral Fellow, Wayne State University, MI, USA
2015 – 2018	Postdoctoral Fellow, The Ohio State University, OH, USA

Teaching History

PHYS 890BB	Advanced Nuclear Physics (2024)
PHYS 810	General Relativity (2024)
PHYS 411/811	Advanced Classical Mechanics (2023, 24)
PHYS 352	Mathematical Physics II (2025)
PHYS 322	Physical Optics and Electromagnetic Radiation (2024, 26)

Student Supervision

Name	Position	Dates of supervision
Amit Kumar	Post-doctoral Fellow	May 2024 – present
Lukas Opitz	PhD student	May 2024 – present
Hemanth Regi	MSc Student	September 2023 – present
Gabriel Rabelo Soares	Visting Graduate Research Student	September 2023 – March 2024

University Service

2025 – present	Associate Editor of the Canadian Journal of Physics
2025	Faculty Co-Lead, Theory Canada 17, Regina SK
2025	Judge, Regina Regional Science Fair, Regina SK

2025	Search Committee member for Instructor III, Computer Science, University of Regina
2025	Selection Committee, NSERC USRA, University of Regina
2024	University of Regina Delegate, Science Meets Parliament, Ottawa ON
2024 – present	Member of the Physics PhD Comprehensive Examination Committee, University of Regina
2023 – 2025	Executive of Council, Faculty of Science member, University of Regina
2023 – present	Council Member, JETSCAPE Collaboration, International Collaboration funded by NSF, USA
2023	Judge, Canadian Conference for Undergraduate Women in Physics, Regina SK

* In addition to the above, I served on the Examination Committee of the Honour Thesis Defense of two students in 2024, I serve on the PhD thesis advisory committee for one student.

Scholarly Research

Over the last 10 years, I have authored or co-authored 49 peer-reviewed articles, the 20 most recent of which are provided below. Additional publications can be found on my INSPIRE-HEP page.

1. A. Kumar, **G. Vujanovic**, *Bremsstrahlung photon contributions to parton energy loss at high virtuality Q^2: a perturbative calculation at $O(\alpha_{em}\alpha_s)$*, arXiv:2502.02667, Physical Review C 112, 025204 (2025)
2. C. Sirimanna et al., *Hard-photon-triggered jets in p-p and A-A collisions*, Physical Review C 111, 064911 (2025)
3. **G. Vujanovic**, *Electromagnetic Probes of the Quantum Chromodynamical Plasma*, Nuclear Physics A 1060, 123119 (2025)
4. W. Fan et al., *A new metric improving Bayesian calibration of a multistage approach studying hadron and inclusive jet suppression*, Physical Review C 109, 064903 (2024)
5. R. Ehlers et al., *Bayesian Inference analysis of jet quenching using inclusive jet and hadron suppression measurements*, Physical Review C 111, 054913 (2025)
6. I. Soudi et al., *A soft-hard framework with exact four momentum conservation for small systems*, Physical Review C 112, 014905 (2025)
7. C. Sirimanna et al., *Photon-triggered jets as probes of multi-stage jet modification*, European Physical Journal Web of Conferences 296, 11008 (2024)
8. R. Ehlers et al., *Measuring jet quenching with a Bayesian inference analysis of hadron and jet data by JETSCAPE*, European Physical Journal Web of Conferences 296, 15009 (2024)
9. A. Mankolli et al., *3D Multi-system Bayesian Calibration with Energy Conservation to Study Rapidity-dependent Dynamics of Nuclear Collisions*, European Physical Journal Web of Conferences 296, 05010 (2024)
10. C. Parker et al., *Hybrid Hadronization of Jet Showers from e^++e^- to A+A with JETSCAPE*, Proceedings of Science 438, Hard Probes 2023, 166 (2024)
11. **G. Vujanovic** et al., *Multiscale evolution of heavy flavor in the QGP*, Proceedings of Science 438, Hard Probes 2023, 100 (2024)
12. A. Majumder et al., *A multistage framework for studying the evolution of jets and high-p_T probes in small collision systems*, Proceedings of Science 438, Hard Probes 2023, 128 (2024)

13. Y. Tachibana et al., *Effects of multi-scale jet-medium interactions on jet substructures*, Proceedings of Science 438, Hard Probes 2023, 165 (2024)
14. Y. Tachibana et al., *Hard Jet Substructure in a Multi-stage Approach*, Physical Review C 110, 044907 (2024).
15. Y. Tachibana et al., *Comprehensive Study of Multi-scale Jet-medium Interaction*, Acta Physica Polonica B Proceedings Supplement 16, 1-A50 (2023)
16. C. Sirimanna, I. Soudi, **G. Vujanovic**, W.-J. Xing, S. Cao, A. Majumder, *Quenching jets increases their flavor*, Physical Review C 108, 014911 (2023)
17. **G. Vujanovic**, *Electromagnetic probes of the Quark-Gluon Plasma*, Acta Physica Polonica B Proceedings Supplement 16, 1-A20 (2023)
18. R. Ehlers et al., *Bayesian analysis of QGP jet transport using multi-scale modeling applied to inclusive hadron and reconstructed jet data*, Acta Physica Polonica B Proceedings Supplement, 1-A62 (2023)
19. W. Fan et al., *Multi-scale evolution of charmed particles in a nuclear medium*, Physical Review C 107, 054901 (2023)
20. A. Kumar et al., *Inclusive Jet and Hadron Suppression in a Multi-Stage Approach*, Physical Review C 107, 034911 (2023)
21. D. Everett et al., *Role of bulk viscosity in deuteron production in ultrarelativistic nuclear collisions*, Physical Review C 106, 064901 (2022)
22. **G. Vujanovic** et al., *Multi-stage evolution of heavy quarks in the quark gluon plasma*, Nuclear Physics A 1005, 121965 (2021)
23. S. Cao et al., *Determining the jet transport coefficient $\hat{q}$ from inclusive hadron suppression measurements using Bayesian parameter estimation*, Physical Review C 104, 024905 (2021)
24. D. Everett et al., *Phenomenological constraints on the transport properties of QCD matter with data-driven model averaging*, Editor's suggestion in Physical Review Letters 126, 242301 (2021)
25. D. Everett et al., *Multi-system Bayesian constraints on the transport coefficients of QCD matter*, Physical Review C 103, 054904 (2021)