

CURRICULUM VITAE

Roman V. Krems

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Professional Preparation:

Postdoctoral - Department of Physics, Harvard University, Cambridge, Massachusetts, USA, January 2003 - July 2005.

Doctoral - Department of Physical Chemistry, Göteborg University, Göteborg, Sweden (Sept 1999 - Sept 2001) and Harvard-Smithsonian Center for Astrophysics in Cambridge, Massachusetts (Oct 2001 - Sept 2002).

PhD in Physical Chemistry from Göteborg University - 4 October 2002.

Undergraduate - Department of Chemistry, Lomonosov Moscow State University, Moscow, Russia - graduated with distinction in July 1999.

Professional Record:

Department of Chemistry, University of British Columbia, Vancouver, Canada.

Distinguished University Scholar (2017 - present)

Professor (2013 - present)

Associate Professor (2009 - 2013)

Assistant Professor (2005 - 2009)

Publications:

> 110 research articles in leading physics journals, two perspectives, four review articles, two news & views commentaries and six book chapters.

Co-editor of the book “Cold Molecules: Experiment, Theory, Applications”, CRC Press (2009).

Author of the book: R. V. Krems, “Molecules in Electromagnetic Fields: from ultracold physics to controlled chemistry”, Wiley (2018).

> 6800 citations (Google Scholar); H-index: 40

Research Presentations:

> 100 invited talks (conference lectures and seminars) since 2003.

Editorial Board Positions:

Member of the Editorial Board for *Machine Learning: Science & Technology* (2020 -)

Member of the Editorial Board for *New Journal of Physics* (2017 - 2020)

Member of the Advisory Board for the journal *Physical Chemistry Chemical Physics* (2010 - 2019).

Synergistic Activities:

Grant review panel for ‘Quantum Leap Challenge Institutes’ at the National Science Foundation, Washington, D.C. (2020)

Grant review panel for ‘Quantum Idea Incubator for Transformational Advances in Quantum Systems’ at the National Science Foundation, Washington, D.C. (2019).

Member of the European Science Foundation College of Expert Reviewers (since 2018)

Discovery Evaluation Group Member for NSERC, Ottawa (2016 - 2019).

Grant review panel member for NASA, Washington, D.C. (2016).

American Physical Society Few-Body Systems Nominating Committee (2016 – 2019)

Expert panel for “Frontier Complex Research Projects” for the government of Romania (2016)

Co-editor of a themed issue on “New Frontiers of Cold Molecule Research” of *New Journal of Physics* in 2015.

Grant review panel member for AMO Physics at the National Science Foundation, Washington, D.C. (2014).

Panel member for the conference series on “Cold and Controlled Molecules” (2012 - 2016).

Co-editor of a themed issue on “Manipulation of Molecules with Electromagnetic Fields” of *Molecular Physics* in 2013.

Scientific committee member, European Science Foundation workshop on Cold and Ultracold Molecules held on 18-23 November 2012 in Universitätszentrum Obergurgl, Austria.

Co-editor of a themed issue on “Physics and Chemistry of Cold Molecules” of *Physical Chemistry Chemical Physics* in 2011.

Co-editor of a topical issue on “Cold Polar Molecules” of the *European Physical Journal* published in 2004.

Co-organizer

- Symposium on “New Frontiers of Chemical Dynamics” at the Quantum Systems in Chemistry, Physics, and Biology (QSCP-XXI) workshop, Vancouver (July 2 -9, 2016);
- Kavli Institute for Theoretical Physics program on “Fundamental Science and Applications of Ultracold Polar Molecules” at the University of California in Santa Barbara

(22 Jan - 29 March, 2013);

- Topical discussion meeting on “Fundamental Science with Ultracold Molecules” at ITAMP, Harvard-Smithsonian Center for Astrophysics (Sept 19 - Oct 8, 2011);
- Peter Wall Institute workshop on “Coherence and Decoherence at Ultracold Temperatures”, at the Institute for Advanced Studies-TUM, Munich, Germany (6-9 September 2011);
- Peter Wall Institute workshop on “Coherence in Ultracold Molecular Physics”, UBC, Vancouver (20-23 May 2010);
- Peter Wall Institute workshop on “Coherent Control of Ultracold Molecular Processes”, UBC, Vancouver (1-5 August 2007);
- Symposium on “Coherent Control and Ultracold Chemistry” at the Sixth Congress of the International Society for Theoretical Chemical Physics, UBC, Vancouver (20-21 July 2008);
- Telluride workshop on “Theory of Ultracold Molecules”, Telluride, Colorado (3-9 July 2005);
- Institute for Theoretical Atomic, Molecular and Optical Physics workshop on “Ultracold polar molecules: formation and collisions”, Cambridge, Massachusetts (8-10 January 2004).

Awards and Honours:

UBC Killam Teaching Prize (2017)

Awarded for excellence in teaching.

Named Distinguished University Scholar at the University of British Columbia (2017)

“The Distinguished University Scholar program recognizes members of UBC Faculty who have distinguished themselves as exceptional scholars.”

Elected Member of the College of the Royal Society of Canada (2016)

“Election to the College recognizes individuals who are part of the emerging generation of Canadian intellectual leaders.”

Promising Scientist Prize from Centre de Mécanique Ondulatoire Appliquée (2016)

Monetary prize awarded for “scientific and human endeavor and achievement”

Elected Fellow of the American Physical Society (2015)

Citation: “For developing numerical tools for the description of molecular collisions at cold and ultracold temperatures and their control using external electric and magnetic fields.”

The criterion for election is exceptional contributions to the physics enterprise.

Named Kavli Fellow of the U.S. National Academy of Sciences (2015)

Selected by a committee of Academy members from among young researchers “who have already made recognized contributions to science, [...], and who have been identified as future leaders in science.”

The 2014 Charles A McDowell Award for Excellence in Research

Recognizes excellence in pure or applied scientific research by a young faculty member at UBC.

The 2013 Keith Laidler Award from the Canadian Society of Chemistry

“Presented to a scientist residing in Canada who has made a distinguished contribution to the field of physical chemistry, recognizing early achievement in independent research career.”

NSERC Discovery Accelerator Supplement Award (2009)

“Awarded to accelerate progress and maximize the impact of superior research programs.”

Peter Wall Institute for Advanced Studies Early Career Scholar (2007-08)

Harvard-MIT Center for Ultracold Atoms Postdoctoral Fellow (2003-05)

Harvard-Smithsonian Center for Astrophysics Predoctoral Fellow (2001-02)

Fellowship awarded each year to about 5 graduate students globally to allow them to carry out their thesis research at the Harvard-Smithsonian Center for Astrophysics in Cambridge, Massachusetts.

NSF Undergraduate Research Fellowship, Pittsburgh University (1998)

Fellowship awarded to outstanding undergraduate students. Was the only program participant from outside of the U.S.