Kia Boon Ng

Contact Details

Email kbng@triumf.ca

Education

2015 – 2023 **Doctorate**
PH.D IN PHYSICS
University of Colorado, Boulder

2011 – 2015 **Undergraduate**
B.SC (FIRST CLASS HONS.) IN PHYSICS
National University of Singapore

2013 – 2014 **Visiting Student**
YALE – VISITING INTERNATIONAL STUDENTS PROGRAM
Yale University

Work & Research Experiences

2023 – Present

RadMol collaboration
(TRIUMF)
Postdoctoral Research Fellow

Working on the precision metrology of the Schiff moment of $^{227}ThF^{+}$ ions.

2015 – 2023

Eric Cornell's and Jun Ye's eEDM Lab
(JILA)
Research Assistant

Working on the precision metrology of the electric dipole moment of the electron using $^{232}ThF^{+}$ ions.

2013, 2014 – 2015

Björn Hessmo's Cold Atom Lab
(Centre for Quantum Technologies)
Research Intern/Assistant

2014

David DeMille's Atomic Physics Lab
(Yale University)
Research Assistant

2011 – 2012

Leong Chuan Kwek's Group
(Centre for Quantum Technologies)
Research Assistant

2009 – 2011

Singapore Armed Forces
National Service

Mandatory national service.

Awards & Recognition

2016 Tan Kah Kee Postgraduate Scholarship

2015 IPS Medal *for being the best student for the degree of Bachelor of Science (Honours) in Physics*

2015 Lijen Industrial Development Medal *for being the Honours year student with the best academic project in Physics*

2011 – 2015 National University of Singapore Global Merit Scholarship

2011, 2014 University Physics Competition (Silver Medal Award)

2014 Certified Wolfram Technology Associate *Mathematica* Student Level

2012 – 2014 Jurong Shipyard Award *for outstanding work in physics coursework*

2013 Arthur Rajaratnam Prize *for outstanding work in physics lab coursework*

2012 University Physics Competition (Bronze Medal Award)

Selected Publications

1. L. Caldwell, T. S. Roussy, T. Wright, W. B. Cairncross, Y. Shagam, K. B. Ng, N. Schlossberger, S. Y. Park, A. Wang, J. Ye, and E. A. Cornell. Systematic and statistical uncertainty evaluation of the hff^+ electron electric dipole moment experiment. *Phys. Rev. A*, 108:012804, Jul 2023

2. T. S. Roussy, L. Caldwell, T. Wright, W. B. Cairncross, Y. Shagam, K. B. Ng, N. Schlossberger, S. Y. Park, A. Wang, J. Ye, and E. A. Cornell. An improved bound on the electrons electric dipole moment. *Science*, 381(6653):46–50, 2023

3. K. B. Ng, Y. Zhou, L. Cheng, N. Schlossberger, S. Y. Park, T. S. Roussy, L. Caldwell, Y. Shagam, A. J. Vigil, E. A. Cornell, and J. Ye. Spectroscopy on the electron-electric-dipole-moment–sensitive states of ThF^+. *Physical Review A*, 105(2):022823, Feb 2022. Featured in Editor's Suggestion

4. T. S. Roussy, D. A. Palken, W. B. Cairncross, B. M. Brubaker, D. N. Gresh, M. Grau, K. C. Cossel, K. B. Ng, Y. Shagam, Y. Zhou, V. V. Flambaum, K. W. Lehnert, J. Ye, and E. A. Cornell. Experimental constraint on axionlike particles over seven orders of magnitude in mass. *Physical Review Letters*, 126(17):171301, Apr 2021

5. Y. Zhou, Y. Shagam, W. B. Cairncross, K. B. Ng, T. S. Roussy, T. Grogan, K. Boyce, A. Vigil, M. Pettine, T. Zelevinsky, J. Ye, and E. A. Cornell. Second-scale coherence measured at the quantum projection noise limit with hundreds of molecular ions. *Physical Review Letters*, 124(5):053201, Feb 2020

6. Y. Shagam, W. B. Cairncross, T. S. Roussy, Y. Zhou, K. B. Ng, D. N. Gresh, T. Grogan, J. Ye, and E. A. Cornell. Continuous temporal ion detection combined with time-gated imaging: Normalization over a large dynamic range. *Journal of Molecular Spectroscopy*, 368:111257, 2020

7. Y. Zhou, K. B. Ng, L. Cheng, D. N. Gresh, R. W. Field, J. Ye, and E. A. Cornell. Visible and ultraviolet laser spectroscopy of ThF. *Journal of Molecular Spectroscopy*, 358:1–16, 2019

Selected Invited Talks

Mar 2023	PTB Special Seminar
Jan 2023	TRIUMF Quantum and Precision Forum
Aug 2022	North American Conference on Trapped Ions
Dec 2021	National University of Singapore Physics Seminar
Nov 2020	TRIUMF Developing New Directions
Dec 2018	National University of Singapore Centre for Quantum Technologies Seminar