HARRISON—MACRAE FAMILY LECTURE

The Harrison – MacRae Family Lecture Series was established through the generosity of the estate of the late John H. Harrison (Queen's B. Comm., 1949) and Elizabeth (Betty) Harrison (nee MacRae, Queen's B.A., 1949). For over a century the Harrison - MacRae family has attended Queen's University and has shown a distinct enthusiasm for the arts and sciences. Elizabeth Harrison is the daughter of Queen's graduates Alex E. MacRae (B.Sc. Chem. Eng., 1914) and Irene McAllister (B.Sc. Math & Physics, 1914), and sister to Queen's graduates Jean C. Doherty (B.A. 1939), Donalda I. Beattie (B.A. 1939), Marion E. Bradley (B.A. 1946), and brother Robert A. MacRae (B.Sc. Chem. Eng., 1954). Their son Ian Harrison (Queen's B.Sc. Chem. Phys., 1981) is a Professor of Chemistry at the University of Virginia. Numerous children, grandchildren and great grandchildren have likewise attended Queen's University. In recognition of their long affinity for Queen's, this lecture series will feature seminars by distinguished scientists on topics within the fields of chemical physics or physical chemistry.

SELECTED RECENT PUBLICATIONS

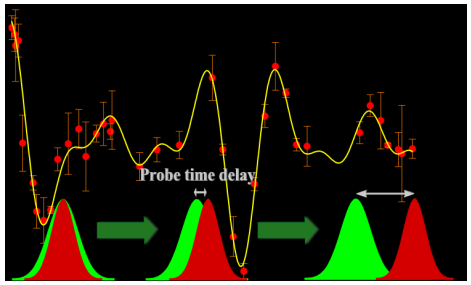
- Z. Saglam, B. Boyacioglu, S.B. Bayram, "Quantum flux associated with a photon on the basis of the Heisenberg uncertainty relation", Results in Physics, vol. 6, pg. 215 (2016).
- M. Salahuddin, P. Arndt, J. McFarland and S.B. Bayram, "Time-resolved UV-IR pump-stimulated emission pump spectroscopy to probe collisional relaxation of 8p2P3/2Cs I", Optics Communications, vol. 356, pg. 536-540 (2015).
- S.B. Bayram and M. Freamat, "Spectral Analysis of Laser Induced Fluorescence", 2015 BFY Proceedings, pg. 9-11 (2015).
- S.B. Bayram, M. Freamat and P.T. Arndt*, "Rotational Spectra of N+2: An Undergraduate laboratory in atomic and molecular spectroscopy", American Journal of Physics, vol. 83, pg. 867 (2015).
- Z. Saglam, M. Saglam, S.B. Bayram, T. Horton, "The spinning period of a free electron and the periods of spin and orbital motions of electron in atomic states", Journal of Modern Physics, vol. 6, no. 15, pg. 2239 (2015).

Queen's Chemistry

Department of Chemistry
Queen's University

is honoured to host the 2018 Harrison—MacRae Lecturer:

Prof. Burçin Bayram
Miami University



"Rovibrationally Resolved Lifetime Measurement of Molecular Sodium"

Friday, April 27, 2018
11:30 AM
Room 117, Chernoff Hall

PROF. S. BURÇIN BAYRAM

S. Burçin Bayram
Department of Physics
Miami University
217 Kreger Hall
500 E. Spring St.
Oxford, OH 45056

Burçin S. Bayram was brought up in Istanbul, Turkey, and received her B.Sc. degree in Physics from the Middle East Technical University, Ankara before moving to the United States in 1991. She received her Ph.D. degree in Physics from Old Dominion University in 1998, working under the mentorship of Prof. Mark Havey on the measurements of relative magnetic dipole-electric quadrupole transition strength in atomic rubidium. Following two postdoctoral research programs at the University of Michigan, working on the continuous-wave laser action in rare-earth-doped dielectric nanoparticles with Prof. Steve Rand (1999-2000) and on the improvement of a single-mode external-cavity laser diode array for laser-polarized xenon samples with Prof. Tim Chupp (2000 -2002), she joined the Miami University faculty as an Assistant Professor of Physics in 2002, where she became Associate Professor of Physics in 2009 and Professor of Physics since 2016.

Research Information:

My research interests are testing and probing the fundamentals of quantum mechanics using time-resolved spectroscopy with a stepwise laser excitation sequence. With this technique my group at Miami has studied alkali-rare-gas collision processes, depolarization cross section and hyperfine structure of the alkali excited states, and probed the excited state multipoles. Currently, we focus on the experimental study of the radiative lifetime of sodium diatomic molecules. Our goal is to map out the lifetime measurements as a function of vibrational and rotational quantum numbers of the highly excited ion-pair state of sodium molecules.

SELECTED HONOURS & AWARDS

- 2016 National Science Foundation (NSF), Experimental Atomic, Molecular and Optical Physics (AMO) Fund Award

- 2015 American Physical Society (APS) Woman Physicist of the Month (May) Award

- 2013 National Science Foundation (NSF), Experimental Atomic, Molecular and Optical Physics (AMO) Fund Award

In addition:

- Membership of the American Physical Society (APS)

- Advanced Laboratory of Physics Association (ALPhA)

- Editorial Board of the International Journal of Experimental Spectroscopic Techniques, and Editorial Board of the Journal of Modern Physics and Applications.