

# K. L. BarryFung

medical imaging researcher

## about

Berkeley, CA  
United States

barry@klfung.ca  
<http://www.klfung.ca>

## languages

english  
limited proficiency in  
cantonese and french

## programming

Python, C/C++/C#  
MATLAB/Octave  
Verilog HDL  
Bash, Git  
TensorFlow  
SQL, Flask, Jekyll  
L<sup>A</sup>T<sub>E</sub>X

## technical skills

algorithm design  
circuit design  
optical design  
FPGA programming  
PCB layout  
embedded systems  
IoT programming  
full-stack web design

## hobbies

classical vocal music  
piano  
biking

## fields of interest

medical imaging, device engineering, magnetic particle imaging, MRI image reconstruction, signal processing

## education

- since 08/17 **JtPh.D.** student in Bioengineering UCSF/UC Berkeley, California, USA  
Biomedical Imaging & Instrumentation Supervised by: Dr. Steven M. Conolly
- 09/12–06/17 **B.A.Sc. with High Honours** University of Toronto, Toronto, Canada  
Engineering Science, Major in Engineering Physics  
*Monte Carlo simulation of polarization-sensitive second-harmonic generation*  
Supervised by: Dr. I. A. Vitkin

## experience (research)

- since 5/18 **Berkeley Imaging Systems Lab , UC Berkeley** Graduate Student Researcher  
*Leukocyte Magnetic Particle Imaging, MPI physics, and device engineering*
- 09/17-4/18 **Conolly/Vandsburger/Diederich Lab, UC Berkeley/UCSF** Rotation Student  
*SPIO studies, Compressed Sensing in CEST, PCB design*
- 06/17-08/17 **XLV Diagnostics, Toronto, Canada** Engineering Intern  
*All-purpose device engineering intern*
- 05/16-04/17 **University Health Network, Toronto, Canada** Undergraduate Researcher  
*MC Simulation of p-SHG*
- 05/15-05/16 **XLV Diagnostics, Toronto, Canada** Engineering Intern  
*All-purpose device engineering intern*
- 05/14-08/14 **Baycrest Health Sciences, Toronto, Canada** Undergraduate Researcher  
*Algorithms for functional connectivity in fMRI datasets*

## experience (misc)

- 01/18-03/19 **Bioengineering Association of Students @ UC Berkeley** Treasurer  
*Managing financial transactions and funding for the graduate association*
- 05/16-04/17 **IEEE U of T Student Branch** Director of Events, Electronics Chapter  
*Directed and assisted in organization of electronics education events*
- 05/16-04/17 **Hart House Chorus** Vice Executive Secretary and Librarian  
*Organized events, and managed the repertoire of the chorus*

- 09/16-12/16 **Division of Engineering Science** Teaching Assistant, ESC103H1  
*Led 2-hour linear algebra tutorials, rated 6.4/7 by students*
- 07/14-11/16 **Engineering Science Discipline Club** Webmaster  
*Maintained website and handled registration systems for events*

## publications

### **Monte Carlo simulation of polarization-sensitive second-harmonic generation and propagation in biological tissue**

K. L. B. Fung, M. Samim, A. Gribble, V. Barzda, and I. A. Vitkin  
 Journal of Biophotonics, Wiley VCH, 2018  
<https://doi.org/10.1002/jbio.201800036>

## posters/talks

- 08/2016 **Monte Carlo simulation of second-harmonic polarimetry**  
 K.L.B. Fung, M. Samim and I. A. Vitkin  
 Undergraduate Engineering Research Day and Medical Biophysics Summer Student Conference
- 08/2014 **Assessing Test-Retest Stability of Resting-state Functional MRI Metrics**  
 K.L.B. Fung and J. J. Chen  
 Medical Biophysics Summer Student Conference

## honours

- 12/12-06/17 **Dean's List** U of T Faculty of Applied Science and Engineering  
 Awarded for academic achievement
- 08/2016 **2nd Place** U of T MBP Summer Student Conference  
 Awarded for research in MC simulation of p-SHG
- 05/2016 **FASE Undergraduate Research Fellowship** U of T Engineering  
 Awarded to do research in MC simulation of p-SHG
- 05/2015 **Engineering Society Award** U of T Faculty of Applied Sciences and Engineering  
 Awarded for academic and extracurricular achievement
- 05/2015 **Rita K Teetzel In Course Scholarship** U of T Engineering  
 Awarded for academic achievement
- 05/2014 **Jack Gorrie Memorial Undergraduate Scholarship** U of T Engineering  
 Awarded for academic achievement
- 05/2014 **Undergraduate Student Research Award** NSERC  
 National research grant for algorithm development at Baycrest
- 04/2012 **Grade 10 Piano** Royal Conservatory of Music  
 National title of achievement in theoretical and practical piano examinations