

Aaron Chun Wang Chan

2013 Fulbright-Lee Hysan Scholar, IEEE Student Member, OSA Student Member, SPIE Student Member
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Research Interests

My current research is on statistical estimation techniques for extracting physiologically relevant parameters, such as blood velocity, from optical coherence tomography data. This would be useful for diagnosing conditions such as glaucoma, hypertension, diabetes and other retinal and cardiovascular conditions. I am interested in the applications of the physical and mathematical sciences into biology and medicine.

Education

University of Hong Kong *full time, expected 2014*
PhD Candidate in Electrical and Electronic Engineering
Hong Kong University of Science and Technology *July 2009*
MSc Mathematics
Fitzwilliam College, University of Cambridge, UK *June 2007*
BA & MSci Hons. Natural Sciences Tripos: Experimental & Theoretical Physics, (*MA conferred*)

Experience

Department of Radiology, Massachusetts General Hospital/Harvard Medical School
Visiting Student Researcher with Dr. Vivek J. Srinivasan *Aug 2011 to Dec 2011*
Estimator Performance of Doppler Estimators for Optical Coherence Tomography
Imaging Systems Laboratory, EEE, University of Hong Kong
Research Assistant with Dr. Edmund Y. Lam *Dec 2009 to Aug 2010*
Theoretical modelling of Higher Dimensional Imaging Systems for Computational Imaging
Department of Diagnostic Radiology, University of Hong Kong
Research Assistant with Dr. Henry K. Mak *Aug 2009 to Nov 2009*
Quantitative Magnetization Transfer MRI for diagnosis of Neuromyelitis Optica:
Wrote algorithms to segment regions of interest; Performed statistical analysis to compare control and patients
Cavendish Laboratory and Wolfson Brain Imaging Centre, University of Cambridge
Final Year Project with Dr. Rob Hawkes *Jan 2007 to May 2007*
Design and Optimization of Magnetic Shielding for hybrid PET-MRI scanner
Cavendish Laboratory, University of Cambridge
Summer Research Assistant with Prof. Richard T. Phillips *Jun 2006 to Sep 2006*
Data processing and equipment control for a New Low Temperature Confocal Microscopy System

Selected Publications

IEEE Transactions on Medical Imaging 2013
Comparison of Kasai Autocorrelation and Maximum Likelihood Estimators for Doppler Optical Coherence Tomography, Volume: 32, Issue: 6, pages 1033–1042 – Aaron C. Chan, Edmund Y. Lam, and Vivek J. Srinivasan
Optical Coherence Tomography and Coherence Domain Optical Methods in Biomedicine XVII, volume 8571 of Proceedings of the SPIE
Peer-reviewed conference paper: Doppler Frequency Estimators under Additive and Multiplicative Noise, pp. 85712H, February 2013 – Aaron C. Chan, Edmund Y. Lam, and Vivek J. Srinivasan
IEEE Biomedical Circuits and Systems Conference 2012
Optimal Doppler Frequency Estimators for Ultrasound and Optical Coherence Tomography, pp. 264-267, November 2012 – Aaron C. Chan, Edmund Y. Lam, and Vivek J. Srinivasan

Selected Awards and Honours

Nuffield Foundation Undergraduate Research Bursary *Summer 2006*
Fitzwilliam College 1912 Scholarship & College Prize *July 2005, July 2004 & July 2004*
Fitzwilliam College Landy Progress Prize in Mathematics *July 2005*

Other Interests

Human Physiology, Chen Style Tai Chi, Football, Tennis, Current Affairs