

## Chris Bradley, PhD

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Born on March 18, 1970 in Te Kuiti (New Zealand).



### Scientific Career (including Education and Appointments)

- Since 2012 Senior Research Fellow, Auckland Bioengineering Institute, University of Auckland, Auckland, New Zealand.
- 2005 - 2012 Senior Research Scientist, Department of Physiology, Anatomy and Genetics, University of Oxford, Oxford, United Kingdom.
- 2001 - 2007 Extraordinary Junior Research Fellow in Engineering, The Queen's College, Oxford, United Kingdom.
- 1999 - 2004 Research Scientist, University Laboratory of Physiology, University of Oxford, Oxford, United Kingdom.
- 1999 Research Engineer, Physiome Sciences, Princeton, U.S.A.
- 1996 - 1998 Limited Term Lecturer, Department of Engineering Science, University of Auckland, Auckland, New Zealand.
- 1998 Doctor of Philosophy in Engineering, The University of Auckland, Auckland, New Zealand.
- 1994 Bachelor of Science in Computer Science and Physiology, The University of Auckland, Auckland, New Zealand.
- 1991 Bachelor of Engineering with First Class Honours in Engineering Science, The University of Auckland, Auckland, New Zealand.

### Scholarships, Awards and Faculty Functions

- 2001 Extraordinary Junior Research Fellowship in Engineering, The Queen's College, Oxford.
- 1999 Vice Chancellors Prize for the Best Doctoral Thesis (Engineering)
- 1995 New Zealand Vice Chancellors' Committee Claude McCarthy Fellowship
- 1993 New Zealand Vice Chancellors' Committee Shirtcliffe Fellowship
- 1992 New Zealand Vice Chancellors' Committee Bank of New Zealand Postgraduate Scholarship
- 1992 University of Auckland Postgraduate Scholarship
- 1992 Health Research Council Junior Research Award in Health Sciences

## Ten most important publications

\* Publications jointly together with UoA-researchers involved within this IRTG

§ Publications jointly together with USTUTT-researchers involved within this IRTG

### A) Published in publication outlets with scientific quality assurance and book publications:

1. \* Britten, R.D.; Christie, G.R.; Little, C.; Miller, A.K.; Bradley, C.P.; Wu, A.; Yu, T.; Hunter, P.; Nielsen, P.: FieldML, a proposed open standard for the Physiome project for mathematical model representation. *Med. Biol. Eng. Comput.*, 51(11), p. 1191-1207, 2013.
2. \*§ Bradley, C.P.; Bowery, A.; Britten, R.; Budelmann, V.; Camera, O.; Christie, R.; Frangi, A.; Gamage, T.B.; Heidlauf, T.; Krittian, S.; Little, C.; Mithraratne, K.; Nash, M.; Nickerson, D.; Nielsen, P.; Nordbo, O.; Omholt, S.; Pahaei, A.; Paterson, D.; Rajagopal, V.; Reeve, A.; Rohrlé, O.; Safaei, S.; Sebastian, R.; Seghofer, M.; Wu, T.; Yu, Zhang, H.; Hunter, P.J.: OpenCMISS: A multi-physics & multi-scale computational infrastructure for the VPH/Physiome Project. *Progress in Biophysics and Molecular Biology*, 107(1), p. 32-47, 2011.
3. Bradley, C.P.; Clayton, R.H.; Nash, M.P.; Mourad, A.; Hayward, M.; Paterson, D.J.; Taggart, P.: Human ventricular fibrillation during global ischemia and reperfusion: paradoxical changes in activation rate and wavefront complexity. *Circ. Arrhythm. Electrophysiol.*, 4, p. 684-91, 2011.
4. \* Christie, G.R.; Nielsen, P.M.; Blackett, S.A.; Bradley, C.P.; Hunter, P.J.: FieldML: concepts and implementation. *Philos. Transact. A Math Phys. Eng. Sci.*, 367(1895), p. 1869-84, 2009.
5. Nash, M.P.; Bradley, C.P.; Sutton, P.M.; Clayton, R.H.; Kallis, P.; Hayward, M.P.; Paterson, D.J. Taggart, P.: Whole heart action potential duration restitution properties in cardiac patients: a combined clinical and modelling study. *Exp. Physiol.*; 91(2), p. 339-354, 2006.
6. Nash, M.P.; Mourad, A.; Clayton, R.H.; Sutton, P.M.; Bradley, C.P.; Hayward, M.; Paterson, D.J.; Taggart, P.: Evidence for multiple mechanisms in human ventricular fibrillation. *Circulation*, 114, p. 536-542, 2006.
7. Nash, M.P.; Bradley, C.P.; Paterson, D.J.: Imaging electrocardiographic dispersion of depolarization and repolarization during ischemia: simultaneous body surface and epicardial mapping. *Circulation*, 107, p. 2257-63, 2003.
8. \* Pullan, A.J.; Cheng, L.K.; Nash, M.P.; Bradley, C.P.; and Paterson, D.J.: Noninvasive electrical imaging of the heart: theory and model development. *Ann. Biomed. Eng.*, 29 (10), p. 817-836, 2001.
9. \* Bradley, C.P.; Pullan, A.J. and Hunter, P.J.: Geometric modeling of the human torso using cubic Hermite elements. *Ann. Biomed. Eng.*, 25(1), p. 96-111, 1997.
10. \* Hunter, P., Bradley, C.P.; Britten, R.; Brooks, D.; Carotenuto, L.; Christie, R.; Frangi, A.; Garney, A.; Ladd, D.; Little, C.; Nickerson, D.; Nielsen, P.; Miller, A.; Steghoffer, M.; Young, A.; Yu, T.: The VPH-Physiome Project: Standards, tools and databases for multi-scale physiological modelling. Book chapter in *Modeling of Physiological Flows, Volume 5* (Eds: Ambrosi, D, Quarteroni, A, Rozza, G.), Springer-Verlag, p. 205-250, 2012.

### B) Other publications

### C) Patents

Supervised graduate students since graduation year 2011

No.	Last Name, First Name	Degree	Title of the dissertation	Duration of thesis
1	Safaei, Soroush	Ph.D.	1D Modelling of Cardiovascular Circulation Using OpenCMISS.	2010 - 2015
2	Yu, Ting	Ph.D.	High Performance Computing in OpenCMISS with Reconfigurable Hardware	2010 - 2014
3	Ladd, David	Ph.D.	A Multiscale Modelling Framework for the Arterial Circulation: Combining CFD, 4D MRI and Open Standards.	2010 - 2015
4	Wang, Zhinuo	Ph.D.	Characterising Human Heart Failure with Clinical Imaging and Structure Based Modelling	2014 -
5	Yousefi, Hashem	Ph.D.	How does the heart grow?	2014 -

Most important research grants since 2011

No.	Research Project	Funding Period	Name(s) of the principal investigator(s)	Funding source and reference number
1	MedTech CoRE	2015-2020	Hunter, P. (Coordinator) Bradley, C. others	Tertiary Education Commission (TEC)