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**PUBLICATION LIST**

My major pre-occupation has then been to research upon the control and propagation of cellular activation. This has proceeded successively in the musculoskeletal, nervous system and the cardiac area. It has worked through molecular events in muscle activation and its implications for cellular electrolyte homeostasis, cellular control of bone resorption under both normal and osteoporotic conditions, the propagation of cellular changes in migraine aura, to my current work on cardiac arrhythmogenesis, for which the following dates may be useful as milestones:

*1978-1993: Demonstration and resolution of dielectric components of the activation signal in skeletal muscle excitation-contraction coupling.*

*1988-1991: Novel methods of promoting clinical nerve regeneration through the use of freeze treated muscle grafts.*

*1988-2004: Cellular signaling physiology regulating osteoclastic bone resorptive activity through multiple calcitonin and unique cell surface ryanodine receptors.*

*1994-2002: Magnetic resonance imaging (MRI) analysis of cardiac changes in animal diabetes and hypertension.*

*1997-2002: Novel MRI methods of measuring apparent diffusion coefficient, diffusion tensor and diffusion anisotropy in human brain tissue.*

*1999-2003: First MRI characterization of cortical spreading depression in feline gyrencephalic brain; physiological fMRI studies in hypoxic, hypercapnic and pharmacological in vivo systems*

*1992-2008: Experimental and novel charge difference modeling studies of skeletal muscle osmotic and electrophysiological homeostasis*

*1993-2006: Biophysical demonstration of allosteric dihydropyridine (DHPR)-ryanodine receptor (RyR) coupling mechanisms in striated muscle.*

*2000-: Re-entrant and Ca<sup>2+</sup>-triggered cardiac arrhythmogenic mechanisms in murine models for hypokalaemia, acidosis and genetic, Brugada, long QT, catecholaminergic polymorphic ventricular tachycardia and metabolic syndromes for sudden adult cardiac death*

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► **Key to prizes, awards and other recognition indicators:**

<sup>[a]</sup> **Work awarded the LEPRA Prize 1977 to CLH, British Leprosy Relief Association, 1977**

<sup>[b]</sup> **Rolleston Memorial Prize, 1980 to CLH (University of Oxford)**

<sup>[c]</sup> **Gedge Prize, 1981 to CLH (University of Cambridge)**

<sup>[d]</sup> **Arris & Gale Medal to AHD, Royal College of Surgeons of England 1987**

<sup>[e]</sup> **Arris & Gale Medal to JMG, Royal College of Surgeons of England 1988**

<sup>[f]</sup> **Papers forming basis of the Action Research Press release: May 13, 1988: with M.A. Glasby & W. Norris: On the use of muscle implants in the clinical repair of peripheral nerve: The Times, The Daily Telegraph, The Independent, The Guardian, The Daily Express, The Daily Mail, Today, Evening Standard, and The Scotsman. Broadcast in: BBC TV News, BBC Tomorrows World, BBC Radio News, BBC World Service, Science Today.**

<sup>[g]</sup> **Work prompting the Editorial: Noble D. Unraveling the genetics and mechanisms of cardiac arrhythmia. Proc Natl Acad Sci U S A. 2002 Apr 30;99(9):5755-6.**

<sup>[h]</sup> **Work awarded the Science, Engineering and Technology (SET) Cadbury Schweppes award of best Biology student 2002 (UK), Institute of Biology at the World Leadership Forum, London, to CAM.**

<sup>[i]</sup> **Papers forming the basis of the press releases on April 25 2003: HeartWire and June 2003: BBC Look East: Breakthrough in arrhythmia mechanism brings hope for future treatments.**

<sup>[j]</sup> **Work forming the basis of the Science, Engineering and Technology (SET) Cadbury Schweppes award of best Biology student 2003 (UK) by the Institute of Biology at the World Leadership Forum, London, to EAF.**

<sup>[k]</sup> **Work forming basis of the Finalist, 2005 Heart Rhythm Young Investigator award to GT: Heart Rhythm UK Intervention, London. [Propranolol paper]**

<sup>[l]</sup> **Work prompting the Editorial by M. I. Lindinger: Intracellular [H<sup>+</sup>]: a determinant of cell volume in skeletal muscle. J Physiol. 2005 Mar 15;563(Pt 3):643.**

<sup>[m]</sup> **Paper prompting the Editorial by DM Roden: "Probing the Arrhythmic substrate". Heart Rhythm. : 2006 Jul;3(7):779-80. doi:10.1016/j.hrthm.2006.04.004**

<sup>[n]</sup> **Faculty Prize Poster award, Faculty of Biology, University of Cambridge, (2006) to J-US.**

<sup>[o]</sup> **Paper prompting editorial in Hannah Critchlow: Understanding the aura. Bluesci 3Aug 06**

<sup>[p]</sup> **Work forming basis of Poster prize; Focused meeting of the Physiological Society: Control and modification of excitation-contraction coupling in healthy and diseased muscle. Heidelberg, Germany, 13 Sept 2006 to J-US.**

<sup>[q]</sup> **Paper forming Award basis of first prize, Young Investigator Award 2006, Heart Rhythm Congress, Birmingham, UK and Young Investigator Award in Basic Science, British Junior Cardiologists Association-Cordis, International Research Awards, London, 2006 to GT**

<sup>[r]</sup> **Work winning the Perutz Prize, Peterhouse, Cambridge, to KS.**

<sup>[s]</sup> **Paper highlighted in key articles: Acta Physiologica 2006/7,**

<sup>[t]</sup> **Top 20 most read articles in Acta Physiologica 2007**

<sup>[u]</sup> **Work awarded Clinical Investigator prize, British Society for Cardiac Research conference, London 2-Oct-07 to INS**

<sup>[v]</sup> **Finalist: Young Investigator Award 2006, Heart Rhythm UK, Annual Congress, Birmingham.**

<sup>[w]</sup> **Work winning the Harrison Prize [Downing College, Cambridge] for LML.**

<sup>[x]</sup> **Paper prompting editorial: Sen-Chowdhry, S & McKenna, W. J. (2008). Non-invasive risk stratification in hypertrophic cardiomyopathy: don't throw out the baby with the bathwater. European Heart Journal 29(13):1600-2. doi: 10.1093/eurheartj/ehn238. Epub 2008 Jun 5.**

<sup>[y]</sup> **Work winning the Schuldham Plate [Gonville and Caius College, Cambridge] for ARM**

<sup>[z]</sup> **Work winning the British Cardiovascular Society for Young Research Workers Competition 2012 for CAM**

<sup>[aa]</sup> **Subject of editorial in Journal of Cardiovascular Electrophysiology: Napolitano C. Bridging the dimensions of research on cardiac ryanodine receptor mutations. J Cardiovasc Electrophysiol. 2013 Feb;24(2):219-20. doi: 10.1111/jce.12028. Epub 2012 Nov 9. PubMed PMID: 23140437.**

<sup>[ab]</sup> **Winner, Carl Ludwig award for the best paper from a young scientist in Acta Physiologica 2012**

<sup>[bb]</sup> **Subject of editorial in Acta Physiologica: Heijman J, Wehrens XH, Dobrev D. Atrial arrhythmogenesis in catecholaminergic polymorphic ventricular tachycardia--is there a mechanistic link between sarcoplasmic reticulum Ca(2+) leak and re-entry? Acta Physiol (Oxf). 2013 Feb;207(2):208-11. doi: 10.1111/apha.12038. PubMed PMID: 23157571.**

<sup>[cc]</sup> **Subject of editorial in Acta Physiologica: Curran J, Louch WE. Linking ryanodine receptor Ca<sup>2+</sup> Leak and Na<sup>+</sup> current in heart: A Day in the Life of Flecainide. Acta Physiol (Oxf). 2015 May 13. doi: 10.1111/apha.12526. [Epub ahead of print] PubMed PMID: 25976700.**

### ► *Monographs, books and edited theme issues*

1. Huang, C.L.-H. (1993). Intramembrane charge movements in striated muscle. Monographs of the Physiological Society, No. 44. Oxford: Clarendon Press. 292 pp.
2. Glasby, M.A. & Huang, C.L.-H. (Eds). (1995). Applied Physiology for Surgery and Critical Care. Butterworth-Heinemann. 756pp.
3. Zaidi, M., Adebajo, O. A. & Huang, C. L.-H. (1998). (Eds.). Molecular and cellular biology of bone. In: E. E. Bittar (Ed.): Advances in Organ Biology. Vols. 5A, B & C. (926 pp). JAI Press: Stanford, CT. & London.
4. Lei, M., Grace, A. A. & Huang, C. L.-H. (Eds.) (2009). Double focus issue: Translational models for cardiac arrhythmogenesis. Progress in Biophysics and Molecular Biology [eds. D. Noble & T. Blundell]. Theme double issue. Volume 98. Wiley-Blackwells.
5. Usher-Smith, J. A., Murrell, G.A.C., Ellis, H.E. & Huang, C.L.-H. (2010). Research in Medicine: Planning a project – writing a thesis. 3/e. (2/e 1999) (1/e: 1990). Cambridge University Press.
6. Keynes, R. D., Aidley. D. J. & Huang, C. L.-H. (2011). Nerve and Muscle 4/e. Cambridge University Press. ISBN: 9780521519557]
7. Sabir I.N, Matthews G.D.K. & Huang C.L.-H. (2013) (Eds: invited). Sudden arrhythmic death: from basic science to clinical practice. Frontiers in Physiology. section Cardiac Electrophysiology. Theme volume.
8. Chambers, D., Huang, C. L.-H & Matthews, G.D.K. (2014). Basic Physiology for Anaesthetists. Cambridge University Press.
9. Lei, M, Solaro, J., Huang, C. L.-H. & Ke, J. (2015). (Eds: invited) Ca<sup>2+</sup> Signaling and Heart Rhythm. Frontiers in Physiology, section Cardiac Electrophysiology

### ► *Scientific papers and articles*

10. <sup>[a]</sup>Huang, C.L.-H. (1980). The transmission of leprosy in man. International Journal of Leprosy. 48, 309-318.
11. <sup>[b,c]</sup>Huang, C.L.-H. (1981). Dielectric components of charge movements in skeletal muscle. Journal of Physiology. 313, 187-205.
12. <sup>[b,c]</sup>Huang, C.L.-H. (1981). Membrane capacitance in hyperpolarized muscle fibres. Journal of Physiology, 313. 207-222.
13. Huang, C.L.-H. (1981). Effects of local anaesthetics on the relationship between charge movements and contractile thresholds in frog skeletal muscle. Journal of Physiology. 320, 381-391.
14. Huang, C.L.-H. (1982). Pharmacological separation of charge movement components in frog skeletal muscle. Journal of Physiology. 324, 375-387.
15. Duane, S. & Huang, C.L.-H. (1982). A quantitative description of the voltage-dependent capacitance in frog skeletal muscle in terms of equilibrium statistical mechanics. Proceedings of the Royal Society, Series B. 215, 75-94.
16. Huang, C.L.-H. (1983). Experimental analysis of alternative models of charge movement in frog skeletal muscle. Journal of Physiology. 336, 527-543.

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18. Huang, C.L.-H. & Keynes, R.J. (1983). Terminal sprouting of mouse motor nerves when the post-synaptic membrane degenerates. *Brain Research*, 274. 225-229.
19. Keynes, R.J., Hopkins, W.G. & Huang, C.L.-H. (1984). Regeneration of mouse peripheral nerves in degenerating skeletal muscle: guidance by residual muscle fibre basement membrane. *Brain Research*. 295(2), 275-282.
20. Adrian, R.H. & Huang, C.L.-H. (1984). Charge movements near the mechanical threshold in skeletal muscle of *Rana temporaria*. *Journal of Physiology*. 349, 483-500.
21. Adrian, R.H. & Huang, C.L.-H. (1984). Experimental analysis of the relationship between charge movement components in skeletal muscle of *Rana temporaria*. *Journal of Physiology*. 353, 419-434.
22. Huang, C.L.-H. (1984). Analysis of "off" tails of intramembrane charge movements in skeletal muscle of *Rana temporaria*. *Journal of Physiology*. 356, 375-390.
23. Huang, C.L.-H. (1986). Contractile activation in myotomes from developing larvae of *Xenopus laevis*. *Journal of Physiology*. 375, 391-401.
24. Huang, C.L.-H. (1986). The differential effects of twitch potentiators on charge movements in frog skeletal muscle. *Journal of Physiology*. 380, 17-33.
25. Glasby, M.A., Gschmeissner, S., Hitchcock, R.J.I. & Huang, C.L.-H. (1986). The dependence of nerve regeneration through muscle grafts on the availability and orientation of basement membrane in the rat. *Journal of Neurocytology*. 15, 497-510.
26. Glasby, M.A., Gschmeissner, S., Hitchcock, R.J.I., Huang, C.L.-H. & de Souza, B.A. (1986). A comparison of nerve regeneration through nerve and muscle grafts in rat sciatic nerve. *Neuroorthopedics*. 2, 21-28.
27. Glasby, M.A., Gschmeissner, S., Huang, C.L.-H. & de Souza, B.A. (1986). Degenerated muscle grafts used for peripheral nerve repair in primates. *Journal of Hand Surgery*. 11B., 347-351.
28. Glasby, M.A., Gschmeissner, S., Hitchcock, R.J.I. & Huang, C.L.-H. (1986). Regeneration of the sciatic nerve in rats. The effects of muscle basement membrane. *Journal of Bone and Joint Surgery*. 68B, 829-833.
29. <sup>14,17</sup>Davies, A.H., De Souza, B.A., Glasby, M.A., Gschmeissner, S.E. & Huang, C.L.-H. (1986). Nerve growth in Cardiac Muscle. *Texas Heart Institute Journal*. 13, 447-452.
30. Huang, C.L.-H. (1987). "Off" tails of intramembrane charge movements in frog skeletal muscle in perchlorate-containing solutions. *Journal of Physiology*. 384, 492-509.
31. <sup>14,17</sup>Davies, A.H., de Souza, B.A., Gattuso, J.M., Glasby, M.A. Gschmeissner, S.E. & Huang, C.L.-H. (1987). Peripheral nerve growth through differently oriented muscle matrices. *Neuroorthopedics*. 4, 62-73.

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