BIOGRAPHICAL SKETCH

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NAME	POSITION TITLE
Chua, Michael	Assistant Professor of Cell & Molecular Physiology
eRA COMMONS USER NAME michael_chua	

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	YEAR(s)	FIELD OF STUDY
Monash University, Melbourne, Australia	B.Sc.Hons	76-79	Physiology & Biochem.
Monash University, Melbourne, Australia	M.Sc.	80-83	Physiology
Australian National University, Canberra	Ph.D.	83-86	Physiology
University of Colorado, Denver, CO	Res. Fellow	86-89	Physiology

A. Positions and Honors

1986-89 Postdoctoral Research Fellow, University of Colorado, Denver, CO
1989-93 Research Assistant Professor of Neurology, Department of Neurology and Neurosurgery, Washington University School of Medicine, St. Louis, MO
1993-95 Research Assistant Professor of Cell Biology and Physiology, Washington University School of Medicine, St. Louis, MO
1995-96 Visiting Research Associate in Cell Biology Department, Washington U. Medical School, St. Louis, MO
1996 Consultant to Dr. P. D. Stahl, Washington U. Medical School, St Louis, MO
1997-01 Research Instructor, University of North Carolina, Chapel Hill, NC
2001 Adjunct Investigator, National Institute of Neurological Disorders & Stroke, Bethesda, MD.
2001- Assistant Professor of Cell & Molecular Physiology Department, University of North Carolina, Chapel Hill, NC

Other Experience and Professional Memberships

1997-01 Director of Confocal Facility, UNC Physiology/Neuroscience Center, Chapel Hill, NC
2001-02 Assistant-Director, Michael Hooker Microscopy Facility, University of North Carolina, Chapel Hill, NC
2002-04 Co-Director of the Michael Hooker Microscopy Facility, University of North Carolina, Chapel Hill, NC
2003 Imaging Task Force Committee, School of Medicine UNC, co-author of report to Dean
2004- Working group, Biomedical Research Imaging Center, University of North Carolina
2004- Director of the Michael Hooker Microscopy Facility

Honors

1983-1986 Commonwealth Post Graduate Research Award
1986-1988 Muscular Dystrophy Association Fellowship

B. Selected peer-reviewed publications

1. McLachlan, E. M. & Chua, M. (1983). Rapid adjustment of sarcomere length in tenotomized muscle depends on an intact innervation. Neuroscience Letters, 35, 127-133.
2. Chua, M. & Dulhunty, A. F. (1987). Diazepam reveals different rate limiting processes in rat skeletal muscle contraction. Canadian Journal of Physiology and Pharmacology, 65, 272-273.
3. Chua, M. & Dulhunty, A. F. (1988). Inactivation of excitation-contraction coupling in rat extensor digitorum longus muscle and soleus muscles. Journal of General Physiology, 91, 737-757.

4. Chua, M. & Dulhunty, A. F. (1989). Non-inactivating tension in rat skeletal muscle: effects of thyroid hormone. Journal of General Physiology. 94, 183-203.
5. Betz, W. J., Chua, M. & Ridge, R. M. A. P. (1989). Inhibitory interactions between motoneurone terminals in neonatal rat lumbrical muscle. Journal of Physiology. 417, 25-51.
6. Chua, M. & Betz, W. J. (1991). Characterization of ion channels on the surface membrane of adult rat skeletal muscle. Biophysical Journal. 59, 1251-1260.
7. Petit, J., Chua, M. & Hunt, C. C. (1993). Maximum shortening speed of motor units of various types in cat lumbrical muscles. Journal of Neurophysiology. 69, 442-448.
8. Schieber, M.H., Chua, M., Petit, J. & Hunt, C.C. (1997) Tension distribution of single motor units in multitendoned muscles: Comparison of a homologous finger muscle in cats and monkeys. Journal of Neuroscience 17, 1734-1747.
9. Roberts, R.L., Barbieri, M.A., Pryse, K. M., Chua, M. Morisaki, J.H. & Stahl, P.D. (1999) Endosome fusion in living cells overexpressing GFP-rab5. Journal of Cell Science, 112, 3667-3675.
10. Patrick, V., Chua, M., Nogué, F., Fairbrother, A., Mekeel, H., Xu, Y., Bibikova, T. N., Gilroy, S. and Bankaitis, V. A., (2005) A Sec14p-nodulin domain phosphatidylinositol transfer protein polarizes membrane growth of Arabidopsis thaliana root hairs. Journal of Cell Biology, 168, 801-812.
11. Perez-Vilar, J.,Olsen, J.C., Chua, M., & Boucher, R.C. (2005) pH-dependent Intraluminal Organization of Mucin Granules in Live Human Mucous/Goblet Cells. Journal of Biological Chemistry, 280, 16868 – 16881.
12. Berkowitz, P. Hu, P., Liu, Z., Diaz, L.A., Enghild, J.J., Chua, M.P., & Rubenstein, D.S. (2005) Desmosome signaling: Inhibition of p38MAPK prevents pemphigus vulgaris IgG induced cytoskeleton reorganization. Journal of Biological Chemistry, 10.1074 (published on line).
13. Rossi, A.H., Salmon, W.C., Chua, M., Davis, C.W. (2006) Calcium Signaling In Human Airway Goblet Cells Following Purinergic Activation. Am J Physiol Lung Cell Mol Physiology.
14. Zucker, R.M., Rigby, P., Clements, I., Salmon, W., Chua, M. Reliability of confocal microscopy spectral imaging systems: Use of multispectral beads. Cytometry A. 2007 Jan 31; [Epub ahead of print]

C. Research Support

Ongoing Research Projects

P30-DK065988 (Boucher) 4/1/04-3/31/09
NIH/NIDDK
Molecular Therapy Core Center
The major goal of this Core is to provide a series of important new imaging technologies, as well as histology and EM capabilities to the UNC-CH molecular therapeutics community.
Role: Core Co-Director, Core D – Histology & Imaging Core

P50-HL060280 (Boucher) 9/1/98-8/31/08
NIH/NHLBI
SCOR in Airway Biology/Pathogenesis of Cystic Fibrosis
The major goal of this core is to provide histology, light microscopy, and electron microscopy services, facilities and training to the SCOR investigators.
Role: Core Director, Core C – Histology & Imaging Core

P60 AA011605 (Crews) 12/1/97-11/30/07
NIH/NIAAA
Molecular and Cellular Pathogenesis in Alcoholism
This Alcohol Research Center Grant (ARC) is focused on the unifying hypothesis that common cellular and molecular events caused by ethanol lead to alterations in cellular signaling that trigger tissue specific pathologies.
Role: Core Director

P01 HL051818 (Samulski) 8/1/04-7/31/09
NIH/NHLBI
Gene Therapy for Cystic Fibrosis
The major goal of this core is to facilitate performance of morphologic, immunohistochemical and morphometric studies.
Role: Core Co-Director, Core D – Histology & Imaging Core
(Juliano)
NCBC
Biotechnology Instrumentation Training for Basic and Clinical Researchers
Chapel Hill supports about 40 core facilities, all staffed by professionals who are dedicated to providing the most up-to-date biotechnology equipment and services to the research community at UNC and beyond. While the primary role of these core facilities is to further research, they also represent an untapped educational opportunity. To exploit this opportunity we propose a series of brief but intense exposures to five of the major biotechnology core facilities at UNC.
Role: Director/Instructor, Microscopy Core

P01 HL034322 (Boucher) 12/1/06-11/30/11
NIH/NHLBI
Pulmonary Epithelia in Health and Disease
The major goal of this subproject is to provide histological and electron microscopy services to the PPG projects and to provide light microscopy resources.
Role: Core Director, Core D – Imaging Core

Completed Research Projects