

<b>BIOGRAPHICAL SKETCH</b>			
<b>NAME</b>		<b>POSITION TITLE</b>	
<b>Dr. Andrew Brett Noske</b>			
<b>EDUCATION/TRAINING</b> ( <i>Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.</i> )			
<b>INSTITUTION AND LOCATION</b>	<b>DEGREE</b>	<b>YEAR(s)</b>	<b>FIELD OF STUDY</b>
<b>James Cook University</b> Cairns, Australia	B.I.T (Honours)	2001-2004	Information Technology Computational Biology
<b>University of Queensland</b> Brisbane, Australia	Ph.D.	2005-2009	Structural Cell Biology Computational Biology

### **RESEARCH ACADEMIC POSITIONS**

- 1999** Field research assistant, Dames & Moore, Cairns, Australia. Project: Mammal trapping, bird netting, fish collecting and sorting aquatic macroinvertebrates using microscope
- 2004** Honours student, Dept. of Information Technology, James Cook University, Cairns, Australia. Project: Efficient algorithms for molecular dynamics simulations
- 2005-2009** Ph.D., Division of Molecular Cell Biology, Institute for Molecular Bioscience, University of Queensland, Brisbane, Australia. Project: Multi-scale, spatio-temporal analysis of mammalian cell tomograms

### **AWARDS**

- 2004** University Medal (James Cook University, Cairns, Australia)
- 2004** Australian Postgraduate Award (APA) PhD scholarship (University of Queensland, Brisbane, Australia)
- 2008** *Biochemical Journal* Young Investigator Award (for best presentation by a junior investigator at the Queenstown Molecular Biology meeting)

### **INVITED TALKS (\*COMPETITIVELY-SELECTED)**

- 2007** Winter School in Mathematical & Computational Biology, ARC Centre in Bioinformatics & University of Queensland, Brisbane, Australia
- 2007** Boulder Laboratory for 3D Electron Microscopy of Cells, Dept. of Molecular, Cellular & Developmental Biology, University of Colorado, Boulder, CO, USA
- 2008** 'Systems Biology' symposium, Queenstown Molecular Biology meeting, Queenstown, New Zealand
- 2008** 'Mitochondrial Imaging and Dynamics' symposium, *AussieMit* workshop, Monash University, Melbourne, Australia
- 2009** 'Pre- and post-processing methods for segmentation, denoising and feature detection of ET datasets' session, Asia-Pacific Congress on Electron Tomography, University of Queensland, Brisbane, Australia\*

### **POSTERS**

- 2007** **AB Noske**, GP Morgan and BJ Marsh. Methods for more accurate/efficient 3D reconstruction of mammalian cells by electron tomography (ET). American Society for Cell Biology (ASCB) annual meeting, Washington, DC, USA
- 2009** BJ Marsh, **AB Noske**, GP Morgan, O Cairncross, MA Ragan, G Johnson. Structure-function complexity of the insulin secretory pathway revealed from comparative whole cell maps of insulin-secreting beta cells reconstructed in 3D at 10-15nm resolution using cellular electron tomography. American Society for Cell Biology (ASCB) annual meeting, San Diego, CA, USA
- 2009** G Johnson, **AB Noske**, M Al-Alusi, GP Morgan, BJ Marsh, D Goodsell, A Olson. Automated visualization of subcellular environments: electron tomography in the proteomics era. American Society for Cell Biology (ASCB) annual meeting, San Diego, CA, USA

### **WORKSHOPS/POSTGRADUATE COURSES**

- 2007** 'BioBusiness & Commercialization' workshop, IMBcom Pty Ltd, Brisbane, Australia  
**2007** 'Writing Skills' course, University of Queensland, Brisbane, Australia  
**2007** 'Including Publications into a Thesis' course, University of Queensland, Brisbane, Australia  
**2007** 'Visualization' workshop, Amira Visage Imaging, Sydney, Australia  
**2008** 'Statistics for Biology' course, University of Queensland, Brisbane, Australia

### **PUBLICATIONS**

- 2007 AB Noske**, AJ Costin, GP Morgan and BJ Marsh. Expedited approaches to whole cell electron tomography and organelle mark-up in situ in high-pressure frozen pancreatic islets. *J Struct Biol.* 161:298-313  
**2009** T McComb, O Cairncross, **AB Noske**, DL Wood, BJ Marsh and MA Ragan. Illoura™ a software tool for analysis, visualization and semantic querying of cellular and other spatial biological data. *Bioinformatics.* 25:1208-1210

### **PRESS HIGHLIGHTS**

- 2008** *Faculty of 1000 Biology* evaluation by Terence Frey: <http://www.f1000biology.com/article/id/1100294>

### **PUBLICATIONS PENDING**

- AB Noske**, J Galea, AJ Costin, GP Morgan, MA Ragan and BJ Marsh. Efficient segmentation of cellular tomograms using novel interpolation techniques. *J Struct Biol.* Submitted: Dec 2009  
**AB Noske**, GP Morgan, MA Ragan and BJ Marsh. New computational approaches to improve the isotropy and resolution of 3D cellular reconstructions by mathematical analysis of spherical compartments. *J Struct Biol.* Submitted: Dec 2009  
**AB Noske**, BJ Marsh. Mapping the beta cell in 3D at the nanoscale using novel cellular electron tomography and computational approaches. *BetaSys - Systems biology of regulated exocytosis in pancreatic beta cells.* Springer-Verlag. Chapter 9. Submitted: January, 2010  
**AB Noske**, GP Morgan, O Cairncross, MA Ragan and BJ Marsh. Quantitative 3D spatial analysis of compartments involved in insulin biosynthesis and secretion using a comparative whole cell mapping approach by cellular tomography. *Proc Natl Acad Sci USA*  
AJ Costin\*, **AB Noske**\*, GP Morgan, J Galea, B Bergman, JC Hutton, DN Mastrorarde, JR McIntosh, KE Howell and BJ Marsh. Tomographic studies of structure-function variation along the Golgi ribbon in insulin-secreting cells. *Cell Metabolism* OR *PLoS Biology* (\*co-first authors)  
**AB Noske**, O Cairncross, G Johnson, AJ Costin, GP Morgan, MA Ragan and BJ Marsh. New approaches for the quantitative visualization and analysis of mammalian membrane traffic using 3D spatial image data derived from high-resolution cellular tomograms. *Traffic*