

MEDSCI NZ PROGRAMME 2016

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MedSci 2016 Programme at a glance

Monday 29th August 2016

6.00 pm – 6.10 pm	Opening: Hon Steven Joyce , Queenstown Research Week Chair
6.10 pm – 6.40 pm	QRW Lecture: Professor Yaping Zhang ‘Genetics of adaptation to high altitude’ <i>sponsored by University of Otago</i>
6.40 pm – 7.30 pm	QRW Lecture: Professor John Gurdon (Nobel Laureate) ‘Title TBA’ <i>sponsored by University of Otago</i>
7.30 pm	QRW Social

Tuesday 30th August 2016 – Societies Day

9.00 am – 10.00 am	MedSci Plenary Lecture: David Eisner, The University of Manchester, UK, ‘Calcium in the heart in health and disease’	
10.00 am – 10.30 am	Morning Tea	
10.30 am – 12.30 pm	Session 1A: PSNZ Bullivant Prize Finalists	Session 1B: NZSE Nancy Sirett Lecture and Free Communications
12.30 pm – 1.30 pm	Lunch and separate PSNZ and NZSE AGM’s	
1.30 pm – 3.30 pm	Session 2A: PSNZ Emerging Researcher and Hubbard Prize Finalists	Session 2B: NZSE and IbTec Student Oral Award Finalists
3.30 pm – 4.00 pm	Afternoon Tea	
4.00 pm – 6.00 pm	Session 3A: Free Communications and Infoblitz	Session 3B: Free Communications
6.00 pm – 8.00 pm	Combined MedSci & QMB Poster Session + Mixer	

Wednesday 31st August 2016 – Symposia Day

9.00 am – 10.00 am	MedSci Plenary Lecture: Javier Stern, Augusta University, USA, ‘Synaptic and non-synaptic mechanisms regulate autonomic-neuroendocrine integration in the hypothalamus’	
10.00 am – 10.30 am	Morning Tea	
10.30 am – 12.30 pm	Symposium 1A (PSNZ): Stress responses in cardiac and skeletal muscle	Symposium 1B (CNE): Neurosecretion: the bigger picture
12.30 pm – 1.30 pm	Lunch and MedSci AGM	
1.30 pm – 3.30 pm	Symposium 2A (PSNZ): Interventional approaches targeting the sympathetic nerves in cardiovascular disease	Symposium 2B (IBTec) Respiratory Diagnostics and Therapies
3.30 pm – 4.00 pm	Afternoon Tea	
4.00 pm – 6.00 pm	Symposium 3A (ABI) State-of-the-art computational modelling tools developed to solve physiology problems	Symposium 3B (NZSE): Female reproduction: control of oocyte development and ovulation
6.00 pm	Closing	
6.00 pm	Fashionomics, <i>sponsored by Thermo Fisher Scientific</i>	
7.30 pm	MedSci Dinner + Prize-giving	

Monday 29th August 2016
QRW Opening Night Speaker

Time	Details	Location
6.00 pm – 6.10 pm	Opening: Hon Steven Joyce , and Queenstown Research Week Chair Dr. Peter Shepherd	Maitai 2
6.10 pm – 6.40 pm	QRW Lecture: Professor Yaping Zhang 'Genetics of adaptation to high altitude'	Maitai 2
6.40 pm – 7.30 pm	QRW Lecture: Professor John Gurdon (Nobel Laureate)	Maitai 2
7.30 pm	QRW Social	Maitai 1 and 2

Tuesday 30th August 2016
MedSci Plenary Lecture, Societies' Free Communications, and
MedSci/QMB Poster Session

MedSci Plenary Lecture

9.00 am - 10.00 am	David Eisner, The University of Manchester, UK Calcium in the Heart in Health and Disease Waimea Room, Level 2 Chair: Pete Jones
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10.00 am - 10.30 am	Morning Tea: Trade Exhibition Area, Ground Floor
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Societies' Presentations

10.30 am - 12.30 am	Session 1A: PSNZ Bullivant Prize Finalists Waimea Room, Level 2 Chair: Daryl Schwenke	Session 1B: NZSE Nancy Sirett Lecture and Free Communications Wairau Room, Level 2 Chair: Greg Anderson
10.30 am - 10.45 am	1A.1 Bullivant Prize Contestant 1: Christopher Marshall, University of Otago Interrogation of arcuate nucleus GABAergic NPY neural circuitry in prenatally androgenized female mice	1B.1 Nancy Sirett Lecture: Vicky Cameron, University of Otago, Christchurch If I can stop one heart from breaking, I shall not live in vain
10.45 am - 11.00 am	1A.2 Bullivant Prize Contestant 2: Zay Yar Win, University of Auckland Patient-specific computational model to optimize mechanical ventilation	
11.00 am - 11.15 am	1A.3 Bullivant Prize Contestant 3: Rachel Farquhar, University of Otago The role of the cytoskeleton and Myosin-Vc in the trafficking of KCa3.1 to the basolateral membrane of polarised epithelial cells	
11.15 am - 11.30 am	1A.4 Bullivant Prize Contestant 4: Aaron Korpai, University of Otago Vasopressin secretion exacerbates the development of angiotensin II-dependent hypertension	
11.30 am - 11.45 am	1A.5 Bullivant Prize Contestant 5: Abdallah Hasaballa, Auckland Bioengineering Institute Three-dimensional quantification of collagen morphology in ventricular tissue	1B.2 Jo Perry, University of Auckland Growth hormone receptor antagonism suppresses tumour regrowth after radiotherapy in an endometrial cancer model
11.45 am - 12.00 pm	1A.6 Bullivant Prize Contestant 6: Amelia Power, University of Auckland Compromised energy supply in right heart failure	1B.3 Siew Hoong Yip, University of Otago Changes in dendritic spine density of tuberoinfundibular dopaminergic neurons associated with estrous cyclicity in the rat
12.00 pm - 12.15 pm	1A.7 Bullivant Prize Contestant 7: Lorna Daniels, University of Otago CaMKII inhibition restores contractile performance in cardiac muscle from a rat model of type 2 diabetes	1B.4 Dave Grattan, University of Otago Conditional deletion of the prolactin receptor reveals functional subpopulations of dopamine neurons in the arcuate nucleus of the hypothalamus
12.15 pm - 12.30 pm	1A.8 Bullivant Prize Contestant 8: Pratik Thakkar, University of Auckland Developing and optimizing strategies to treat post-stroke hypertension in a rat model of ischemic stroke	1B.5 Maggie Evans, University of Otago Investigating the role of leptin receptor signalling on dopamine neurons in the control of feeding behaviour and body weight in male mice

12.30 pm	PSNZ AGM	NZSE AGM
12.30 pm - 1.30 pm	Lunch: Trade Exhibition Area, Ground Floor, Rutherford Hotel	
Societies' Presentations		
1.30 pm - 3.30 pm	<p>Session 2A PSNZ Emerging Researcher and Hubbard Prize Finalists Waimea Room, Level 2 Chairs: Marie Ward, Joanne Davidson</p>	<p>Session 2B NZSE and IBTec Student Oral Award Finalists <i>sponsored by Medi'Ray</i> Wairau Room, Level 2 Chairs: Andrew Lowe, Michael Pankhurst</p>
1.30 pm - 1.45 pm	<p>2A.1 Emerging Researcher Prize Contestant 1: Niranchan Paskaranandavadel, Auckland Bioengineering Institute Recovery phase dynamics of gastric slow wave activity</p>	<p>2B.1 NZSE Prize Contestant 1: Mauro Silva, University of Otago Development of GABAergic altered wiring and plasticity in a mouse model of Polycystic Ovary Syndrome (PCOS)</p>
1.45 pm - 2.00 pm		<p>2B.2 NZSE Prize Contestant 2: Shaun Stowe, University of Otago Determining the role of RF-amide related peptide neurons in suppression of the preovulatory surge of luteinizing hormone during restraint stress</p>
2.00 pm - 2.15 pm	<p>2A.2 Hubbard Prize Contestant 1: Chris Lear, University of Auckland Myths and challenges of fetal life</p>	<p>2B.3 NZSE Prize Contestant 3: Michele Wilson, Lincoln University Regulation of C-type natriuretic peptide (CNP) in brain tissues: generalised response to dexamethasone</p>
2.15 pm - 2.30 pm		<p>2B.4 IBTec Prize Contestant 1: Dongni Li, University of Auckland Characterizing the effects of general anaesthesia on circadian rhythm and clock gene expression in <i>Drosophila</i></p>
2.30 pm - 2.45 pm	<p>2A.3 Hubbard Prize Contestant 2: Michelle Munro, University of Auckland Multi-scale cardiomyocyte organisation as a determinant of cardiac function</p>	<p>2B.5 IBTec Prize Contestant 2: Andries Meintjes, Auckland University of Technology Automatic cardiac auscultation decision support system for improved screening and teaching</p>
2.45 pm - 3.00 pm		<p>2B.6 IBTec Prize Contestant 3: Shivani Sethi, Auckland University of Technology, Institute of Biomedical Technologies The vasculoprotective effects of community-based, self-regulated aerobic interval training</p>
3.00 pm - 3.15 pm	<p>2A.4 Hubbard Prize Contestant 3: Xander Seymour, University of Auckland Regulation of oxytocin neurons by central kisspeptin in late-pregnant rats</p>	<p>2B.7 IBTec Prize Contestant 4: Parn Jones, Institute of Biomedical Technologies Feasibility of a novel extra-aortic balloon cuff with peristaltic motion and counterpulsation to assist heart function</p>
3.15 pm - 3.30 pm		<p>2B.8 IBTec Prize Contestant 5: Nargis Afroj Chowdhury, Auckland University of Technology Composite films consisting of regenerated cellulose/polypyrrole/silver nanoparticles/ ionic liquid are potential alternative to wound healing</p>
3.30 pm - 4.00 pm	Coffee Break: Trade Exhibition Area, Ground Floor, Rutherford Hotel	

Societies' Presentations

4.00 pm - 6.00 pm	<p>Session 3A</p> <p>Free Communications and Infoblitz Presentations Waimea Room, Level 2 Chair: Colin Brown, Lindsea Booth</p>	<p>Session 3B</p> <p>Free Communications Wairau Room, Level 2 Chair: Alys Clark, Michelle Munro</p>
4.00 pm - 4.15 pm	<p>3A.1 David Palmer, Lincoln University Viral-mediated gene transfer prevents stereotypical disease development in ovine Batten disease</p>	<p>3B.1 Kate Lee, University of Auckland Responses to vesiculin identify the existence of a signaling pathway that can bypass insulin resistance</p>
4.15 pm - 4.30 pm	<p>3A.2 Vittoria Draghi, University of Auckland Does rate of rewarming after hypothermia affect seizure activity and white matter integrity after global cerebral ischaemia in term-equivalent fetal sheep?</p>	<p>3B.2 Ruby Langdon, University of Canterbury Basis function modelling of respiratory patients with high or low auto-PEEP</p>
4.30 pm - 4.45 pm	<p>3A.3 Simerdeep Dhillon, University of Auckland Pleurodesis with Picibanil during fetal life is associated with neuroinflammation and white matter injury in the preterm brain</p>	<p>3B.3 Ranjan Roy, University of Otago Magnocellular neuronal activation in response to acute myocardial infarction</p>
4.45 pm - 5.00 pm	<p>3A.4 Joanne Davidson, University of Auckland Head cooling for 48 hours is suboptimal for neuroprotection after global cerebral ischemia in term-equivalent fetal sheep</p>	<p>3B.4 Rohit Ramchandra, University of Auckland An ovine model of renovascular hypertension: role of the carotid body chemoreceptors</p>
5.00 pm - 5.15 pm	<p>3A.5 Brian Hyland, University of Otago Reward sensitivity of cue responses of single dorsal raphe nucleus neurons may critically depend on background uncertainty</p>	<p>3B.5 Jesse Ashton, University of Auckland Shift of dominant pacemaker site during reflex vagal stimulation is the result of propagation failure not rate entrainment</p>
5.15 pm - 5.30 pm	<p>Infoblitz Presentations</p> <p>3A.6 Kirsten Carter, University of Otago Feeding-induced regulation of Wnt/beta catenin signaling in the mouse hypothalamus</p> <p>3A.7 Kendra Boyes, University of Otago The role of the prolactin receptor in the developing brain</p> <p>3A.8 Dhananjie Chandrasekera, University of Otago Effect of diabetes on pro-apoptotic microRNA-532 in heart</p> <p>3A.9 Morgan MacLeod, University of Otago The effect of prolactin on AgRP neurons in the arcuate nucleus</p> <p>3A.10 Mohinder Kaplish, University of Otago The effect of pregnancy-induced adaptations on glucagon like-peptide-1 receptor activation-induced stabilisation of beta-catenin in hypothalamic neurons in female rats</p>	<p>3B.6 Zhinuo Jenny Wang, Auckland Bioengineering Institute Quantifying myocardial stiffness uncertainty in heart failure patients using personalised ventricular mechanics</p>

5.30 pm - 5.45 pm	3A.11 Joshua Neale, University Of Otago Examining the role of endogenous ghrelin in vascular homeostasis using a murine model of hind-limb ischaemia	
	3A.12 Melanie Wei, University of Otago Preventing changes in coronary blood flow associated with type 2 diabetic heart disease through exercise - assessed using synchrotron radiation microangiography	
	3A.13 Luke Worthington, University of Otago CaMKII activation in endothelial dysfunction	
	3A.14 Julia McLachlan, University of Otago Development of RyR2-based redox sensor for H2O2 quantification in cardiac dyad microdomain	
5.45 pm - 6.00 pm		
6.00 pm - 8.00 pm	Combined MedSci & QMB Poster Session Maitai Room 2, Ground Floor	
NZSE Posters		
P1	Hsin-Jui (Regina) Lien, University of Otago. Role of kisspeptin in the prolactin-induced suppression of the pulsatile secretion of luteinizing hormone	
P2	Zin Khant Aung, University of Otago. Impaired pregnancy-induced changes to glucose homeostasis in mice lacking prolactin receptors in the pancreas	
P3	Jade York, University of Otago. Morphological characterization of tyrosine hydroxylase immunoreactive neurons in the rat hypothalamus	
P4	Maria Felicitas Lopez Vicchi, University of Otago. Female mutant mice with selective disruption of lactotrope D2Rs have chronic hyperprolactinemia and altered liver and adipocyte genes related to glucose and lipid balance	
IBTec Posters		
P5	Anubha Kalra, Auckland University of Technology. Quantifying skin stretch induced motion artifact from an electrocardiogram signal-A pilot study	
P6	Gautam Anand, Auckland University of Technology. Parametric electrical modelling of human forearm simulation response using multi-frequency electrical bioimpedance	
P7	Ali Adil Ali, Auckland University Of Technology. Functionalised lipid nanoparticles loaded with Paclitaxel for targeted release to ovarian cancer tissue	
P8	KLT Roos, Institute of Biomedical Technologies. Murine models for acute and chronic asthma respiratory outcomes	
P9	Tassanai Parittotokkapor, Institute of Biomedical Technologies. Finite element modeling of the carotid artery for simulation of the pulse wave velocity measurement	
MedSci Posters		
P10	Farzaneh Shalbfaf Hosseinabadi, The University of Auckland. The effect of retinal microstructure on retinal prosthesis performance	
P11	Luis Gonano, University of Otago. Carvedilol and its non- β -blocking analog VK-II-86 prevent digitalis-induced Ca ⁺⁺ waves in cardiac myocytes	
P12	Lynley Lewis, University of Otago. Development of a specific immunoassay to measure BNP1-32 in plasma without the confounding influences of precursor peptides and peptide metabolites: could this improve heart failure diagnosis?	
P13	Ruby Langdon, University of Canterbury. Analysis of pressure dependent resistance and elastance in high auto-PEEP versus low auto-PEEP patients	
Physiological Society of New Zealand Posters (*PSNZ Student Poster Presentation Prize candidate)		
P14	Adam Denny, University of Otago. Oxidised CaMKII – A novel mechanism in the pathophysiology of FSHD	
P15	*Akash Deep Chakraborty, University of Otago. Regulation of RyR2 by Protein Kinase CK2	
P16	*Belvin Thomas, Auckland Bioengineering Institute. A high resolution reconstruction of 3D atrial tissue architecture following tachypacing-induced heart failure in the sheep	

P17	*Brian Shin, University of Otago. Is ferroptosis the driver for the onset of type-2 diabetes under hyperuricemic conditions?
P18	*Chidinma Okolo, University of Otago. O-GlcNAcylation regulates RyR2 function directly
P19	Cindy Cheakhun, University of Otago. Role of uric acid in cardiac stem cell function
P20	Elodie Desroziers, University of Otago. Sexually differentiated co-expression of neuronal nitric oxide synthase (nNOS) in arcuate nucleus GABA neurons
P21	*Hamed Minaeizaeim, University of Auckland. Non-rigid lung image registration using finite element methods
P22	*Jan-Peter Baldin, University of Otago. Shear force activation of the epithelial sodium channel (ENaC): role of the β and γ subunits
P23	*Nazanin Ebrahimi, The University of Auckland. How the heart grows - from multiscale data to multiscale computational model
P24	*Oby Ebenebe, University of Otago. 17β -Estradiol induced calcification and alters CaMKII expression in a mouse model of atherosclerosis
P25	Rachael Augustine, University of Otago. Increase in kisspeptin fibre projections to the oxytocin system in late pregnancy in the mouse
P26	*Ramakanth Satthenapalli, University of Otago. Ventricular specific cardiomyocyte differentiation of mouse embryonic stem cells through modulation of molecular pathways
P27	*Rojan Saghian, Auckland Bioengineering Institute. Predicting the impact of trophoblast plugs on the utero-placental circulation in early pregnancy
P28	*Sama Muglo, University of Otago. Characterising ENaC expression in vasculature
P29	*Shruti Rawal, University of Otago. microRNA-126 and microRNA-132 are the early modulators of diabetic microangiopathy in heart
P30	*Toan Pham, University of Auckland. New insights on cardiac activation heat
P31	Vicky Benson, University of Auckland. Effects of diet composition on development of high fat diet-induced obesity and insulin resistance in rodents
P32	*Yuwen Zhang, Auckland Bioengineering Institute. Automatic principal component based lung lobe segmentation from computed tomography scans
P33	*Nima Afshar, Auckland Bioengineering Institute. Computational modelling of glucose uptake in enterocytes using CellML
P34	*Bram Soliman, University of Otago. Photo-curable thiol-ene gelatin based hydrogels as bioinks for bioprinting
P35	*Win Tun, Auckland Bioengineering Institute. Role of wall shear stress in placental pathology
P36	*Mahyar Osanlouy, University of Auckland. A statistical shape model of the lung to predict pulmonary fissures: Towards a fully automated lung lobe segmentation method
P37	Prisca Mbikou, University of Otago. Role of B-type natriuretic signal peptide on AKT and ERK1/2 activity in myocardial rat ischemia

Wednesday 31st August 2016
MedSci Plenary Lecture and Societies' Symposia

MedSci Plenary Lecture

9.00 am - 10.00 am	Javier Stern, Augusta University, USA Synaptic and non-synaptic mechanisms regulate autonomic-neuroendocrine integration in the hypothalamus' Waimea Room, Level 2 Chair: Colin Brown
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10.00 am - 10.30 am	Morning Tea: Trade Exhibition Area, Ground Floor
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Societies' Symposia

10.30 am - 12.30 pm	Symposium 1A Stress responses in cardiac and skeletal muscle Waimea Room, Level 2 Chair: Kim Mellor	Symposium 1B Neurosecretion: the bigger picture Wairau Room, Level 2 Chairs: Stephen Bunn, Dave Grattan
10.30 am - 11.00 am	S1A.1 Rebecca Ritchie, Baker IDI Institute, Australia Approaches for overcoming diabetes-induced cardiovascular nitric oxide resistance	S1B.1 Paul Le Tissier, University of Edinburgh, UK Neurosecretion and novel mechanisms for its in vivo measurement
11.00 am - 11.30 am	S1A.2 Lea Delbridge, University of Melbourne, Australia Paradoxical cardiac responses to metabolic stress	S1B.2 Peter Thorn, University of Sydney, Australia Control of insulin secretion in intact islets of Langerhans
11.30 am - 12.00 pm	S1A.3 Rajesh Katare, University of Otago Diabetes increases autophagy in the human heart through promotion of Beclin-1 mediated pathway	11.30am-11.50am S1B.3 Stephen Bunn, University of Otago, NZ Neurosecretion: a view from the adrenal chromaffin cell
12.00 pm - 12.30 pm	S1A.4 Dr Troy Merry, University of Auckland, NZ ROS and metabolic signaling in skeletal muscle	11.50am-12.10pm S1B.4 Brie Sorrenson, University of Auckland, NZ Critical role for β -catenin in insulin secretion from β -cells by regulating insulin vesicle localization
		12.10pm-12.30pm S1B.5 Merja Joensuu, The University of Queensland, Australia Sub-diffractive tracking of internalized molecules reveals heterogeneous diffusive states of synaptic vesicles
12.30 pm	MedSci AGM	

12.30 pm - 1.30 pm	Lunch: Trade Exhibition Area, Ground Floor, Rutherford Hotel
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Societies' Symposia

1.30 pm - 3.30 pm	Symposium 2A Interventional approaches targeting the sympathetic nerves in cardiovascular disease Waimea Room, Level 2 Chairs: Rohit Ramchandra, Carolyn Barrett	Symposium 2B Respiratory Diagnostics and Therapies Wairau Room, Level 2 Chair: Ahmed Al-Jumaily <i>sponsored by, Institute of Biomedical Technologies, Auckland University of Technology</i>
1.30 pm - 2.00 pm	S2A.1 Ivan Sammut, University of Otago, NZ Renal denervation in diabetes	S2B.1 Jason Bates, University of Vermont, USA Mechanical ventilation and acute lung injury
2.00 pm - 2.30 pm	S2A.2 Maximilian Pinkham, University of Auckland, NZ Heart failure: are women less sympathetic than males?	S2B.2 Frank Bloomfield, Liggins Institute, NZ Gas flows and lung injury in ventilated preterm babies
2.30 pm - 3.00 pm	S2A.3 Lindsea Booth, Florey Institute of Neuroscience and Mental Health, Australia Renal function in normotensive sheep in the first	S2B.3 Paul Young, University of Sydney, Australia Innovative devices and therapies for respiratory diseases

	eight weeks after catheter-based renal denervation	
3.00 pm - 3.30 pm	S2A.4 David Jardine, Christchurch Hospital, NZ Renal endovascular denervation in end-stage kidney disease patients: Cardiovascular protection – proof of concept study	S2B.4 Stanislav Tatkov, Fisher & Paykel Healthcare, NZ Respiratory therapy with nasal high flow
3.30 pm - 4.00 pm	Coffee Break: Trade Exhibition Area, Ground Floor	
Societies' Symposia		
4.00pm-6.00pm	Symposium 3A State-of-the-art computational modelling tools developed to solve physiology problems Waimea Room, Level 2 Chairs: Vicky Wang, Alys Clark	Symposium 3B Female reproduction: control of oocyte development and ovulation Wairau Room, Level 2 Chairs: Jenny Juengel, Greg Anderson
4.00 pm - 4.30 pm	S3A.1 Edmund Crampin, University of Melbourne, Australia Measuring and modelling the ERK-MAPK signalling cascade in situ	S3B.1 Karla Hutt, Monash University, Australia Mechanisms of quality control in the female germ line
4.30 pm - 5.00 pm	S3A.2 Vijay Rajagopal, University of Melbourne, Australia Investigating sub-cellular structure-function relationships in cardiac cells	S3B.2 Michael Pankhurst, University of Otago, NZ Transgenic overexpression of AMH reduces female fertility
5.00 pm - 5.30 pm	S3A.3 Alys Clark, Auckland Bioengineering Institute, NZ Capturing complexity in models of blood flow and oxygen exchange	S3B.3 Rebecca Robker, University of Adelaide, Australia Effects of obesity on offspring
5.30 pm - 6.00 pm	S3A.4 Thor Besier, Auckland Bioengineering Institute, NZ Real-time gait retraining to slow the progression of knee osteoarthritis	S3B.4 Jenny Juengel, AgResearch Limited, NZ Reproductive characteristics of sheep with mutations in the leptin receptor
6.00 - 7.00 pm	Fashionomics <i>Thermo Fisher Scientific</i> Reception area, Ground Floor, Rutherford Hotel (with drinks)	
7.30 pm	MedSci Dinner and Prize-giving Oceano's Restaurant, Level 2	