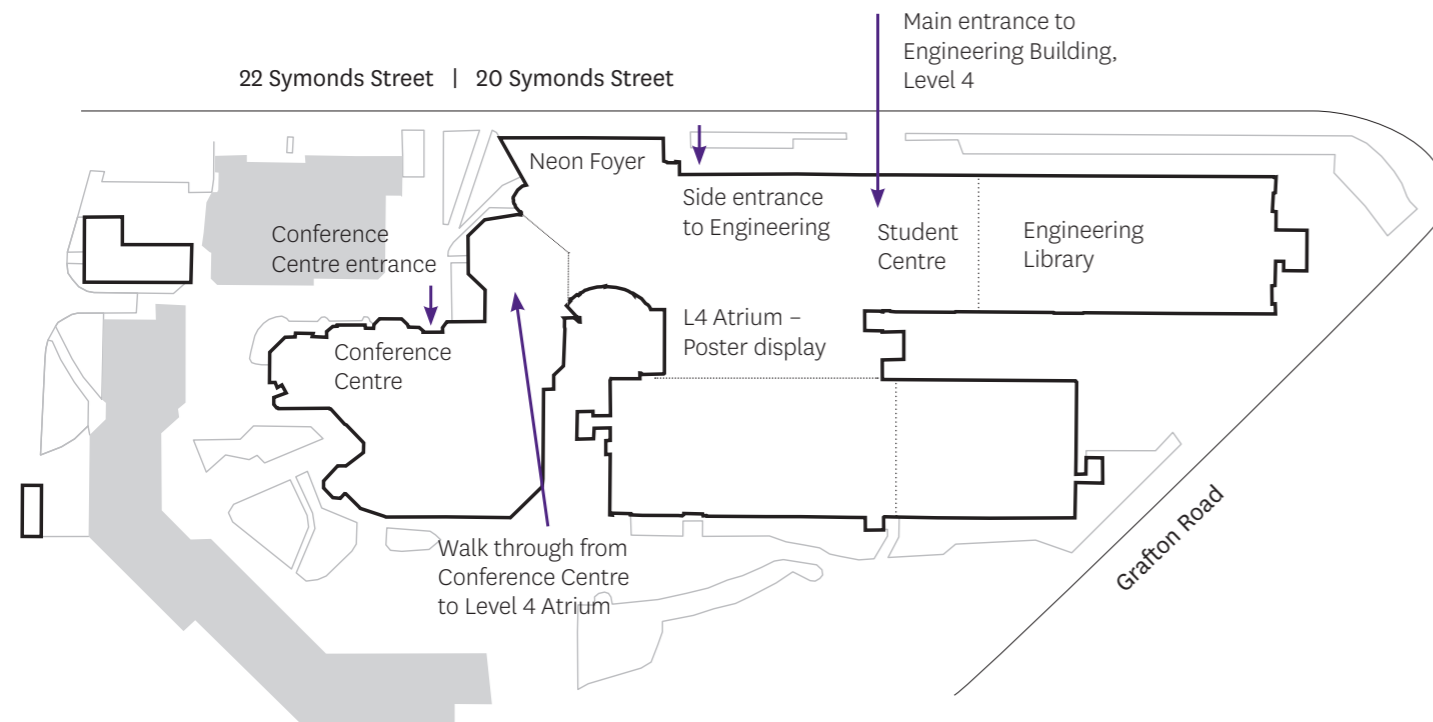


Presentation venues

Presentations will be held in the Conference Centre Lecture Theatre, 22 Symonds Street.

Posters will be on display in the Atrium of Level 4, Engineering Building, 20 Symonds Street.



Parking

- 18 Grafton Road (Owen G. Glenn Building)
 - 6 St. Paul's Street
 - 56 Wakefield Street (corner Wakefield and St. Paul's Street)
 - Liverpool Street, off Mayoral Drive (under the Aotea Centre)
 - Kitchener Street (corner of Kitchener and High Street)
- There is also metered parking around the University on Princes and Symonds Street

Faculty of Engineering

Level 3, 70 Symonds Street, Auckland
www.des.auckland.ac.nz



ENGINEERING
DEPARTMENT OF ENGINEERING SCIENCE

Department of Engineering Science

Part IV Research Projects

Presentations 2015

Tuesday 22 and Wednesday 23 September
8.30am – 6pm



ENGINEERING
DEPARTMENT OF ENGINEERING SCIENCE

Tuesday 22 September

Session 1: Chair, Dr. Vinod Suresh

	Student	Supervisor	Title
8.30 AM	Adnan	Suresh	How the small intestine tastes food
8.45 AM	Herath	Mellor	Using isolated heart muscle cells to study diabetic heart pathology
9.00 AM	Yu	Ho	Modelling segmental anatomy of the liver using OpenCMISS-Zinc
9.15 AM	Lakshmanan	Ho	Mathematical modelling for carbon monoxide exchanges between the human fetus and mother
9.30 AM	Windsor	Long	Multiple-particle-tracking-micro-rheology for measurement of internal cell forces
9.45 AM	Kampshof	Nash	Characterising ventricular fibrillation during regional ischaemia
10.00 AM	Boyens	Fernandez	Predicting bone growth following hip implant surgery
10.15 AM	Fernandez	Kruger	Characterising the muscle/bone interface of the pelvic floor muscle using novel imaging techniques and computational modeling

10.45 AM REFRESHMENTS

Session 2: Chair, Dr. Anthony Downward

11.00 AM	Shahin	Downward	Improving aid mission planning and evaluation through analytics
11.15 AM	Pedersen	OSullivanMJ	Benchmarking Acute Surgery Scheduling
11.30 AM	Pradhan	OSullivanMJ	Predicting Acute Surgery Duration
11.45 AM	ChenY	Downward	Economic viability of waste heat recovery from NZ industries
12.00 PM	Priest Forsyth	Downward	The smart grid: distributed generation and demand response
12.15 PM	Hargreaves	OSullivanMJ	Benchmarking Virtualisation Approaches to Computer Labs
12.30 PM	Philipsen	Downward	Efficiency of NZEM hedge instruments

12.45 PM LUNCH

Session 3: Chair, Professor Poul Nielsen

13.30 PM	Boesley	Budgett	Powering fully implanted heart pumps
13.45 PM	Chan	Ruddy	Miniaturized medical manufacturing
14.00 PM	Wang	Thorne	Development of RF coil for MR imaging of animal inner ear
14.15 PM	Randles	Nielsen	Roboworm
14.30 PM	Ting	Turuwhenua	Measurement of eye movements using low-cost consumer hardware for diagnostic purposes
14.45 PM	Thomas	Jawed	Towards Minecraft Alpha
15.00 PM	Bollen	Nielsen	Microfinger
15.15 PM	Moorhead	Nielsen	Energy cycles

15.30 PM REFRESHMENTS

Session 4: Chair, Professor Andrew Mason

16.00 PM	Chow	Zakeri	Analytics of congestion in electricity systems
16.15 PM	Aruldasan	Raith	Optimal Booking Management for Vehicle Rental Companies
16.30 PM	Caldwell	Philpott	Travel-time incentives for electric vehicles
16.45 PM	Ives	Cumin	Coding and data mining anaesthetic records
17.00 PM	Wong	Philpott	Strategic delay of capacity reduction in electricity markets
17.15 PM	Dawes	Zakeri	Understanding the effects of EV adoption on the NZ electricity Market
17.30 PM	Sun	Philpott	Robust portfolio optimization
17.45 PM	Lou	Downward	Scheduling police court appearances

Wednesday 23 September

Session 1: Chair, Dr John O'Sullivan

	Student	Supervisor	Title
8.30 AM	Beavis	O'Sullivan J	Improving wind flow models for the Chatham Islands
8.45 AM	Park	Cater	Modelling horizontal impact noise criteria
9.00 AM	Krzyzosiak	O'Sullivan Snr	Models of geothermal geysers
9.15 AM	Su	Cater	Composite helicopter modelling
9.30 AM	Adiga	Denier	Fluid mechanics of Tesla turbine
9.45 AM	Trengrove	Denier	Slip, slop, slap
10.00 AM	Bennet	O'Sullivan J	Modelling permeable pavement
10.15 AM	Laugeray-Cleaver	Philpott	Resource allocation in social development

10.30 AM REFRESHMENTS

Session 2: Chair, Professor Martyn Nash

11.00 AM	Luiten	Unsworth	Deep belief networks for prediction
11.15 AM	Alshami	Unsworth	Exploring how symmetry and symmetry breaking during neuronal cell death effects synchrony in the Kuramoto model
11.30 AM	Kathirgamanathan	Nash	Modelling muscles
11.45 AM	ChenMelody	LeGrice	Passive properties of the failing heart
12.00 PM	Jackson	Cater	Modelling breathing support performance in sick patients with CFD
12.15 PM	Cheng	Wang	Mechanical properties of the infarcted heart
12.30 PM	ChenMei	Wang	Making the most of an echocardiography examination

12.45 PM LUNCH / PHOTOGRAPHS

Session 3: Chair, Dr Bryan Ruddy

13.30 PM	Cunninghame	Taberner	Partial inhibition of palmar hyperhidrosis
13.45 PM	Munoz	Besier	Modelling fatigue fractures in the tibia
14.00 PM	Lin	Taberner	Real-time measurement of jet penetration in gels
14.15 PM	Qiu	Turuwhenua	The oculus rift as a tool for vision testing and exploring eye clinic data
14.30 PM	Lim-Yip	Cumin	Modelled anaesthetic delivery system
14.45 PM	Lynch	Besier	Modelling and predicting upper arm movement strategies
15.00 PM	Kapteyn	Clarke	Soft sensing using microdevices
15.15 PM	Sturgess	Long	Micro-particle image velocimetry

15.30 PM REFRESHMENTS

Session 4: Chair, Dr Michael J O'Sullivan

16.00 PM	Cleland	O'Sullivan MJ	Benchmarking the allocation of virtual machines
16.15 PM	Qian	OSullivan Snr	Spreading of possums in the Waitakere Ranges
16.30 PM	Adams	O'Sullivan MJ	Speeding up cyclic roster generation at Waitemata DHB
16.45 PM	Hay	O'Sullivan MJ	Uncovering meaningful patterns in longitudinal big data
17.00 PM	Prendergrast	Sagar	Playing with BabyX – integration of sensorimotor modelling of causative actions and a shared virtual display
17.15 PM	Zhu	O'Sullivan MJ	Structuring data for injury prediction in professional sport
17.30 PM	Lane	O'Sullivan Snr	Computer model of the Waitemata Harbour
17.45 PM	Hillas	Philpott	Game fishing