Graduate School of Biomedical Engineering

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Physiological Measurement
Development of a device for rapid detection of falls in elderly people
Michael Stevens, Nigel Loveill

Painless blood collection using microneedles
Robert Nordon, Zahra Faraj Rad

Biomaterials and Tissue Engineering
Assessment of the next generation hydrogels for 3D tissue engineering applications
Brooke Farrugia, Megan Lord

Bioimimetic sugar polymers for wound healing
Brooke Farrugia, Megan Lord

Curing Diabetes: Fabrication and characterisation of hydrogel microfibres
Penny Martens, Laura Poole-Warren

Design of new polymers for use in Tissue Engineering
Penny Martens, Josef Goding

Engineering biomaterial interfaces for platelet storage
Megan Lord, Brooke Farrugia

Engineering blood vessels using novel biomaterials
Jelena Rijijk-Kovacina, Megan Lord

Production of bioactive vascular tissue engineering
Megan Lord, Jelena Rijijk-Kovacina

Therapeutic bioactive nanomaterials
Megan Lord, John Whitelock

Rehabilitation Engineering
Development of an interfacial stress sensor for prosthetic applications
Lauren Kark, Stephen Redmond

Implantable Bionics
Bionic Eye Image Processing System using an Android Mobile Telephone
Gregg J. Suaning, Marc Zapf

BLINC - Bionic Lid Implant for Natural Closure
Professor Gregg J. Suaning, Nigel Loveill

Measuring from hearts, eyes and brains: Next generation ophalo optic devices
Nigel Loveill, Francois Ladouceur

Single sensor depth-mapping camera for bionic eye vision processing
Gregg J. Suaning, Marc Zapf

School of Chemical Engineering

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Energy
2 Birds, 1 Stone: Hydrogen Fuel Production and Carbon Dioxide Capture in a Single Step
May Lim, Jason Scott

Algal Biofuel Project 1: Magnetic Harvesting With Natural Coagulant
May Lim, Rita Henderson

Algal Biofuel Project 2: Understanding the Lipid Extraction Process
May Lim, Rita Henderson

Algal Biofuel Project 3: Magnetic CaO-Catalyst for Biofuel Production
May Lim, Martin Buckinall

Atomic simulation of metal hydrides: bridging the gap between theory and experiment
Patrick A Bunt, Francois Aguey-Zinsou

Biocatalytic membrane contactor systems for CO2 Conversion
Vicki Chen, Jingwen Hou

Control the synthesis of polymer via light polymerization
Cyrille Boyer, Jason Xu

Converting light into chemical energy
Cyrille Boyer, Jason Xu

Emissions to Energy: Artificial Photosynthesis for converting CO2 to fuels.
Rose Amal, Yun Hau Ng

Enzymatic fuel cell with novel membrane electrodes
Vicki Chen, Jingwen Hou

Experimental studies of control of vanadium batteries
Jie Bao, Maria Skylas-Kazacos

Integrating Hierarchical-Nanostructured Pseudocapacitor on Screen-Printed Solar Cells for Hybrid Ene
Yun Hau Ng, Alison Lennon

Making hydrogen the fuel of the future
Francois Aguey-Zinsou, Qwen Iai

No need for heat: Photon-promoted catalyst activation as an alternative to thermal
Jason Scott, Rose Amal

One-dimensional Photovoltaic Nanostructures to harvest solar energy
Yun Hau Ng, Rose Amal

Photothermal Carbon Dioxide Utilisation: Carbon-Neutral Synthesis of Methane
Rose Amal, Jason Scott

Three Dimensionally Ordered Macroporous Spinel: Active Catalyst for CO2 Reduction
Rose Amal, Hamid Aramian

Turning Water into Chemical Fuels under Sunlight
Yun Hau Ng, Rose Amal

Food and Health
2 Stories, 1 Bird: Combining Conventional Therapy with Magnetic Hyperthermia in Cancer Treatment
May Lim, David Chang

2-Photon Upconversion: Using Light for Highly Precise Drug Release
May Lim, Cyrille Boyer

Delivery of Nitric Oxide for the prevention and the treatment of biofilm
Cyrille Boyer, Edgar Wang

Importance of Nanoparticle Shapes for the delivery of therapeutic agents
Cyrille Boyer, Edgar Wang

Novel membrane-enzyme hydrolysix systems to reduce allergenicity of milk proteins
Vicki Chen, Alice Lee

Plasmonic nanoparticle based rapid test for allergen detection in food products
Alice Lee, George Lee

Molecular Engineering
Control the synthesis of polymer via photosynthesis: toward to mimic the Nature
Cyrille Boyer, Edgar Wang

Novel Ultrathin Metal Organic Framework Membranes
Vicki Chen, Jingwei Hou

Polymer nanoparticle synthesis using CO2 – a versatile environmentally friendly approach
Per Zetterlund, Frank Lucien

Sheared Aligned Graphene Oxide Membranes for Gas Separation
Vicki Chen, Jingwen Hou

Synthesis of graphene/polymer nanocomposites
Per Zetterlund, Fioren Jasiński

Process and Products
Remember to tap off to get the correct data?
Stuart Prescott, Patrick Spencer

Simulation Studies on Distributed Model Predictive Control of Distributed Renewable Energy Storage
Jie Bao, Xian Zhang

Water and Environment
Water recovery from flue gas: Preventing power plants from becoming water guzzlers
Vicki Chen, Hongyu Li

School of Civil and Environmental Engineering

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Analytical and Design of Light-Weight Sandwich Panels
Ehab Hamed, Chongmin Song

Development and application of a coastal imaging tool for quantifying beach user patterns and trends
Mitchel Harley, Mt. Ben Modra

Development and application of nanoparticle-based technologies for water and wastewater treatment
David Waite, Chris Miller, Shikha Garg

Development of innovative cement binders with low carbon footprint
David Waite, A Case, G. Ams, S.J. Foster

Development of Reactive Barriers for Managing Radioactive Groundwater Contaminant
David Waite, Richard Collins, Andrew Kinsela

Development of robust, low-maintenance approaches to treatment of brackish contaminated groundwaters
David Waite, Peter Kovačević, Di He

Dynamic Traffic Assignment Calibration for Sydney traffic model
Simona MIHAITĂ, Chen Cai