PHD PROJECTS 2020

Supervisors	Project Title
Composites	
Dr Jane Zhang jane.zhang@deakin.edu.au Prof Russell Varley russell.varley@deakin.edu.au	Self-Healing Materials 3.0: Autonomous, Repeatable and Efficient.
Dr Quangxiang Li quanxiang.li@deakin.edu.au	Structure design and composition engineering of novel functionalised porous carbon fibre for controllable interaction behaviour with water molecules
Dr Claudia Creighton claudia.creighton@deakin.edu.au	Novel carbon fibres from bi-component precursor
Nano/Plasma/Modelling	
Prof Tiffany Walsh tiffany.walsh@deakin.edu.au	Elucidating protein-membrane interactions for improving protein purification processes
Dr Weiwei Lei weiwei.lei@deakin.edu.au	Novel functionalized nanomaterials by plasma technology for sustainable energy generation
Dr James Maina james.maina@deakin.edu.au	Asymmetric carbon molecular sieves for CO2 capture from the atmosphere
Prof Tiffany Walsh tiffany.walsh@deakin.edu.au Dr Cristina Pozo-Gonzalo cristina.pozo@deakin.edu.au	Molecular simulations of metal ion coordination for recycling of spent batteries
Dr Qiran Cai qiran.cai@deakin.edu.au	Atomically thin isotopically pure boron nitride for super-cooling of two-dimensional devices
Dr Shuaifei Zhao s.zhao@deakin.edu.au	Membrane-based artificial mangrove for desalination and water treatment
Dr Luhua Li luhua.li@deakin.edu.au	Atomically thin diamond with unprecedented properties
Dr Md Mokhlesur Rahman m.rahman@deakin.edu.au	Photovoltaic (PV) recycled silicon-a circular energy material

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Energy and Infrastructure	
Dr Anthony Somers anthony.somers@deakin.edu.au	Inhibitors in paint coating systems - mitigating corrosion and microbial attachment
Dr Fangfang Chen Fangfang.chen@deakin.edu.au	Understanding and tuning battery electrolyte/electrode interface via molecular simulation
Prof Frank Collins frank.collins@deakin.edu.au	Thermoelectric concretes harvesting energy for a sustainable future.
A/Prof Will Gates will.gates@deakin.edu.au	Dynamics of cryosalt hydrate dynamics in clay brines - energetics of phase transitions.
Dr Xiaoen Wang xiaoen.wang@deakin.edu.au	Design of Fluorinated Poly(ionic liquid) Electrolytes for High Energy and All-Solid-State Sodium-Metal Batteries
Dr Luke O'Dell luke.odell@deakin.edu.au	Improving sodium batteries through tailoring of the solid electrolyte interphase
Dr Wren Greene wren.greene@deakin.edu.au	Geologically inspired nanofabrication
Metals	
Dr Santiago Corujeira Gallo santiago.corujeiragallo@deakin.edu.au	Design and advanced manufacture of novel biodegradable zinc alloys for biomedical applications
Dr Ross Marceau ross.marceau@deakin.edu.au	Investigation of alkanethiolate self-assembled monolayers on palladium through correlative electrochemical and atom probe tomography analysis
Prof Matthew Barnett matthew.barnett@deakin.edu.au	Sustainable design of steel framed buildings through re-use and recycling
Prof Peter Hodgson peter.hodgson@deakin.edu.au	The development of superplastic medium Mn steels

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Supervisors	Project Title
Fibres	
Dr Rangam Rajkhowa rangam.rajkhowa@deakin.edu.au	Recycling dyed cellulose by powdering and wet spinning
Prof Tong Lin tong.lin@deakin.edu.au	Turning noise into electricity using novel nanofibre sound-insulating panel
Dr Jinfeng Wang Jinfeng.wang@deakin.edu.au	Fragrance sorption/desorption on textiles to enhance consumer experiences
Dr Dan Liu dan.liu@deakin.edu.au Prof Xungai Wang xungai.wang@deakin.edu.au	Bio-inspired robust composite materials with outstanding fire-retardancy as separator for safe batteries
A/Prof Alessandra Sutti alessandra.sutti@deakin.edu.au	Value adding mixed synthetic textile waste by turning it into thermally re-processable and healable polymer blends
Prof Joselito Razal joselito.razal@deakin.edu.au	Understanding the Design Principles in Manipulating MXene Liquid Crystals for Multifunctional Architectures
Dr Christopher Hurren christopher.hurren@deakin.edu.au	High abrasion resistant knit structure for protective clothing
Prof Joselito Razal joselito.razal@deakin.edu.au	From brittle to tough and Shelf-Stable MXenes: A Novel Biomimetic *Design of Interfaces
A/Prof Jingliang Li jingliang.li@deakin.edu.au	Producing graphene oxide catalysts to address crucial energy and environmental problems