

WAN MOHD FAZLI BIN WAN NAWAWI



- KULLIYAH OF ENGINEERING
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ACADEMIC QUALIFICATION

- Chemical Engineering Research
- MASTER OF SCIENCE (BIOTECHNOLOGY ENGINEERING)

TEACHING RESPONSIBILITIES

ADVANCED BIOSEPERATION PROCESSES	2017/2018
BIO NANOTECHNOLOGY	2018/2019 2019/2020 2020/2021
BIO NANOTECHNOLOY	2019/2020
BIONANOTECHNOLOGY	2016/2017 2017/2018 2018/2019
BIOTECHNOLOGY ENGINEERING LAB I	2018/2019 2019/2020 2020/2021
ENGINEERING MATHEMATICS I	2016/2017 2017/2018 2018/2019 2019/2020 2020/2021
FINAL YEAR PROJECT II	2018/2019
Integrated Design Project	2018/2019
MATERIAL SCIENCES FOR CHEMICAL ENGINEER	2020/2021
ORGANIC CHEMISTRY FOR BIOLOGICAL ENGINEERING	2019/2020
PROJECT I	2018/2019

RESEARCH PROJECTS

In Progress

2018 - Present A novel technique of orienting chitin nanofiber using directed growth of fungi for enhanced bionanocomposite mechanical performance.

2016 - Present Renewable Chitin-based Nanomaterials from Mushroom Waste: Investigating the Effect of Decoloration on Resulting Chitin Thin Film

Completed

2016 - 2020 Renewable Chitin-based Nanomaterials from Mushroom Waste: Investigating the Effect of Decoloration on Resulting Chitin Thin Film

PUBLICATIONS

Article

- 2020** [Nanomaterials derived from fungal sources - Is It the new hype?](#). Biomacromolecules , 21 (1) pp.30-55
- 2020** [Crustacean chitin nanomaterial as reinforcement for bio-based polymer](#). Advances in Materials and Processing Technologies pp.1-12
- 2020** [High porosity cellulose nanopapers as reinforcement in multi-layer epoxy laminates](#). Composites Part A: Applied Science and Manufacturing , 131 pp.1-9
- 2020** [Effect of \$\gamma\$ -methacryloxypropyltrimethoxysilane \(MPS\) and tetraethoxysilane \(TEOS\) towards preparation of oil absorbent foams from polyvinyl alcohol \(PVA\) reinforced with microfibrillated cellulose \(MFC\)](#). Journal of Renewable Materials , 8 (7) pp.739-757
- 2020** [Surface properties of chitin-glucan nanopapers from Agaricus bisporus](#). International Journal of Biological Macromolecules , 148 pp.677-687
- 2020** [Polyamidoamine dendrimers: favorable polymeric nanomaterials for lipase activation](#). Materials Today Communications , 26 pp.101492
- 2020** [Plastic to elastic: fungi-derived composite nanopapers with tunable tensile properties](#). Composites Science and Technology , 198
- 2019** [Chitin nanopaper from mushroom extract: natural composite of nanofibers and glucan from a single biobased source](#). ACS Sustainable Chemistry and Engineering , 7 (7) pp.6492-6496
- 2019** [Biosurfactant as the next antimicrobial agents in pharmaceutical applications](#). Biomedical Journal of Scientific & Technical Research , 13 (3) pp.9950-9951
- 2018** [Biodegradable mushroom-based transparent paper](#). International Journal For Technological Research In Engineering (Special Issue) pp.14-18
- 2017** [Extraction of lycopene from tomato waste using solid state fermentation](#). International Food Research Journal , 24 (Suppl) pp.416-421
- 2014** [Isolation and selection of new biosurfactant producing bacteria from degraded palm kernel cake under liquid state fermentation](#). Journal of Oleo Science , 63 (8) pp.795-804
- 2010** [Utilization of sludge palm oil as a novel substrate for biosurfactant production](#). Bioresource Technology , 101 pp.9241-9247

Conference or Workshop Item

- 2020** [Passively Q-switched tri-wavelength erbium-doped fiber laser with aluminium-based saturable absorber](#). In: **2020 IEEE International Conference on Semiconductor Electronics (ICSE)**

- 2020 [Graphene-based saturable absorber for passive Q-switching erbium doped fiber laser.](#) In: **2020 IEEE International Conference on Semiconductor Electronics (ICSE)**
- 2019 [Graphene in chitin based passive Q-switcher.](#) In: **Photonics Meeting 2019, The 2nd Annual Conference and Workshop**
- 2019 [Development of effective lead removal from wastewater by graphene oxide.](#) In: **Graphene Malaysia 2019**
- 2018 [Surface functionalisation of Microfibrillated Cellulose \(MFC\) of cocoa pod husk with \$\gamma\$ -Methacryloxypropyltrimethoxysilane \(MPS\).](#) In: **The 3rd International Conference on Green Chemical Engineering and Technology (GCET 2017)**
- 2018 [Evaluation of water absorption of polyvinyl alcohol-starch biocomposite reinforced with sugarcane bagasse nanofibre: Optimization using two-level factorial design.](#) In: **Wood and Biofiber International Conference (WOBIC2017)**
- 2018 [Optimization Study of Decolorization Process of Oyster Mushroom's Chitin Thin Film.](#) In: **International Conference Biotechnology Engineering 2018 (ICBioE '18)**
- 2018 [Surface functionalisation of microfibrillated cellulose \(MFC\) of cocoa pod husk with \$\gamma\$ -Methacryloxypropyltrimethoxysilane \(MPS\).](#) In: **3rd International Conference on Green Chemical Engineering and Technology: Materials Science, GCET 2017**

**Book
Book Section**

- 2020 [Isolation of Nanocellulose Fibers \(NCF\) from cocoa pod \(*Theobroma cacao* L.\) via chemical treatment combined with ultrasonication.](#) In: **Advances in nanotechnology and its applications** Springer, Singapore . ISBN 978-981-15-4741-6 , pp.97-105
- 2019 [Nanomaterials in drug delivery system.](#) In: **Nanotechnology: Applications in Energy, Drug and Food** Springer . ISBN 978-3-319-99601-1 , pp.233-248
- 2011 [Microbial fermentation for producing surface active agent by using palm oil mill effluent isolate.](#) In: **Current research and development in biotechnology engineering at IIUM** IIUM Press . ISBN 9789674181505 , pp.119-125