

Naznin Sultana, PhD, CEng, CSci

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Research and Professional Experience

2019- Research Scientist, Texas Undergraduate Medical Academy, Prairie View A&M University, Texas, USA

2018-2019 Visiting Scholar, University of Texas at Austin, USA

2017-2018 Associate Professor, College of Biosciences and Medical Engineering, University of Technology Malaysia (UTM)

2010-2017 Senior Lecturer, College of Biosciences and Medical Engineering, UTM. Research Fellow, Advanced Membrane Technology Research Center, UTM

2005-2010 Postgraduate Research Associate, University of Hong Kong
Graduate Teaching Assistant, University of Hong Kong

Education and Training

2010	Ph.D. The University of Hong Kong	Medical Engineering
2001	M.S. KULeuven, Belgium	Food Preservation Engineering
1998	B.S. Bangladesh University of Engineering and Technology (BUET)	Chemical Engineering

Honors and Awards

2016 Excellent Service Award, UTM

2015 Outstanding contribution in reviewing by the Journal: Applied Surface Science (Elsevier)

2014 Awarded Membership as Chartered Engineer (CEng), Engineering Council, UK

2012-2014 Industrial Art and Technology Exhibition (INATEX) Awards, UTM

2006 Best Student Silver award in the fifth Asian-Australasian Conference on Composite Materials (ACCM-5), Hong Kong

Grants

2021/09/21-2025/09/20	90PH0003/01-00, ONC/PHIT
MPI: Eric Boerwinkle & Jiajie Zhang	<u>Role: co-PI</u>

Gaining Equity in Training for Public Health Informatics and Technology

The Gaining Equity in Training for Public Health Informatics and Technology (GET PHIT) Consortium plans to train 1,400 students predominantly (greater than 75%) from underrepresented groups and 500 public health, clinic, and academic professionals, while placing 400 students in internships. Led by The University Texas Health Science Center at Houston (UTHealth) School of Public Health (SPH) and School of Biomedical Informatics (SBMI), the GET PHIT Consortium is collaborating with Huston-Tillotson University (HBCU); Prairie View A&M University (HBCU); Texas A&M International University (HSI); Texas Tech University Health Science Center; The University of Texas at Arlington (HSI); The University of Texas at El Paso (HSI); The University of Texas Permian Basin (HSI); and The University of Texas Rio Grande Valley (HSI).

Total award: \$9,750,000 (PVAMU: \$453,601)

PVAMU VPRI RISE Undergraduate Research.

- (1) In vitro cytotoxicity study of Pectin/Chitosan scaffolds (Role: PI; USD 5,000).
- (2) Diffusion study of polymer-based thin films (Role:PI; USD 5,000).

Pending: As PI, (2021) USDA-AFRI grant. Development Of Bioengineered Economically Viable Scaffolds From Pectin-Based Biopolymers For Skin Wound Healing. Requested amount: USD 350,000

Leadership

- (1) Appointed as an Invited Speaker In the International conference of Sustainable Engineering and Technology, ISET 2021, Malaysia.
- (2) As a project leader, successfully secured several research grants, as well as being responsible for the project management, spending, and writing formal concluding reports.
- (3) Collaborated with national and international researchers in the field.
- (4) Editorial member, Cogent Engineering Journal, 2017-present (Scopus indexed)
- (5) Chief Editor, Journal Technology (Sciences & Engineering) in a Special issue Jan 2017.
- (6) Editorial Board member, EC Orthopedics (international journal) 2017
- (7) Coordinator for problem-based learning for the 4th-year undergraduate module.
- (8) Mentored three Ph.D. students, four Master's by research students as the main supervisor that resulted in high-impact journal publications.
- (9) Served as an internal and external examiner of Ph.D. students.
- (10) Supervised final year project students, trained undergraduate/graduate students about lab safety practices and lab-scale instruments, and collaborated with other academicians to implement the research projects.
- (11) Research Grant proposal evaluation, SAPIENZA Università di Roma. Project title "NOVEL BIOMATERIALS FOR TISSUE ENGINEERING: COMPOSITE SYNTHETIC SCAFFOLDS FOR CLINICAL APPLICATIONS"
- (12) UM Hi-Impact RESEARCH grant evaluator. Project title "Development of piezoelectric Polymers for Artificial Heart Muscle."
- (13) Appointed as the technical paper reviewer of National Congress on Membrane Technology 2016
- (14) Appointed as the Poster and Oral Presentation Evaluator in NATCOM 2016
- (15) Appointed as reviewer and presenter of 2012 International Conference on Biomedical Engineering (ICoBE)
- (16) Appointed as reviewer and presenter of 2012 IEEE EMBS International Conference on Biomedical Engineering and Sciences (IECBES 2012)

Experience

- Taught graduate and undergraduate courses within the field of expertise.
- Completed **“Introduction to Teaching Online (ITO)”** and **“Getting Ready to Quality Matters (GRQM)”** and fully certified to teach online and hybrid courses.
- Facilitated student learning, class preparation, grading, electronic correspondence, evaluating and sourcing course materials, facilitating e-learning, and related duties.
- **Received Public Health Information Technology (PHIT) Grant** collaborating with UT Health Science as a member of a multi-disciplinary PV group.
- Received VPRI-RISE grant (3 times, 2020-2022)

- Secured research funding, published research in peer-reviewed books and journals, and attended professional conferences.
- Served as an academic advisor, provided mentorship to students and student organizations; and served on internal and external committees.
- Prepared, revised, and finalized BL2 protocols.
- Prepared Standard Operating Procedures (SOPs) for BL2 Lab and established the BL2 Lab.
- Prepared Standard Operating Procedures (SOPs) for handling Nanomaterials
- Book Editor “Tissue Engineering Strategies for Organ Regeneration” by CRC press

Professional Membership

- (1) Chartered Engineer, CEng (UK), October 2014, Registration No.: 615017
- (2) Professional member, Institute of Materials, Minerals, and Mining (IOM3, UK), Membership No.: 458498
- (3) Chartered Scientist, CSci (UK), Dec 2012
- (4) Member of American Chemical Society (ACS)
- (5) Member of Engineer’s Australia: contact ID 3172238
- (6) Member of Australasian Society of Biomaterials and Tissue Engineering (ASBTE)
- (7) Member of Australian Wound and Tissue Repair Society

Research Interests

- (1) Medicinal Plants used in Biomedical Applications.
- (2) Thermal and high-pressure inactivation of fruit juice.
- (3) Using biodegradable membranes for wastewater filtration.
- (4) Biomaterials as 3D models for regulation of diseased and healthy tissue function
- (5) Bio fabrication of tissue engineering scaffolds and electrospun membranes
- (6) Manipulation of 3D microenvironments for controlling cell-biomaterials interaction.
- (7) Macro/Micro/Nanoscale as cell microcarriers and drug delivery systems

Media Coverage

- PVAMU online news portal link:
<https://www.pvamu.edu/blog/pvamu-research-scientist-edits-contributes-to-innovative-organ-regeneration-textbook/>
- **Key Scientific Article** by Global Medical Discovery (Canada) which only selects articles that are of “**Special interest to the drug development sector**. Moreover, considering that Global Medical Discovery is viewed approximately 225,000 times each month by top academic and industrial biomedical experts, including several of the top 20 pharmaceutical companies, this report highlighting research further expands the influence of the work throughout the field.

Book Editor

Sultana, N., Ghosh, S.B., Fhong S.C. (2020). Tissue Engineering Strategies for organ regeneration. CRC Press, Taylor, and Francis, USA, ISBN 9781138391543.

Book Author

- (1) **N Sultana** “Biodegradable Polymer-Based Scaffolds for Bone Tissue Engineering”, **Springer, 2013**, ISBN: 978-3-642-34801-3; Book DOI 10.1007/978-3-642-34802-0
- (2) **N Sultana**, MI Hassan, MM Lim, “Composite Synthetic Scaffolds for Tissue Engineering and Regenerative Medicine”, **Springer, 2014**, ISBN 978-3-319-09754-1

Book Chapters

- **Sultana, N.** (2020) **Stimulus-Receptive Conductive Polymers for Tissue Engineering**, in Tissue Engineering Strategies for Organ Regeneration. CRC Press, Taylor, and Francis, USA, ISBN 9781138391543.
- Mad Jin, R. **Sultana, N.**, Chin Fhong S. and Ismail, A.F. (2020) Evaluation of PCL/Chitosan/Nanohydroxyapatite/Tetracycline Composite Scaffolds for Bone Tissue Engineering, in Tissue Engineering Strategies for Organ Regeneration. CRC Press, Taylor, and Francis, USA, ISBN 9781138391543.
- Zohreh A., Mansour Y., Chin Fhong S., **Sultana, N.**, Bazgeir, Masoud M.R., and Sefat, F. (2020) Designing Biomaterials for Regenerative Medicine: State-of-the-Art and Future Perspectives, in Tissue Engineering Strategies for Organ Regeneration. CRC Press, Taylor, and Francis, USA, ISBN 9781138391543.
- **Sultana, N.** (2017) Mechanical and biological properties of scaffold materials, in Functional 3-D Tissue Engineering Scaffolds, Edited by Ying Deng, Jordan Kuiper, **Elsevier, 2017**. ISBN 978-0-08-100979-6
- **Sultana, N.**, Wang, M. (2012) Fabrication of Tissue Engineering Scaffolds using the Emulsion Freezing / Freeze-drying Technique and Characteristics of the Scaffolds, in *Integrated Biomaterials for Medical Applications*, Edited by Murugan Ramalingam, et al., Wiley, 2012.

Journal Publications (Indexed)

- (1) **Sultana, N.**, Rahman, R.(2021) Electrospun nanofiber composite membranes based on cellulose acetate/nano-zeolite for the removal of oil from oily wastewater. *emergent mater.* <https://doi.org/10.1007/s42247-021-00326-y>
- (2) **Sultana N.** (2021), Electrospun Biodegradable Bi-layered Microfiber Membrane for Aluminum Removal in Drinking Water. *J. Micro and Nano Systems.* 13 (1), 82-89.
- (3) **Sultana, N.**, Chang, H., Jefferson, S. *et al.* (2020) Application of conductive poly(3,4-ethylenedioxythiophene): poly(styrenesulfonate) (PEDOT: PSS) polymers in potential biomedical engineering. *J. Pharm. Investig.* **50**, 437–444. <https://doi.org/10.1007/s40005-020-00485-w>
- (4) Othman, S., Soon, C. F., Tee, K., Ahmad, M., Nayan, N., & **Sultana, N.** (2020). Construction of Hexagonal Structures Using a 3D Bioprinter Based on Customized G-Code. *International Journal of Integrated Engineering*, 13(2), 214-221
- (5) Hassan, M.I., **Sultana, N.** (2019), In vitro cell viability of PHBV/PLGA nanofibrous membrane for tissue engineering, *Mal. J. Fund. Appl. Sci.*, 15 (4) 522-527
- (6) **Sultana, N.** and Daniels, D.E. (2019), Electrospun Bi-layered Composite Membrane for the Removal of Metallic Contaminants in drinking water, *J. Membrane Sci. Technol.*, 23(3), 76-83
- (7) Hassan, M.I., **Sultana, N.** (2019), In vitro cell viability of PHBV/PLGA nanofibrous membrane for tissue engineering, *Mal. J. Fund. Appl. Sci.*, 15 (4) 522-527
- (8) MM Lim and **N Sultana**, COMPARISON ON IN VITRO DEGRADATION OF POLYCAPROLACTONE AND POLYCAPROLACTONE/GELATIN NANOFIBROUS

- SCAFFOLD. , *Mal. J. Fund. Appl. Sci.*, (2017) Vol 21 No 3 (2017): 627 – 632. DOI: <https://doi.org/10.17576/mjas-2017-2103-12>
- (9) MI Hassan and **N Sultana**, Characterization, drug loading, and antibacterial activity of nanohydroxyapatite/polycaprolactone (nHA/PCL) electrospun membrane (2017). *3 Biotech*, (2017) 7:249 DOI 10.1007/s13205-017-0889-0
 - (10) MI Hassan, NN Masnawi and **N Sultana**, Biom mineralized Conductive PEDOT: PSS-coated PLA/PHBV/HA Nanofibrous Membranes. *ASAIO Journal* (2017). DOI: 10.1097/MAT.000000000655
 - (11) Chang, H. C., & **N Sultana**, (2017). PLA/PHBV electrospun membrane: Fabrication, coating with conductive PEDOT: PSS and antibacterial activity of drug loaded membrane. *Cogent Engineering*, 4(1), 1322479. <https://doi.org/10.1080/23311916.2017.1322479>
 - (12) SK Ufere and **N Sultana**, FABRICATION AND CHARACTERIZATION OF PCL/HA/PPY COMPOSITE SCAFFOLD USING FREEZE-DRYING TECHNIQUE, *Jurnal Teknologi*, (2016), 78.
 - (13) MS Iqwan, **N Sultana**, AF Ismail, CHARACTERIZATION OF PCL/ZEOLITE ELECTROSPUN MEMBRANE FOR THE REMOVAL OF SILVER IN DRINKING WATER, *Jurnal Teknologi*, 2017, 79 (1-2):89-95
 - (14) H C Chang, **N Sultana**, AF Ismail, "Conductive PEDOT:PSS coated poly lactide (PLA) and poly hydroxybutyrate-co hydroxyvalerate (PHBV) electrospun membrane: Fabrication and Characterization", *Materials Science and Engineering C*, 61, 2016
 - (15) MM Lim and **N Sultana**, In vitro cytotoxicity and antibacterial activity of silver-coated electrospun polycaprolactone/gelatine nanofibrous scaffolds, *3-Biotech*, (2016) 6: 211. doi:10.1007/s13205-016-0531-6
 - (16) A. Lari, **N Sultana**, Tao Sun, PEDOT: PSS-containing nano Hydroxyapatite/Chitosan Conductive Bionanocomposite Scaffold: Fabrication and Evaluation, *Journal of Nanomaterials*, 2016
 - (17) A. Lari and **N Sultana**, "CHARACTERIZATION OF HYDROXYAPATITE/POLYPYRROLE/POLY (CAPROLACTONE) BASED SOLVENT CAST THIN FILMS", *ARPN Journal of Engineering and Applied Sciences* (2016) 11 (13), 8355-8358
 - (18) A. Lari and **N Sultana**, "Chitosan coated, and non-coated composite scaffolds based on poly (caprolactone) (PCL) and hydroxyapatite (HA)", *ARPN Journal of Engineering and Applied Sciences* (2016) 11 (7), 4576-45
 - (19) **N Sultana** & A. Zainal Cellulose acetate electrospun nanofibrous membrane: fabrication, characterization, drug loading and antibacterial properties. *Bulletin of Material Science*. (2016) 39: 337. doi:10.1007/s12034-016-1162-6
 - (20) SK Ufere and **N Sultana**, CONTACT ANGLE, CONDUCTIVITY AND MECHANICAL PROPERTIES OF POLYCAPROLACTONE/HYDROXYAPATITE/POLYPYRROLE SCAFFOLDS USING FREEZE-DRYING TECHNIQUE, *ARPN Journal of Engineering and Applied Sciences* (2016), 12 (23)
 - (21) C.Y. Foong, **N Sultana**, "Fabrication of layer-by-layer electrospun composite membranes based on polylactic acid (PLA) and poly (caprolactone) (PCL)/Chitosan", **ARPN Journal of Engineering and applied sciences**, 10(20), 2015, Pages 9408-9413
 - (22) LH Chong, MM Lim and **N Sultana** "Polycaprolactone (PCL)/Gelatin (Ge)-Based Electrospun Nanofibers for Tissue Engineering and Drug Delivery Application" *Applied Mechanics and Materials* Vol. 554 (2014) pp. 57-61 DOI: 10.4028/www.scientific.net/AMM.554.57
 - (23) LH Chong, MM Lim, and **N Sultana**, "Fabrication and Evaluation of Polycaprolactone/gelatin-based Electrospun Nanofibers with Antibacterial Properties," *Journal of Nanomaterials*, Article ID 970542, 2015

- (24) F Roozbahani, **N Sultana**, D Almasi, and F Naghizadeh, "Effects of Chitosan Concentration on the Protein Release Behaviour of Electrospun Poly(ϵ -caprolactone)/Chitosan Nanofibers," *Journal of Nanomaterials*, vol. 2015, Article ID 747420
- (25) MM Lim, T Sun, and **N Sultana**, "In Vitro Biological Evaluation of Electrospun Polycaprolactone/Gelatine Nanofibrous Scaffold for Tissue Engineering," *Journal of Nanomaterials*, vol. 2015, Article ID 303426, 10 pages, 2015. doi:10.1155/2015/303426. <http://www.hindawi.com/journals/jnm/2015/303426/cta/>
- (26) RM Jin, **N Sultana**, S. Hamdon "Fabrication of BSA loaded poly (Caprolactone) (PCL)/hydroxyapatite (HA) composite microsphere for tissue engineering application", *Advanced Materials Research*, 1030-1032, 2014, Pages 82-85
- (27) A Zainal, **N Sultana**, "Fabrication and characterization of cellulose acetate nanofibers", *Advanced Materials Research*, 1030-1032, 2014, Pages 78-81
- (28) A Lari, **N Sultana**, "Preparation and characterization of chitosan-hydroxyapatite nanoparticles for gene therapy", *Advanced Materials Research*, 1030-1032, 2014, Pages 2364-2368
- (29) **N Sultana**, M Mokhtar, MI Hassan, RM Jin, F Roozbahani and TH Khan "Chitosan-Based Nanocomposite Scaffolds for Tissue Engineering Applications" *Materials and Manufacturing Processes* (2014) DOI: 10.1080/10426914.2014.892610
- (30) F Naghizadeh, **N Sultana**, TMT Mohamed "The Fabrication and characterization of PCL/Rice Husk derived Bioactive Glass-Ceramic Composite Scaffolds" *Journal of Nanomaterials* Vol. 2014 (2014) DOI: <http://dx.doi.org/10.1155/2014/253185>
- (31) T Sun, **N Sultana** and TH Khan "Fabrication and in vitro Evaluation Nanosized Hydroxyapatite/ Chitosan-based Tissue Engineering Scaffolds" *Journal of Nanomaterials* Vol. 2014 (2014) pp. 1-8 DOI: <http://dx.doi.org/10.1155/2014/194680>
- (32) A Alsarhan, **N Sultana**, An Al-Khatib and MRA Kadir "Review on Some Malaysian Traditional Medicinal Plants with Therapeutic Properties" *Journal of Basic and Applied Sciences*, Vol. 10 (2014) pp.149-159
- (33) MI Hassan, T Sun and **N Sultana** "Fabrication of Nano Hydroxyapatite/ Poly(ϵ -caprolactone) Composite Microfibers using Electrospinning Technique for Tissue Engineering Applications" *Journal of Nanomaterials*, Vol. 2014 (2014) DOI: <http://dx.doi.org/10.1155/2014/209049>
- (34) MI Hassan, **N Sultana** and S Hamdon. "Bioactivity Assessment of Poly(ϵ -caprolactone)/ Hydroxyapatite Electrospun Fibers for Bone Tissue Engineering Application" *Journal of Nanomaterials*, Vol. 2014 (2014)
- (35) **N Sultana**, "Water Absorption Water Absorption and Diffusion Characteristics of Nano Hydroxyapatite (nHA) and Poly(hydroxybutyrate-co-hydroxyvalerate (PHBV)-Based Composite Tissue Engineering Scaffolds and Non-porous Thin Films", *Journal of Nanomaterials*, 2013
- (36) F. Roozbahani, **N Sultana**, et al., Effects of Chitosan Alkali Pretreatment on the Preparation of Electrospun PCL/Chitosan Blend Nanofibrous Scaffolds for Tissue Engineering Application, *Journal of Nanomaterials*, 2013.
- (37) **N Sultana** and T.H. Khan, "Composite Scaffolds based on Poly(ϵ -caprolactone) and Chitosan for Bone Tissue Regeneration", *Advanced Science Letters*, 2013, (Scopus)
- (38) **N Sultana** and T.H. Khan, "Polycaprolactone Scaffolds and Hydroxyapatite/Polycaprolactone Composite Scaffolds for Bone Tissue Engineering", *Journal of Bionanoscience*, 2013.
- (39) **N Sultana**, M. Wang, "PHBV/ PLLA Based scaffolds using emulsion freezing/freeze-drying 4technique: surface modification and in vitro biological evaluation", *Biofabrication*, 4 015003, 2012, <http://www.ncbi.nlm.nih.gov/pubmed/22258057> (ISI IF 4.5).

- (40) **N Sultana** and T.H. Khan, "In vitro Degradation of PHBV scaffolds and nHA/PHBV composite Scaffolds containing hydroxyapatite nanoparticles for Bone Tissue Engineering", *Journal of Nanomaterials*, 2012 (2012), DOI:10.1155/2012/190950, (ISI IF 1.547) <http://www.hindawi.com/journals/jnm/2012/190950/>
- (41) **N Sultana** and T.H. Khan, "Factorial Study of Compressive Mechanical Properties and Primary in vitro Osteoblast Response of PHBV/PLLA Scaffolds", *Journal of Nanomaterials*, 2012. <http://www.hindawi.com/journals/jnm/aip/656914/>
- (42) **N Sultana**, M. Wang, "Fabrication and Characterisation of Polymer and Composite Scaffolds Based on Polyhydroxybutyrate and Polyhydroxybutyrate-co-hydroxy valerate", *Key Engineering Materials*, 334-335 (2007), 1229-1232.
- (43) **N Sultana**, M Wang, Fabrication of HA/PHBV composite scaffolds through the emulsion freezing/freeze-drying process and characterization of the scaffolds, 2008, *Journal of Materials Science: Materials in Medicine*, Volume 19, Issue7, Pages 2555-2561.
- (44) **N Sultana**, M Wang, PHBV/PLLA-based composite scaffolds containing nano-sized hydroxyapatite particles for bone tissue engineering, 2008/6/1, *Journal of Experimental Nanoscience*, Volume 3, Issue 2, Pages 121-132.
- (45) **N Sultana**, M. Wang, "In vitro Degradation and Protein Adsorption Characteristics of PHBV/PLLA Blends and PHBV/PLLA-based Tissue Engineering Scaffolds", *Advanced Materials Research*, Vol.47-50 (2008), 1399-1402.
- (46) **N Sultana**, "Study of in vitro degradation of tissue engineering scaffolds based on biodegradable polymers", *African Journal of Biotechnology*, 2011, 10(81),18709-18715, (ISI)

Selected Conference abstracts and papers

- (1) J Singleton, **N Sultana**, 2021, Tissue Engineering for organ regeneration, International Symposium of undergraduate student excellence, Prairie View A&M University.
- (2) L Idah-Oze, **N Sultana**, 2021, Water uptake properties of pectin/chitosan thin films for biomedical applications, R&I Research Week Undergraduate and Graduate Conferences, Prairie View A&M University.
- (3) **N Sultana** et al. Production of Hydroxyapatite (HA) Nanoparticle and HA/PCL Tissue Engineering Scaffolds for Bone Tissue Engineering, IECBES, 2012, IEEE (Scopus)
- (4) **N Sultana**. Production and Characterization of Tissue Engineering Scaffolds based on Polyhydroxybutyrate-co-hydroxyvalerate polymers, 2012 International conference on Biomedical Engineering (ICOBEE 2012), 978-1-4577-1991-2/12, @2011 IEEE. (Scopus)
- (5) **N Sultana**, Mohammed Rafiq bin Abdul Kadir, Fadzilah Adibah Abd Aziz, NorSamsiah binti Muhamad Wahab, 2011, In vitro degradation of Thin films and Tissue engineering scaffolds based on biodegradable polymers, 2nd international conference on Biotechnology Engineering ICBioE'11, ISBN:978-983-42978-3-1 pp 518-521.
- (6) **N Sultana** and Min Wang, 2011, Water uptake and diffusion in PHBV Tissue Engineering Scaffolds and Non-Porous Thin Films, 2011 international conference on Biomedical Engineering and technology, IPCBEE vol.11, IACSIT press, Singapore, p 24-28.
- (7) **N Sultana** and Min Wang, 2011, PHBV tissue engineering scaffolds fabricated via emulsion freezing/ freeze-drying: effects of processing parameters, 2011 international conference on Biomedical Engineering and technology, IPCBEE vol.11, IACSIT press, Singapore, p 29-34.
- (8) **N Sultana**, Mohammed Rafiq bin Abdul Kadir, Fadzilah Adibah Abd Aziz, NorSamsiah binti Muhamad Wahab, 2011, In vitro degradation of Thin films and Tissue engineering scaffolds based on biodegradable polymers, 2nd international conference on Biotechnology Engineering ICBioE'11, ISBN:978-983-42978-3-1 pp 518-521.

- (9) **N Sultana** and Min Wang, 2011, Water uptake and diffusion in PHBV Tissue Engineering Scaffolds and Non-Porous Thin Films, 2011 international conference on Biomedical Engineering and technology, IPCBEE vol.11, IACSIT Press, Singapore, p 24-28.
- (10) **N Sultana** and Min Wang, 2011, PHBV tissue engineering scaffolds fabricated via emulsion freezing/ freeze-drying: effects of processing parameters, 2011 international conference on Biomedical Engineering and technology, IPCBEE vol.11, IACSIT Press, Singapore, p 29-34.
- (11) **N Sultana** and Min Wang, "PHB- and PHBV-based Osteoconductive Composite Scaffolds Produced through an Emulsion Freeze-drying Process", *Proceedings of the 10th Annual Conference on Ceramics, Cells and Tissues*, Faenza, Italy, 2006, 201-208
- (12) **N Sultana** and Min Wang, "Microstructure and Mechanical Properties of PHBV and HA/PHBV Composite Scaffolds for Bone Tissue Engineering", *Proceedings of the 5th Asian International Symposium on Biomaterials*, Xiamen, China, 2006, 290-291
- (13) **N Sultana** and Min Wang, "Nano-hydroxyapatite/Polyhydroxybutyrate-co-valerate Composite Scaffolds for Bone Tissue Engineering", *Transactions of the Society For Biomaterials 2007 Annual Meeting*, Chicago, IL, USA, 2007, 365
- (14) **N Sultana** and Min Wang, "PHBV/PLLA-based Composite Scaffolds Containing Nano-sized Calcium Phosphate Particles for Bone Tissue Engineering", *Proceedings of the International Conference on Materials for Advanced Technologies 2007 (ICMAT 2007)*, Singapore, 2007, B-25
- (15) **N Sultana** and Min Wang, "New Composite Scaffolds Based on PHBV/PLLA Polymer Blends for Bone Tissue Engineering", *Proceedings of the 8th World Biomaterials Congress*, Amsterdam, the Netherlands, 2008, Paper #2258
- (16) **N Sultana** and Min Wang, Investigation into Water Uptake of Composite Scaffolds and Films Based on PHBV/PLLA Polymer Blends", *Proceedings of the 8th World Biomaterials Congress*, Amsterdam, the Netherlands, 2008, Paper #2256
- (17) **N Sultana** and Min Wang, Degradation of HA-containing and PHBV/PLLA-based Composite Scaffolds", *Proceedings of the 8th World Biomaterials Congress*, Amsterdam, the Netherlands, 2008, Paper #225
- (18) **N Sultana** and Min Wang, "Hydrolytic Degradation and Protein Adsorption of PHBV/PLLA-based Tissue Engineering Scaffolds", *WACBE World Congress on Bioengineering 2009*, Hong Kong, 2009, Paper#T1.41.
- (19) **N Sultana** and Min Wang, "Coating PHBV- and PHBV/PLLA-based Scaffolds with Collagen and Characteristics of Collagen-coated Scaffolds", *WACBE World Congress on Bioengineering 2009*, Hong Kong, 2009.T1.6.4.
- (20) **N Sultana** and Min Wang, "Hydroxyapatite / Polyhydroxybutyrate-co-hydroxyvalerate Composite Scaffolds for Bone Tissue Engineering", *Proceedings of the Biomedical Engineering Conference BME2006*, Hong Kong, 2006, 108-111
- (21) **N Sultana** and Min Wang, "Fabrication and Evaluation of Polyhydroxybutyrate and Hydroxyapatite/Polyhydroxybutyrate Composite Scaffolds for Tissue Engineering Applications", *Proceedings of the Biomedical Engineering Conference BME2008*, Hong Kong, 2008.

Scholarly Recognitions

Citations:

Google Scholar **total citations: 1700**

Google Scholar Profile: <https://scholar.google.com.my/citations?user=yNGmb-sAAAAJ&hl=en>

Scopus **H-Index: 19**

Total publication in Scopus:**69**

Research Grant Completed:

- (1) Project Leader, Surface modification and protein adsorption of scaffolds. GUP Tier 2, 2011.
- (2) Project Leader, Fabrication and Characterization of scaffolds using a freeze-drying technique, 2011.
- (3) Project Leader, Development of Electrospun membranes, GUP Tier 1, 2012.
- (4) Project Leader, Development of membranes for heart tissue constructs, GUP Tier 1, 2013
- (5) Project Leader, 2013, Membranes based on Biopolymers for cardiac tissue regeneration.
- (6) Project Leader, Surface modification of Electrospun membranes. GUP Tier 1, 2014
- (7) Project Leader, 2014, Development of Electrospun Scaffolds for Heart Tissue Constructs
- (8) Project Leader, Pre-clinical Evaluation of Conductive polymer-based electrospun membranes for tissue engineering applications. GUP Tier 1, 2015-2017
- (9) Project Leader, FRGS, Absorption and Diffusion properties of scaffolds, 2012-2014
- (10) Project Leader, Effects of polymer solution Rheology on final morphology and diffusion properties of polymer membranes. FRGS, 2014-2016
- (11) Project leader, Layer by Layer electrospun PCL/Zeolite electrospun membrane for removal of silver/Al in drinking water, Hi COE Grant, 2016

Post Graduate Supervision and mentorship

Year	Level	Name	Status	Title	Role of supervisor
2012	PhD	Fatemeh Roozbahani	Graduated	Electrospun membrane for skin tissue engineering	Main Supervisor
2013	PhD	Ali Alserhan	Graduated	Medicinal plants for treating Type II Diabetes	Main Supervisor
2016	PhD	Alireza Lari	Graduated	Scaffolds for bone tissue engineering	Main Supervisor
2015	MPhil	Mohd Izzat Hassan	Graduated	Fabrication and characterization of nHA/PCL electrospun scaffold	Main Supervisor
2015	MPhil	Lim Mim Mim	Graduated	PCL/Gelatin-based membranes for tissue engineering.	Main Supervisor
2016	MPhil	Chang Hui Chung	Graduated	PEDOT: PSS coated PHBV/PLA membrane	Main Supervisor
2016	Master	Sharon Kalujosef Ufere	Graduated	PPY/PCL/HA scaffolds using a freeze-drying technique	Main Supervisor

Undergraduate Research Mentorship

- (1) Melanie Hollis
- (2) Adaeze Eze
- (3) Joshua Singleton
- (4) Louisa Oze
- (5) Aryonne Gibson
- (6) Tyra Buckley
- (7) James Harney
- (8) Tatierra Johnson
- (9) Troy Robertson
- (10) Melanie Hollis
- (11) Masturah Mokhtar
- (12) Mohd Izzat Hassan
- (13) Lim Mim Mim
- (14) Nyoke Goon Chia
- (15) Mohammed Najmi
- (16) Hanie Azzira
- (17) Mohd Raihan
- (18) Choy Yee Foong
- (19) Noor Nabilah Maswani
- (20) Mohd Syhamiel Iqwan
- (21) Syafiqah Rohadi

Journal Peer Review experience

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