

Curriculum Vitae

Name: *Dr. Pushpamalar Janarthanan*

Nationality: *Malaysian*

Position: *Senior Lecturer*

Department: *School of Science*

Organization: *Monash University Malaysia*

Telephone number: **+60355146173**

Email address: **Pushpa.Janarthanan@monash.edu; pushvenga@hotmail.com**

Research Group website: <http://www.polymer-lab.org/>

Official website: <http://www.sci.monash.edu.my/staff/academic/pushpamalar-janarthanan>

Researcher Orchid ID: orcid.org/0000-0002-6855-9412

Social media contact:

1. https://www.researchgate.net/profile/Pushpamalar_Janarthanan
2. <https://www.mendeley.com/profiles/pushpamalar-janarthanan/>
3. <https://my.linkedin.com/in/pushpamalar-janarthanan-78b81781>
4. <https://www.facebook.com/pushpamalar.janarthanan>
5. <https://www.scienceboard.net/profile/82735183>

Academic Qualifications

1. *Doctor of Philosophy in Applied Green Polymer Chemistry, Monash University Australia (2010).*
2. *Graduate Certificate in Higher Education, Monash University, Australia (2002).*
3. *Master of Science (Polymer Science), Universiti Putra Malaysia (1999).*
4. *Bachelor of Science (Honours) in Pure Chemistry, University Putra Malaysia (1996).*
5. *Sijil Tinggi Pelajaran Malaysia, Secondary High School, Hot Spring, Kuala Lumpur, (1991).*
6. *Sijil Pelajaran Malaysia (Grade 1), Secondary Girls School, Hot Spring, Kuala Lumpur (1989).*
7. *Sijil Rendah Pelajaran (Grade A), Secondary Girls School, Hot Spring, Kuala Lumpur (1987).*

Appointments Position

Date of appointments

<i>Senior Lecturer</i>	<i>13 September 2016-tenure contract (Monash University Malaysia)</i>
<i>Lecturer</i>	<i>13 September 2012- 12 September 2016 (Monash University Sunway Campus)</i>
<i>Assistant Lecturer</i>	<i>28th May 1999- 12 September 2012(6 contracts)</i>
<i>Research Assistant</i>	<i>May 1998-May 1999 (University Putra Malaysia)</i>
<i>Research Assistant</i>	<i>May 1996-December 1996(University Putra Malaysia)</i>

Award

- 1) Malaysian Invention and Design Society & MOSTI awarded “ITEX’2016 Gold medal” for project entitled “Biodegradable Polymers for Drug Delivery and Waste Water Treatment”
- 2) Monash University Malaysia awarded the “Long Service Award” in recognition of 15 years of service in Monash University Malaysia.
- 3) TienTe Lee Biomedical Foundation –Excellent Scientific Paper Award 2014”
- 4) PVC Award for Excellence in Research, Round 1, 2012 by Monash University Sunway Campus
- 5) Accreditation as a Teacher in Higher Education by Staff and Education Development Association (SEDA) of United Kingdom in May 2002

Basic Evidence of Scholarship in Teaching

1. *Teaching at Monash University, conducted by Higher Education Development Unit, Monash University, 9th-27th February 2004*

- a. *Helping Academically”at risk” Students*
- b. *Quality Teaching at Monash University*
- c. *Facilitating Small Group Discussion*
- d. *Introduction to Postgraduate Thesis Supervision*
- e. *Developing the Writing Skills of Postgraduate Students from non-English Speaking Background*
- f. *Educative Teaching*
- g. *Student Plagiarism: Sources and Remedies*

2. *Graduate Certificate in Higher Education, conducted by Higher Education Development Unit, Monash University, February 2000-June 2002 and the subjects are:*

- a. *HED 5001- Designing for Learning*
- b. *HED 5002-Teaching for Learning*
- c. *HED 5003-Evaluating Teaching and Assessing Learning*
- d. *HED 5004-Negotiated Project*

3. *Introduction to University Teaching, conducted by Centre of Higher Education Development, Monash University, 7th -10th December 1999*

4. *Peer Review of Teaching conducted by Centre of Higher Education Development, Monash University, 10th-13th December 1999*

5. *Continuing Education Excellence Development (CEED) Modules*

- a) CEED Science Faculty Module on module entitled “Enhancing your unit” on online mode of delivery - 7 Oct -7 Dec 2018
- b) CEED Science Faculty Module on module entitled “Making the research teaching nexus work” on online mode of delivery - 7 Oct -7 Dec 2018
- c) CEED Science Faculty Module with face to face workshop on module entitled “Visual design of PowerPoint slides” on online mode of delivery - 7Aug-2 Oct 2017
- d) CEED Science Faculty Module with face to face workshop on 26 May 2017 module entitled “Measuring the effectiveness of teaching strategies in Science based disciplines” and on online mode of delivery from 15 May-9 June 2017.
- e) CEED Science Faculty Module with face to face workshop on 17 Jan 2017 and on online mode of delivery from 20 Dec 2016-7 February 2017 on “Supporting English Language proficiency (Malaysia)”

Documenting Scholarship in Teaching

Teaching at Monash University Malaysia Sunway Campus

- 1. CHM3922-Advance organic and inorganic Chemistry**
2016- Lecturing organic chemistry, handling tutorial and practical sessions and prepare and mark the final exam papers for the undergraduates for the programs the undergraduates for the programs of Biotechnology, Medical Bioscience and double degree of both at Monash University Malaysia
- 2. CHM1052-Chemistry Advanced II**
2013-2016- Lecturing organic chemistry, handling tutorial and practical sessions and prepare and mark the final exam papers for the undergraduates for the programs the undergraduates for the programs of Biotechnology, Medical Bioscience and double degree of both at Monash University Malaysia
- 3. CHM2911-Synthetic chemistry I**
2012-2016 Lecturing organic chemistry, handling tutorial and practical sessions and prepare and mark the final exam papers for the undergraduates for the programs the undergraduates for the programs of Biotechnology, Medical Bioscience and double degree of both at Monash University Malaysia.
- 4. CHM2922-Spectroscopy and Analytical Chemistry**
2011-2013 Teaching practical sessions and prepare and mark the final exam papers for the undergraduates for the programs the undergraduates for the programs of Biotechnology, Medical Bioscience and double degree of both at Monash University Malaysia.
- 5. CHM 2741-Instrumental Analysis**
2010- Teaching practical sessions and prepare and mark the final exam papers for the undergraduates for the programs the undergraduates for the programs of Biotechnology, Medical Bioscience and double degree of both at Monash University Malaysia.
- 6. CHM2962-Food Chemistry**
2010- Lecturing organic chemistry, handling tutorial and practical sessions and prepare and mark the final exam papers for the undergraduates for the programs Food Science and Technology at Monash University Sunway Campus.
- 7. CHM 1011-Chemistry**
1999-2012- Lecturing organic, handling tutorial and practical sessions and prepare and mark the final exam papers for the undergraduates for the programs of Biotechnology, Medical Bioscience and double degree of both at Monash University Malaysia.
- 8. CHM 1022-Chemistry**
1999-2013(Unit coordinator)- Teaching and handle practical sessions for the undergraduates for the programs of Biotechnology, Medical Bioscience and double degree of both at Monash University Malaysia.
- 9. ENG 1701-Chemistry A**

2001-2002 Lecturing organic and physical chemistry and handling tutorial classes for the undergraduates for the programs of Engineering at Monash University Malaysia.

10. ENG 1702-Chemistry B

2001-2002 -Teaching and handle practical sessions for the undergraduates for the programs Engineering at Monash University Malaysia.

11. SCI 3990/MBBS 3990-Third Year Project (3 months research)previously known as SCM3910

2007-2017- 3 months research

12. Honours lectures (BTH 4280)

2012-Lecture on “Biodegradable Plastic and Hydrogels”

2011-Lecture on “Biodegradable Plastic and Hydrogels”

2002-Lecture on “Biodegradable Plastic”

- l) 1996-1998-Practical demonstrator for 3rd year students of polymer chemistry at University Putra Malaysia
- m) 1995-Practical demonstrator for 2nd year students of inorganic chemistry at University Putra Malaysia
- n) 1994-Practical demonstrator for Diploma students of organic chemistry at University Putra Malaysia

Research at Monash University Sunway campus

Current Research Fellow

- 1. Thenapakiam Sathasivam (Nov2018-Nov 2019)- main supervisor
Monash-Industry Palm Oil Education and Research Platform-2018

Current PhD students

- 1. Ahsanul Kaiser (2013-Dec2018)-co-supervisor (SoEng MUM)
- 2. Jahid Md. Mahabub Islam (15 Dec 2017-14 March 2021)-main supervisor
Project title: Novel Bio-based Nano-capsule for Targeted and Controlled Drug Release
- 3. Nuraina Anisa Dahlan (March17-5June2020)-main supervisor
Project title: Tissue engineering using biopolymer materials & potential application in the skin repair & regeneration
- 4. Tan Hui Li (Aug2016-July2019)-main supervisor
Project title: Fabrication of Injectable and Self-Healing Hydrogel for Biomaterial Tissue Engineering and Drug Delivery
- 5. Ragul Paramasivam (28Jan2016-27Apr2019)-main supervisor
Project title: Development Of Recombinant Multi-Epitope Proteins Based Poct Diagnosis For Multiple Stds In Human

Graduated PhD students

- 1) Wong Chew Ee (25Nov2014-24Nov2018)-co-supervisor
Project title: Antimicrobial Cyclodextrin Containing Polymers

- 2) Thenapakiam Sathasivam (Aug 2014-30July 2018)- co-supervisor (SoPharmacy MUM)
Project title: Synthesis and evaluation of semi synthetic compounds from malaysian sago waste as potential pharmaceutical excipients in making vegetarian capsules and dissolution enhancing
- 3) Vishalini Ghobe (Aug 2014-30July 2018)- co- supervisor
Project title: The ecology of aquatic invertebrates in Malaysian tropical peat swamps
- 4) Mr Karthik Deekonda (2 Dec 2013-1Dec2017)- main supervisor
Project title: Cost effective synthesis of Silver nanoparticles and their Biomedical applications
- 5) Mr Anand Kumar Veeramachineni(1 Aug 2013-30July 2017)- main supervisor.
Project title: Green chemistry approach using sago waste derived carboxymethylcellulose hydrogel microcapsules for controlled release rate of hydrophilic doxorubicin (5-FU) for cancer therapy
- 6) Ms Wong Siu Kuin(May2011-30June2013)- co-supervisor
Project title: Bioactivity and chemical constituents of leaves of selected Apocynaceae species in Peninsular Malaysia

Master

MBiomedSc

- 1) *Thenapakiam Sathasivam (Aug 2013-30July 2014)-graduated- co- supervisor*
Project title: *Carboxymethyl Sago Pulp and its Complexation with other Macromolecules for Controlled Drug Delivery*

Honours

1. *Nuraina Dahlan (July 2015-June 2016)-main supervisor*
Project title: Developing of Carboxymethyl polyvinyl alcohol (CMPVA) – Carboxymethyl cellulose (CMC) beads coated with modified magnetic iron oxide (Fe₃O₄) nanoparticles for copper removal
2. *Wong Yeon Yin(July 2014-June 2015)- main supervisor*
Project title: Electron Beam Irradiation (EB) synthesis of Carboxymethyl Sago Pulp (CMSP) and Polyacrylic acid (PAA) Hydrogel as colon targeted drug carrier
3. *Tan Hui Li (July 2014-June 2015)- main supervisor*
Project title: Preparation and Characterization of of Carboxymethyl Sago Pulp (CMSP) /Pectin Hydrogel Beads as Drug Carrier of Colon Targeted Drug
4. *Tan Li Shan- (July 2014-June 2015)- main supervisor*
Project title: Formation of hydrogel by cross-linking carboxymethyl cellulose from sago pulp with chitosan loaded with ibuprofen
5. *Gwendolen Ong Sze Huei - (Oct2013-June 2014)- co- supervisor*
Project title: Ibuprofen loaded carboxymethyl cellulose-gelatin complex coacervates recovered as iron cross-linked spherical beads for sustained drug delivery
6. *Kimberley Je Teeng Lo-(March2014-Nov2014)-main supervisor- graduated in Oct 2014*
Project title: *Use of Carboxymethyl cellulose/Psyllium Co-polymer carrier as an anticancer 5-fluorouracil drug delivery system to target colon cancer*
7. *Mr Kevin Yong Jenn Ling- (July 2013-June 2014)-co-supervisor*
Project title: *Preparation and characterization of sago waste derived hydrogel beads and its evaluations as activated sludge immobilization host for p-nitrophenol biodegradation*

8. *Mr Ganesh Kumar – main supervisor- graduated with first class Honours in June 2012*
Project title: *Preparation and Characterisation of Controlled Release 5-amino Salicylic Acid Incorporated Carboxymethyl Cellulose Beads Prepared by Aluminium Chloride and Electron Beam Irradiation for the Treatment of Inflammatory Bowel Disease*

Third Year Project (SCI 3990/MBBS 3990) (3 months research)-previously known as SCM3910

1. *Goorsha Ramkurun-(completed 30June2018)-Developing of control release microcapsule for drug delivery system by electrospraying.*
2. *Cheong Hong Dong- (completed 30 June 2017)- The effect of the addition of graphene oxide and coating layer on the drug release studies for hydrogel beads with various concentration CMSP*
3. *Adelyn Sze Hui Wong-(completed 30 June 2017)- Green Biosynthesis of Silver Nanoparticle using *Murraya koenigii* leaves Extract and Its Anti-Bacterial Properties*
4. *Ha Zhe Ying-(completed Feb 2017)- Effects of coating and graphene oxide addition on the drug release studies of carboxymethyl sago pulp hydrogel beads.*
5. *Amira Benabdussalam - (completed Feb 2016)- Characterization of Carboxymethylcellulose-Psyllium Hydrogel from Sago Waste and Analysis of its Potential Use in Colon Targeted Drug Delivery of Ibuprofen*
6. *Ilma Ruzni Imtiaz (completed June 2015)- Developing control release system of Metronidazole loaded microsphere based treatment for colon cancer*
7. *Wong Yeon Yin(completed Feb 2014)- Electron beam (EB) synthesis of carboxymethyl sago pulp (CMSP) and carboxymethyl sago starch as colon targeted drug carrier*
8. *Tan Hui Li (completed Feb 2014)- Electron beam (EB) irradiation synthesis of carboxymethyl sago pulp (CMSP) and carboxymethyl sago starch (CMSS) hydrogel for ocular drug delivery*
9. *Nabil Yusof (completed Feb 2014)- Developing controlled release systems for colon anticancer drugs by crosslinking cmc to chitosan in a water-in-oil-in-water emulsion to form microspheres*
10. *Shalini Kandasamy(completed Oct 2013)- Preparation and characterization of Carboxymethyl cellulose (CMC) and psyllium husk hydrogel irradiated with electron beam*
11. *Nurhafiza Hanafi (completed Feb 2013)- Developing of controlled release system for 5-fluorouracil from sago waste for treating colon cancer*
12. *Zakiah Holing (completed Feb 2011)- Synthesis of Radiation Cross-linked Carboxymethyl Cellulose Hydrogels from Sago Waste for Potential Application in Ocular Drug Delivery System and CMC*
13. *Velashini (completed Feb 2007)- Preparation of CMC with DS 0.4 and CMC hydrogel by EB irradiation from sago waste*

Overseas Summer students

1. *Anne-Kirsten Verwoerd (Dutch)(15Nov2017-15Jan2018)- Preparation and characterisation of CMC incorporated with Fe nanoparticles hydrogel beads for adsorption of heavy metals–main supervisor*
2. *Sophie Salama (French) (completed Feb 2014)- Preparation and characterization of low-crossed link CMC hydrogel from plant waste for control drug delivery-main supervisor*
3. *Rim Jelassi (French) (completed Feb 2014)- Development of controlled release systems for colon anticancer drugs by crosslinking CMC and chitosan to Form Microcapsules-main supervisor*

4. *Malgorzata Karolina Pierchala-Gosia (Poland) (completed Sept2016)- Antibacterial multilayered polylactide acid (PLA)/halloysite (HNT)/Gentamicin membranes for bone regeneration application-co-supervisor*

Final Year Engineering Practice student

1. Malisha Samarasekera (March –June 2019)- CMC from oil palm fruit bunch with PLA bilayer films as biodegradable material for active food packaging.
2. Johnathan Jansz (March – June 2019)- CMC from oil palm fruit bunch with PVA bilayer films as biodegradable material for active food packaging.
3. Clarina (completed June 2016)-Encapsulation of metronidazole in poly-lactic acid coated alginate microcapsules for sustained release
4. Ng Hong Yi (completed Oct 2015)- Electrospun Microfiber Membranes of Poly (lactic go-glycolic) Acid / Gelatin encapsulated with Drug Loaded Clay Nanotubes for Sustained Antimicrobial Protection and Wound Healing
5. Chai Zern Bang (completed Oct 2015)- Electrospinning of PLA/halloysite nanotubes membranes for anticancer applications
6. Muhammad Hafiz Ramli (completed July 2013)- Mechanical properties of chitosan-cellulose membranes prepared by electrospinning and solvent casting methods

Research Assistant

1. *Thenapakiam Sathasivam (Aug-Oct 2018)*
Project title: Bismuth-containing sulfonated-carboxymethylcellulose as antibacterial hydrogels for future biomaterial applications.
2. *Puviarasi Meganathan (Nov-Dec2016)*
Project title: Biodegradable Polymers for Biomedical and Tissue Engineering
3. *Yamuna Sathasivam (21Feb-31Mar2015)*
Project title: Developing a biodegradable low cross-link carboxymethylcellulose hydrogels from sago waste for control release of colon anticancer drug
4. *Jing Yun Chai (15Dec2014-21Feb2015)*
Project title: *Synthesis and Characterization of Radiation Cross-linked Carboxymethyl Sago Pulp Hydrogels for Sustained Delivery of Ciprofloxacin*
5. *Kevin Yong Jenn Ling (23June-22Dec2014)*
Project title: *Synthesis of Radiation Cross-linked Carboxymethyl Cellulose Hydrogels from Sago Waste for Potential Application in Ocular Drug Delivery System and CMC-Tin-porphyrin gel characterization*
6. *Lee Kah Siong (30July-9Sept2014)*
Project title: *Study on carboxymethyl cellulose and psyllium hydrogel characterisation*
7. *StephanieChowYingYng (Dec2013-Jan2014)*
Project title: *Characterisation of CMC/psyllium using SEM and FTIR*
8. *Lam Yi Lyn (Feb 2013-Jan 2014)*
Project title: *Developing a biodegradable low cross-link carboxymethylcellulose hydrogels from sago waste for control release of colon anticancer drug*
9. *Ng Siu Kuin (April2013-June 2013)*
Project title: *Developing a biodegradable low cross-link carboxymethylcellulose and psyllium husk hydrogels from sago waste for control release of colon anticancer drug*
10. *Robin Tan Chun Hong (Apr- Dec 2004)*
Project title: *Preliminary studies on preparing carboxymethyl cellulose from sago waste.*
11. *Tan Gaik Kooi (Jan-Dec 2001)*

Project title: Delignification of sago waste to produce sago pulp

External Service for the University

Membership of Professional Bodies/Institutions

1. *Associate Member of Malaysian Institute of Chemistry-
membership no: A/2142/4631/2004- (2004-2009)
membership no: A/1743/4056/2000 - (2000-2003)*
2. *International Association of Advanced Materials, Sweden (membership number 721262604123)*
3. *Member of Environment and Green Chemistry (EGC) section 2018/2019 committee, by Institute Kimia Malaysia.*
4. *Editorial Board Member for “Materials Physics and Chemistry”-2017-2018*
5. *Invited Guest Editorial Team of the Special issue of the Journal of Drug delivery, Hindwai Publication-2018*
6. *Referee for Carbohydrate Polymers-2018*
7. *Referee for Journal of Materials Science-2018*
8. *Referee for Coloration Technology*
9. *Referee for Journal of Water Process Engineering*
10. *Referee for Polymers for Advanced Technologies 2015-2018*
11. *Referee for the Chemical Educator Journal since 2003 to 2008*
12. *Referee for Polymer Bulletin since 2013-2018*
13. *Referee for Journal Applied Polymer Science-2014-2018*
14. *Referee for Iranian Polymer Journal-2014-2018*
15. *Referee for Current Nanoscience since 2017-2018*
16. *Referee for Journal of Macromolecular Science, Part A: Pure and Applied Chemistry-2017-2018*
17. *Referee for Clay Minerals – Journal of Fine Particle Science-2016-2017*
18. *PhD thesis examiners-international and national PhD candidates*
19. *Member of Monash University Malaysia Academic Staff Association (MUMASA), 2000-2011(member), treasurer (2012), secretary (2013) and school representative (2014)*
20. *Member of Monash Postgraduate Association(MPA)-2003-2010*
21. *Member of Indian Graduate Association of University Putra Malaysia since 200-2018*
22. *Panel Judge for National Science Fair for Young Children 2012 by Malaysian Indian Science Intellectual*
23. *Referee for conference papers for 2014 Global Conference on Polymer and Composite Materials (PCM 2014) on May 27-29 2014, Ningbo, China*
24. *Referee for research articles submitted to 2017 Global Conference on Polymer and Composite Materials (PCM 2017)*

Internal Service for the University

1. **Deputy Director of Monash-Industry Palm Oil Education and Research Platform-2018**
2. **Gender Diversity Taskforce committee member** and participate actively in meeting discussion to serve as an advocate of gender diversity for the Campus internally and/or externally-2017
3. **Coordinator of School of Science for Monash-Industry Palm Oil Education and Research Platform** for the Palm Oil Industry (MIPO)-A final proposal by School of

- Engineering (SoE) and School of Science (SoS) is submitted on Oct 2017 and a budget of 1.3 million was approved by the Senior Management.
4. The PVC nominee of selection committee for interview session of academic positions for Schools of Medicine, Engineering and Pharmacy, Monash University Malaysia-2016-2018.
 5. Mentor for Campus Mentoring Scheme For Early Career Academics in Monash University Malaysia (2016-2018)
 6. Point of Contact at School of Science for submitting a proposal for Campus Strategic Fund: Monash's Education, Research and Training Hub for the Palm Oil Industry (MEPO)-A joint proposal by School of Engineering (SoE) and School of Science (SoS) is submitted on 6th Dec 2016.
 7. Postgraduate Studies Committee Member of School of Science -2016-2018
 8. School research committee member of School of Science-2016-2018
 9. Mentor for undergraduate students since 2005-2018
 10. School research committee member of School of Science-2012-2014
 11. Committee Member of Transition Program-2009-2017
 12. Actress as a lecturer for the video shooting for the "Internship Marketing Video" for School of Science on 19 July 2017.
 13. Academic Liaison Partner with Education management team – 2014-2015
 - a. -Point of contact for all academic related learning and teaching matters
 - b. -Internal School dissemination of education development learning and teaching information, resources and activities.
 - c. -Establishing School discussion forums on relevant school concerns and challenges
 14. Committee Member of Science Workshop and Seminar 2006-2008.
 15. Chairperson of Logistic Committee of Biotech Workshop 2005
 16. Committee Member of Occupational and Health Ethics in 2004

Research outcomes:

Refereed journals

1. Thenapakiam Sathasivam, Anand Kumar Veeramachineni, Saravanan Muniyandy, Pushpamalar Janarthanan² and Lay Hong Chuah -"**Spray Dried Solid Dispersions of Piroxicam in Carboxymethyl Sago Cellulose using Aqueous Solvents: A Simple, Novel and Green Approach to Produce Enteric Microparticles with Enhanced Dissolution**" , Drying Technology, 2018 in press
2. Jillian Jin Lyn Heng, Jia Hao Teng, Muniyandy Saravanan and Janarthanan Pushpamalar. "**Influence of ispaghula and zein coating on ibuprofen loaded alginate beads prepared by vibration technology: Physicochemical characterization and release studies**, Scientia Pharmaceutica, 86, 24, 2018.
3. Nuraina Anisa Dahlan, Lee Lee Wei, Pushpamalar Janarthanan, Ng Si Ling, "**Adsorption of methylene blue onto carboxymethyl sago pulp-immobilized sago waste hydrogel beads**" *International Journal of Environmental Science and Technology in press 2018*
4. Pushpamalar J., Thenapakiam Sathasivam, Saravanan Muniyandy, Lay Hong Chuah, "**Encapsulation of red palm oil in carboxymethyl sago cellulose beads by emulsification and vibration technology: Physicochemical characterization and in vitro digestion**", *Journal of Food Engineering*, 231, 10-21, 2018
5. J. Pushpamalar; Zakiah Holling; Thenapakiam Sathasivam; Saravanan Muniyandy, "**Radiation Sterilized and Cross-Linked Carboxymethyl Sago Pulp Discs for Ophthalmic Drug Delivery: Ciprofloxacin Uptake and Physicochemical Characterization**", *Journal of Applied Pharmaceutical Science*, 2018, in press (IF 0.649)

6. Dahlan NA, Pushpamalar J, Veeramachineni AK, Muniyandy S "**Smart Hydrogel of Carboxymethyl Cellulose Grafted Carboxymethyl Polyvinyl Alcohol and Properties Studied for Future Material Applications**", *Journal of Polymers and the Environment*, 26(5), 2018, 2061-2071, (IF 1.877)
7. Thivyah Munisparan, Eyyan Yang Chia Yan, Ragul Paramasivam, Nuraina Anisa Dahlan, Janarthanan Pushpamalar, "**Optimisation of preparation conditions for titanium nanowires and suitability as an antibacterial material**", *IET Nanobiotechnology*, 2017, in press (IF 1.50)
8. Malgorzata Karolina Pierchala, Maziyar Makaremi, Hui Li Tan, Pushpamalar Janarthanan, Saravanan Muniyandy, Atefeh Solouk, Sui Mae Lee, Pooria Pasbakhsh, "**Nanotubes in nanofibers: Antibacterial multilayered polylactic acid/halloysite/gentamicin membranes for bone regeneration application**", *Applied Clay Science*, 2017, in press (IF 3.391)
9. J. Pushpamalar, S. J. Langford, M. B. Ahmad, Y. Y. Lim & K. Hashim "**Eco-friendly smart hydrogels for soil conditioning and sustain release fertilizer**", *International Journal of Environmental Science and Technology*, 2017, in press (IF 2.156)
10. Dahlan NA, Veeramachineni AK, Langford SJ, Pushpamalar J "**Developing of a magnetite film of carboxymethyl cellulose grafted carboxymethyl polyvinyl alcohol (CMC-g-CMPVA) for copper removal**", *Carbohydrate Polymers*, 2017, 173:619-630, (IF5.130)
11. Nuraina Anisa Dahlan, Si Ling Ng, Janarthanan Pushpamalar, "**Adsorption of methylene blue onto powdered activated carbon immobilized in a carboxymethyl sago pulp hydrogel**", *J. Appl. Polym. Sci.* 2017, 134(4), 44271, (IF1.86)
12. Pushpamalar, J., Veeramachineni, A. K., Owh, C. and Loh, X. J., *ChemInform Abstract: "Biodegradable Polysaccharides for Controlled Drug Delivery"*, *ChemInform*, 2016, 47(32)(IF0.50)
13. Anand Kumar Veeramachineni, Thenapakiam Sathasivam, Saravanan Muniyandy , Pushpamalar Janarthanan, Steven James Langford and Lim Yau Yan "**Optimizing Extraction of Cellulose and Synthesizing Pharmaceutical Grade Carboxymethyl Sago Cellulose from Malaysian Sago Pulp**' *Applied Sciences*, 2016, 6, 170 (IF 1.913)
14. Pushpamalar, J., Veeramachineni, A. K., Owh, C. and Loh, X. J. "**Biodegradable Polysaccharides for Controlled Drug Delivery (2016)**", *ChemPlusChem.*, 2016, Vol 81, 1-12. (IF 2.797).
15. Hui Li Tan, Yeon Yin Wong, Saravanan Muniyandy, Kamaruddin Hashim, Janarthanan Pushpamalar, "**Carboxymethyl Sago Pulp/Carboxymethyl Sago Starch Hydrogel: Effect of Polymer Mixing Ratio and Study of Controlled Drug Release**", *Journal of Applied Polymer Science*, 2016, Vol 133(28), 43652. (IF1.86)
16. Karthik Deekonda, Saravanan Muniyandy, Yau Yan Lim, Pushpamalar Janarthanan, "**Electron beam radiation mediated green synthesis of silver nanoparticles using carboxymethyl sago pulp obtained from sago waste**", *Polymer*, 2016, Vol 86, pg 147-156 (IF3.740).
17. Hui Li Tan, Li Shan Tan, Yeon Yin Wong, Saravanan Muniyandy, Kamaruddin Hashim, Janarthanan Pushpamalar, "**Dual crosslinked carboxymethyl sago pulp/pectin hydrogel beads as potential carrier for colon-targeted drug delivery**", *Journal of Applied Polymer Science*, 2016, Vol 133(19), 43416. (IF1.86).
18. Gwendolen Ong Sze Huei, Saravanan Muniyandy, Thenapakiam Sathasivam, Anand Kumar Veeramachineni, Pushpamalar Janarthanan, "**Iron cross-linked carboxymethyl**

- cellulose-gelatin complex coacervate beads for sustained drug delivery*", *Chemical Papers*, 2016, Vol 70(2), pg 243-252, (IF1.258)
19. Muniyandy, Saravanan, Thenapakiam Sathasivam, Anand Kumar Veeramachineni and Pushpamalar Janarthanan, *Dual Cross-linked Carboxymethyl sago Pulp-Gelatine Complex Coacervates for Sustained Drug Delivery*, *Polymers*, 2015, Vol 7(6), pg 1088-1105 (IF4.330)
 20. Govindasamy, Kavitha, Muhammad Hafiz Ramli, Pooria Pasbakhsh, Vengidesh Pushpamalar and Babak Salamatinia, *"Chitosan/cellulose/halloysite Membranes Produced Using Solvent Casting Method"*, *Polymers and Polymer Composites*, 2015, Vol 23(5) pg 277-284 (IF0.50)
 21. Lam, Yi Lyn, Saravanan Muniyandy, Hashim Kamaruddin, Ahmad Mansor and Pushpamalar Janarthanan, *Radiation crosslink CMSP hydrogels loaded wt ciprofloxacin: Influence of irradiation on gel fraction, entrapped drug and in vitro release- Radiation Physics and Chemistry*, 2015, Vol 106, pg 213-222 (IF1.33)
 22. Thenapakiam, Sathasivam, Devakumar Ganesh Kumar, Janarthanan Pushpamalar and Muniyandy Saravanan, *Aluminium and radiation cross-linked carboxymethyl sago pulp beads for colon targeted delivery*. *Carbohydrate Polymers*, 2013, Vol 94, pg 356-363 (IF 5.130).
 23. Pushpamalar, Vengidesh, Steven James Langford, Mansor Ahmad, Kamaruddin Hashim and Yau Yan Lim, *"Adsorption Characterization of Ca²⁺, Na⁺ and K⁺ on Irradiation Crosslinked Carboxymethyl Sago Pulp Hydrogel"*– *Journal of Applied Polymer Science*, 2013, Vol 128(3) pg 1828-1833 (IF 1.86).
 24. Pushpamalar, Vengidesh, Steven James Langford, Mansor Ahmad, Kamaruddin Hashim and Yau Yan Lim, *"Preparation of Carboxymethyl Sago Pulp Hydrogel from Sago Waste by Electron Beam Irradiation and Swelling Behaviour in Water and Various pH Media"*- *Journal of Applied Polymer Science*, 2013, Vol 128(1):451-459 (IF 1.86).
 25. Pushpamalar, Vengidesh, Steven James Langford, M Ahmad, and Yau Yan Lim, *"Optimisation of Reaction Condition for Preparing Carboxymethyl Cellulose from Sago Waste"* – *Carbohydrate Polymers*, 2006, 64, pg 312-318 (IF 5.130).
 26. Janarthanan, Pushpamalar, Wan Md Yunus, Zin Wan and Mansor Bin Ahmad, *"Thermal Behaviour and Surface Morphology Studies on Polystyrene Grafted Sago Starch"*, *Journal of Applied Polymer Science*, 2003, Vol 90:2053-2058 (IF 1.86).
 27. Janarthanan, Pushpamalar, Wan Md Yunus, Zin Wan and Mansor Bin Ahmad, *"Sorption Behaviour of Polystyrene Grafted Sago Starch in Various Solvents"*- *Science International*, 2001 Jan-March Vol 13:1, pg 37-39(IF<1.0).

Book Chapters

P.Janarthanan, A.K. Veeramachineni, X.J.Loh (2016), "Biodegradable Polysaccharides", Reference Module in Materials Science and Materials Engineering, from *Polymer Science: A Comprehensive Reference*, edited by Krzysztof Matyjaszewski and Martin Möller, Elsevier, Amsterdam, 2017, Pages 1-12. **ISBN:** 978-0-12-803581-8, (Invited book chapter)

Refereed conference proceedings

International (personal)

1. *Green chemistry approach using sago biomass derived carboxymethylcellulose hydrogel for colon cancer drug deliver*, 35th Australian Polymer Symposium, pg 426-427, held at Gold Coast, Australia, 11July-15July 2015

2. **“SEM Structural Studies on Hydrogel Prepared by Electron Beam Irradiation from Sago Waste”**, *First International Conference on Multifunctional, Hybrid and Nanomaterials*, pg A3.1.19, held at Da Vinci Tours, France, 15-19 March 2009
3. **“Biodegradation of Carboxymethyl Cellulose from Sago Waste by using *Trichoderma reesei* Cellulase”**, *30th Australian Polymer Symposium*, pg 426-427, held at The Sebel Park, Melbourne, Australia, 30 Nov-04 Dec 2008
4. **“Preparation of Hydrogel of Carboxymethyl Cellulose from Sago Pulp”**, *14th European Carbohydrate Symposium*, pg PO-016, held at Musik-und Kongresshalle, Lubeck, Germany, 2nd – 7th September 2007.
5. **“X-ray Diffractograms and Infra Red Spectra Analysis of Carboxymethyl Cellulose from Sago Pulp”**, *XXIIIrd International Carbohydrate Symposium Proceedings*, pg THU-PS17, held at Telus Whistler Conference Centre, Whistler, British Columbia, Canada, 23-27th July 2006.
6. **“Isolation of Cellulose and Preparation of Carboxymethyl Cellulose from Sago Waste**, *27th Australasian Polymer Symposium Proceedings*, pg P43, held at University of Adelaide, Adelaide Australia, 28th November-2nd December 2004.
7. **“Biodegradation Studies of Polystyrene Grafted Sago Starch by Using Alpha Amylase**, *25th Australasian Polymer Symposium Proceedings*, held at University of New England, Armidale Australia, 10th-13th February, 2002.

International (student)

1. **“Carboxymethyl sago pulp nanoparticles loaded with Paclitaxel and Silver Nanoparticles for in-vivo induced breast cancer drug delivery system”**
International Conference on Environmental and Biomedical Nanotechnology (ICEBN-2018) held at School of Environmental Sciences, Jawaharlal Nehru University, New Delhi, 14-15th Sept 2018 (Karthik Deekonda)
2. **“Development of Multi-epitope Peptide Imprinted Polymer (MPIP) Multiplex Quartz Crystal Microbalance (mQCM) point of care assay for diagnosis of sexual transmitted diseases”**, Merck Young Scientist Award 2018. Best Poster Award (Ragul Paraasivam).

National

1. **“Nano-fabrication of organic/inorganic hybrid drug carrier to terminate cancer cells selectively”**, Monash Symposium 2018 held on 21-23 Nov 2018 at Monash University Malaysia
2. **“Carboxymethyl cellulose grafted polyethylene glycol and properties tailored for tissue engineering applications”** Monash Symposium 2018 held on 21-23 Nov 2018 at Monash University Malaysia
3. **“Smart hydrogel of carboxymethyl cellulose grafted carboxymethyl polyvinyl alcohol and properties studied for future material applications”**, Conference on Biomedical &

- Advanced Materials (Bio-CAM 2017) held on Nov 28-29, 2017 at Bayview Hotel Langkawi.
4. **“Fabrication and characterization of cellulose acetate butyrate/graphene oxide composite nanofibers for biomaterial applications”**, Conference on Biomedical & Advanced Materials (Bio-CAM 2017) held on Nov 28-29, 2017 at Bayview Hotel Langkawi.
 5. **“Pharmaceutical Vegetarian Hard Capsule Formation Properties from *Metroxylon sago* Biomass”**, 2017 International Conference on Polymer Chemistry (ICPC 2017), August 23 to 25, 2017 in Guilin, China. -(Thena-oral presentation)
 6. **“Fabrication of Carboxymethyl Sago Pulp loaded with Ag-NPs for external *in-vivo* wound healing application”**, International conference on “Frontiers in Nano biotechnology”, in collaboration Indian Nano Biologist Association (INBA) with the Department of Biotechnology & Bioinformatics, Bishop Heber College (Autonomous), Tiruchirappalli, Tamil Nadu, India held on 8-9th September, 2017(Karthik-poster presentation-award 1st Prize for poster presentation)nd n
 7. **“Development of rapid dot-blot flow through assay for HIV antibody detection with novel synthetic multiepitope peptide”**, 2nd International conference on molecular diagnostics and biomarker discovery conference 2017, 3-4th May 2017, held at Equatorial Hotel, Penang- (Raghul-poster presentation, award: Runner-up for Best poster presentation).
 8. **Carboxymethyl Sago Cellulose from Malaysian Sago Biomass to Enhance the Dissolution of Poorly Water Soluble Drug**- Monash Science Symposium 2016 on 21-23 Nov 2016- Thena poster presentation
 9. **Green Synthesis Of Silver Nanoparticle Using Sago Pulp Obtained From Sago Biomass**- Monash Science Symposium 2016 on 21-23 Nov 2016-Karthik poster presentation
 10. **Design Of Multi - Epitopic Peptide For Hiv Diagnosis Based On Systematic Review And Meta-Analysis Of Hiv/Aids Antibody Detection Assays**- Monash Science Symposium 2016 on 21-23 Nov 2016-Ragul Paramasivam poster presentation
 11. **Fabrication of biodegradable carboxymethyl sago pulp/pectin hydrogel for drug delivery**- Monash Science Symposium 2016 on 21-23 Nov 2016-Tan Hui Li poster presentation
 12. **Synthesis of a novel Fe₃O₄ nanoparticles coated with carboxymethyl sago cellulose and conjugated with 5-Flurouracil for diagnosis and treatment of cancer**-4th International Conference on Nano Science and Nanotechnology on 28-29 Jan 2016 at Vistana Hotel, Kuala Lumpur-Anand poster presentation
 13. **Sago pulp mediated green synthesis of silver nanoparticles obtained from sago biomass**-4th International Conference on Nano Science and Nanotechnology on 28-29Jan2016 at Vistana Hotel, Kuala Lumpur-Karthik oral presentation
 14. **Adsorption of methylene blue onto powdered activated carbon immobilized in carboxymethyl sago pulp hydrogel**-4th International Conference on Nano Science and Nanotechnology on 28-29Jan2016 at Vistana Hotel, Kuala Lumpur-Nuraina oral presentation
 15. **Green CMC hydrogel embedded with silver nanoparticles for drug delivery system**. 26th Intersarsity Biochemistry Seminar on 16May2015- (Karthik Deekonda) **poster presentation**
 16. ***EB radiation mediated synthesis of Silver Nanoparticles using Carboxy Methyl Cellulose from Sago waste***. International Postgraduate Research Awards Seminar (InPRAS) held at

- University of Malaya, Kuala Lumpur, Malaysia on 10-11th December 2014 (ERGS) (Karthik)-**oral presentation.**
17. **A green chemistry revolution in biomass: An answer to colon cancer drug delivery?** International Postgraduate Research Awards Seminar (InPRAS) held at University of Malaya, Kuala Lumpur, Malaysia on 10-11th December 2014 (MOSTI) (Anand)-**oral presentation**
 18. ***“Developing a Controlled Release System for 5-Fluorouracil (5-FU) from Sago (Metroxylon sago) Waste for Treating Colon Cancer”*** International Postgraduate Research Awards Seminar (InPRAS) held at University of Malaya, Kuala Lumpur, Malaysia on 10-11th December 2014 (ERGS) (Thenapakiam)-**poster presentation**
 19. ***Green synthesis of silver nanoparticles and their biomedical applications***, 21st Malaysian Society of Molecular Biology and Biotechnology Annual Scientific Meeting entitled ‘Biotechnology for Global Sustainability and Prosperity’, held at Monash University Malaysia on 1-3rd Oct 2014 (ERGS) (Karthik)- **Winner of best poster award** in category for “Natural product & biomaterials” (poster presentation)
 20. ***Developing of controlled release system for 5-Fluorouracil from Sago (Metroxylon sago) Waste for treating Colon Cancer***, 21st Malaysian Society of Molecular Biology and Biotechnology Annual Scientific Meeting entitled ‘Biotechnology for Global Sustainability and Prosperity’, held at Monash University Malaysia on 1-3rd Oct 2014 (ERGS) (Thenapakiam)- **1st runner up for best poster award** in category for “Natural product & biomaterials” (poster presentation))
 21. ***Development of Carboxymethyl Cellulose/Psyllium Co-polymer for Anticancer Drug Delivery to Target Colon Cancer***, 21st Malaysian Society of Molecular Biology and Biotechnology Annual Scientific Meeting entitled ‘Biotechnology for Global Sustainability and Prosperity’, held at Monash University Malaysia on 1-3rd Oct 2014(MOSTI) (Kimberely)-**2nd runner up for best poster award** in in category for “Natural product & biomaterials” (poster presentation)
 22. ***Green chemistry approach using Sago waste derived carboxymethylcellulose hydrogel microcapsules for Controlled release rate of hydrophilic 5-fluorouracil (5-FU) for cancer therapy***, 21st Malaysian Society of Molecular Biology and Biotechnology Annual Scientific Meeting entitled ‘Biotechnology for Global Sustainability and Prosperity’, held at Monash University Malaysia on 1-3rd Oct 2014 (MOSTI)(Anand)- (poster presentation)
 23. ***Electron beam (EB) irradiation synthesis of carboxymethyl sago pulp (CMSP) and carboxymethyl sago starch (CMSS) hydrogel for ocular drug delivery***, 21st Malaysian Society of Molecular Biology and Biotechnology Annual Scientific Meeting entitled ‘Biotechnology for Global Sustainability and Prosperity’, held at Monash University Malaysia on 1-3rd Oct 2014(FRGS) (Tan Hui LI)- (poster presentation)
 24. ***Electron beam (EB) synthesis of carboxymethyl sago pulp (CMSP) and carboxymethyl sago starch (CMSS) hydrogel as colon targeted drug carrier***, 21st Malaysian Society of Molecular Biology and Biotechnology Annual Scientific Meeting entitled ‘Biotechnology for Global Sustainability and Prosperity’, held at Monash University Malaysia on 1-3rd Oct 2014 (FRGS) (Wong Yeon Yin)- (poster presentation)
 25. ***Synthesis, characterization and evaluation of chitosan-stabilized carboxymethylated sago pulp using iron as crosslinkers as hydrogel matrices for P-nitrophenol-degrading activated sludge***, 21st Malaysian Society of Molecular Biology and Biotechnology Annual Scientific Meeting entitled ‘Biotechnology for Global Sustainability and Prosperity’, held at Monash University Malaysia on 1-3rd Oct 2014 (Kevin)- (poster presentation).
 26. ***Biodegradability and Controlled Release Studies on carboxymethyl cellulose Hydrogels from Sago Waste***, 23rd Malaysian Symposium on Analytical Sciences (SKAM-23, 4 – 6 October 2010, Kuala Terengganu.

27. ***Biodegradability and Controlled Release Studies on Carboxymethyl Cellulose Hydrogels from sago Waste***, Exhibition of Invention, Research and Innovation of Universiti Putra Malaysia held at UPM Serdang, Selangor, Malaysia on 20-22nd July 2010 (won a **BRONZE medal**).
28. ***“Biodegradation of Carboxymethyl Cellulose Hydrogel from Sago Waste in Garden Soil”***, Seminar on Biomass for Biofuel and Value-Added Products 2009: "Towards Efficient Utilization of Biomass" on 27-28th Oct 2009 by Forest Research Institute Malaysia.
29. ***“Biodegradation of Carboxymethyl Cellulose from Sago Waste by Trichoderma reesei Cellulase”***, Exhibition of Invention, Research and Innovation of Universiti Putra Malaysia held at UPM Serdang, Selangor, Malaysia on 28-30th July 2009
30. ***“Biodegradable Hydrogel from Sago Waste”***, Exhibition of Invention, Research and Innovation of Universiti Putra Malaysia held at UPM Serdang, Selangor, Malaysia on 26-27th November 2007 (won a **BRONZE medal**).
31. ***“Surface Morphology Studies on Carboxymethyl Cellulose from Sago Pulp”***, 12th Asian Chemical Congress (12ACC) proceedings, pg PMC 156, held at Putra World Trade Centre, Kuala Lumpur, Malaysia on 23rd -25th August 2007.
32. ***Preparation and Characterisation of Hydrogel from Sago Waste***, Exhibition of Invention, Research and Innovation of Universiti Putra Malaysia held at UPM Serdang, Selangor, Malaysia on 22-24 Ogos 2006, (won a **BRONZE medal**).

Other Publication

- 1) **The Petri Dish, MABIC (Malaysian Biotechnology Corporation) and MOSTI Publication – Aug 2014 issue entitled “Pushpamalar plays with polymers”-pg 14**
- 2) **Featured in The Star, Newspaper publication-on 6th Sept 2016 entitled “Innovation in education”**
- 3) **Featured in the Focus Malaysia's Top Class pull-out on Sept 2016 issue entitled “Made in Malaysia-Monash University’s 2016 Innovation and Collaboration Open Day celebrated the creativity and inventiveness of its professors and students”**

Doctoral Thesis

Preparation and Characterisation of Carboxymethyl Cellulose and Carboxymethyl Cellulose Hydrogel from Sago Waste (2010)

GCHE Project:

Supporting the students’ growth in autonomy (2002)

Postgraduate Master Thesis

Preparation and Characterisation of Polystyrene Grafted Sago Starch (further studies), (1999)

Undergraduate Thesis

Preparation and Characterisation of Polystyrene Grafted Sago Starch (1996)

Projects done while working as Research Assistant

- 1) *Preparation and Characterisation of Vinyl Pyrrolidone Grafted onto Sago Starch (June-Dec 1996)*
- 2) *Preparation and Characterisation of Polystyrene Grafted onto Sago Starch Using Potassium Permanganate as the Initiator (June-Dec 1999)*

Research Grants

A) Principle holder

- 1) **Advanced Engineering Platform, Monash University Malaysia (RM15000) in 2018**

- 2) Tropical Medicine & Biology Platform, Monash University Malaysia (RM15000) in 2016-2018
- 3) 2017 Faculty of Science Cross-Campus Initiative Fund of Monash University Australia (AUD 10,000) in 2017
- 4) 2016 Faculty of Science Cross-Campus Initiative Fund of Monash University Australia (AUD 10,000) in 2016
- 5) Fundamental Research Grant Scheme of Ministry of Higher Education (RM 60000) in 1May 2013-30Apr2016 (Grant code: FRGS/1/2013/SG01/MUSM/03/4)
- 6) E-Science Fund by Ministry of Science Technology and Innovation (MOSTI) (RM155,500) in 1 Oct 2012-30March2015. (Grant code: 06-02-10-SF0089)
- 7) Exploratory Research Grant Scheme of Ministry of Higher Education (RM 50000) in 16July 2012 - 10July2015. (Grant code: ERGS/1/2012/TK04/MUSM/03/1)
- 8) School of Chemistry research grant of Monash University Australia (AUD 1750) in 2009
- 9) School of Chemistry research grant of Monash University Australia (AUD 3000) in 2008
- 10) School of Chemistry research travel grant of Monash University Australia (AUD 1200) in 2007
- 11) Monash Research Graduate School Postgraduate Travel Grants award of Monash University Australia (AUD 1,175) in 2006.
- 12) School of Chemistry research travel grant of Monash University Australia (AUD 1200) in 2006.
- 13) Research grant sponsored by the Centre for Green Chemistry of Monash University Australia was AUD 5000 in 2005-2006.
- 14) Monash Malaysia Research grant amounted RM 8000 in 2004.
- 15) Monash Malaysia Research grant amounted RM 14000 in 2001.

B) As collaborator holder

- 1) Fundamental Research Grant Scheme of Ministry of Higher Education (RM 104000) in March 2013 joint with Dr Saravanan of School of Pharmacy, Monash University Malaysia (FRGS/2/2013/SG06/MUSM/02/1)
- 2) Fundamental Research Grant Scheme of Ministry of Higher Education (RM 76000) in March 2013 joint with Professor David James Young of School of Pharmacy, Monash University Malaysia (FRGS 1/2014)

International Conference/Symposium/Workshop/Seminar Attended related to research

1. *35th Australian Polymer Symposium*, held at Gold Coast, Australia, 11July-15July 2015
2. *First International Conference on Multifunctional, Hybrid and Nanomaterials*, held at Da Vinci Tours, France, 15-19th March 2009.
3. *30th Australian Polymer Symposium* held at The Sebel Park, Melbourne, Australia, 30 Nov-04 Dec 2008.
4. *14th European Carbohydrate Symposium*, held at Lubeck, Germany, 2nd – 7th September 2007.
5. *12th Asian Chemical Congress (12ACC) held at Putra World Trade Centre, Kuala Lumpur, Malaysia on 23rd -25th August 2007.*
6. *XXIIIrd International Carbohydrate Symposium, Whistler, British Columbia, Canada, 23-27th July 2006.*
7. *International Center for Materials Research Summer Program on “Stereochemical Aspects of Novel Materials”, fully sponsored by University of California, Santa Barbara, California, United States of America on 14th Aug-27th Aug 2005.*
8. *27th Australasian Polymer Symposium, University of Adelaide, Adelaide, Australia, on 27th November-3rdDecember 2004*

9. *25th Australasian Polymer Symposium, University of New England, Armidale, Australia, on 10th -13th February, 2002.*
10. *Pre-symposium workshop entitled "Mechanistic Aspects of Free Radical Polymerisation" University of New England, Armidale, Australia on 9-10th February 2002*

National Conference/Symposium/Workshop/Seminar Attended related to research

1. Agilent Spectroscopy Educationla Factory Visit on 16th Oct 2018 at Agilent Manufacturer Factory, Bayan Lepas Free Industrial Zone, Penang.
2. Intellectual Property: Prior Art Talk, by P. Kandiah, Founder and Director of KASS International on 11 July 2018 (6214)
3. 2018 MRI CMBL: Live Metabolism Analysis Seminar held at Faculty of Medicine, University Malaya, Kuala Lumpur, on 28th June 2018.
4. Atomic and Molecular Spectroscopies Instrumentation Education Workshop on 9-12th July at MIMOS Berhad, Technology Park Malaysia.
5. 2018 Supervisor Accreditation Workshops-held at MUM on 30-31 May 2018
6. "3-Days Cell Culture and MTT Assay Hands on Workshop" on 24-26 April 2018 at Faculty of Medicine, University Malaya, Kuala Lumpur.
7. "Intensive Elisa Hands-on Workshop" on 17th Apr 2018 at Faculty of Medicine and Health Sciences, UPM Serdang, Selangor.
8. Research Methods Workshop: The road to high Impact Publication- held at MUM on 8th March 2018
9. Monash-Warwick Alliance Research Workshop-held at MUM on 27th Feb 2018
10. Seminar on "Smart Injection Moulding and Technology" held at Arburg Sdn Bhd, No.35, Jalan PJS 11/24, Bandar Sunway, Industria Park, 46150 Petaling Jaya, Selangor on 7th Feb 2018.
11. Participant of Microwave Technology in Medicinal and Chemical Engineering-short Course by Anton Paar Malaysia held at Mum on 6th Feb 2018
12. "Handling Difficult People In Difficult Situation" at MUM by Professional Development Centre, British Council Malaysia on 16-17th May 2018.
13. Leica Aperio Digital Pathology Workshop, at MUM, held on 15-19Jan 2018
14. qPCR and NGS Library Quantification, at Monash University Malaysia on 14 Nov 2017
15. Positive Action Leadership at Monash University Malaysia on 5-6 Dec 2017
16. Leadership & Decision Making at Monash University Malaysia on 8-9 Nov 2017
17. The 1st Academia Sinica-Monash Malaysia Bilateral Forum, Thursday, 2nd November 2017
18. Monash-Nottingham Joint Symposium on "Antimicrobial resistance in Malaysia: Impact, characterization and countermeasures on 12 Sept 2017 held at Monash University Malaysia.
19. 3rd Biomedical Science Symposium on Entrepreneurship, Technology and Commercialisation (BioMedETC Revolution) 2017 by BioMedKL on 12th Oct 2017 at Empire Hotel Subang.
20. UKM Scientific Seminar for instrumentation and Biocompatibility, at Hotel Bangi-Putrajaya, Bangi on 15-16th Aug 2017
21. Attending the "2nd Basic and Clinical Immunology Course" at Faculty of Medicine, University of Malaya, Kuala Lumpur on 5-9th July 2017
22. Attending Chemopharm Breakfast Club on Microscopy Techniques for Cellular Research, Chemopharm Sdn Bhd, Petaling Jaya, Selangor on 28th Apr 2017
23. Basic Knowledge and Progress in PCR-Related Technology at Monash University on the 8th March 2017.

24. Short Course on Applications of Microwave in Chemistry and Drug Delivery at Monash University on 7th February 2017
25. Attended Supervisor Accreditation Program-Master Level 2 2016 on 30-31st May 2016
26. *Attended Nanostring Seminar Series on “nCounter: Moving from Genomic Discovery to Translational research” by Jay Manikandan from Nanostring USA, Wednesday, 16 March 2016.*
27. *Attended School Seminar on “Developing More Effective Science Graduates” Professor of Chemistry Education Monash University Wednesday, 13th January 2016*
28. Attended “Pharmacy and pharmaceutical sciences conference 2015 - innovation and future directions in pharmacy and pharmaceutical sciences post-conference workshop on ““Best Practices for phytochemical research in drug delivery” on 3-4 Aug2015
29. Attended seminar on “Getting published!” by Professor Douglas R. Macfarlane on 9Oct 2015
30. COSMOSIL HPLC Product Seminar by Mr. Daniel Keck, on 28 Oct 2015 at MUM
31. PSRL Workshop Module 3: Funding Your Research on 11 Aug 2015 (Webinar-ID number:478 416 9255)
32. PSRL Workshop Module 4: Managing Your Research Team on 8 September 2015 (Webinar-ID number:478 416 9255)
33. PSRL Workshop Module 6: Communicating Your Research on 10 Nov2015 (Webinar-ID number:478 416 9255)
34. “FRITSCH Innovations for Size-reduction & Particle Sizing” and “Materials Characterisation with NETZSCH Thermal Analysis Techniques” ON 1st – 2nd December 2015 at Empire Hotel Subang
35. The 7 habits of Highly Effective People held at Monash University Malaysia -14-16Oct 2014
36. Attending training on “SEM and its Application” at held at University of Malaya, Kuala Lumpur by Panolpy Consultancy on 27-28th Sept 2014
37. Attending training on “Statistical Analysis Using SPSS” at held at University of Malaya, Kuala Lumpur by Panolpy Consultancy on 13-14th Sept 2014
38. BASF’s “Building A Sustainable Future” Conference & Exhibition in conjunction with 25th Anniversary Celebration held at Sunway Resort Hotel &Spa, Bandar Sunway-9th Sept2014
39. Workshop on Campus IP, Business Developments and Commercialisation Events held at Monash University Malaysia (22-23 July 2014)
40. Research Supervisor Accreditation Program 2014 (Master Class 2) -attended Module 1,5,8,9,10 held at Monash University Malaysia on 30 June-1July 2014
41. Academic Writing Forum: The Sharing of Experience and Best Practices in Publishing Articles for International Refereed Journal (Part 2) held at Monash University Sunway Campus on 31Oct-1Nov 2013
42. “Pharmaceutical Material Characterization 2013”held at Universiti Teknologi MARA (UiTM) Kampus Puncak Alam on 31Oct 2013.
43. Rationale for Design and Development of Polymer Anti Cancer Conjugates from Laboratory to Clinic” held at SIRIM Berhad on 2-3Oct 2013.
44. “MyGrants System Training and FRGS Application Strategy Briefing” held at Monash University Sunway Campus on 4th July 2013.
45. Academic Writing Forum (Part 1) - The sharing of Experience and Best practices in Publishing Articles for International Refereed Journal-“Translating Ideas into Tangible Research Outcomes (High Impact Journal Publication)” held at Monash University Sunway Campus on 2-3 July 2013.

46. "People Management" held at Monash University Sunway Campus on 6-7 June 2013.
47. "Seminar on Academic Publishing" at Monash University Sunway Campus on 29th July 2011.
48. Workshop on "Introduction to Statistics Methods: Quantitative Methods 1" by Jeffrey Cheah School of Medicine and Health Sciences, Monash University Sunway Campus on 28-30 June 2011.
49. Seminar on Sample preparations for FESEM/SEM/STEM by Hi-Tech Instrument Sdn Bhd at Monash University Sunway Campus on 22 June 2011
50. Seminar on "Harnessing Technology for Global Collaboration" by *Malaysian Research & Education Network* (MYREN) at Hotel PJ Hilton, Kuala Lumpur on 27-28th July 2010.
51. *Research Supervisory Accreditation Program- Level 1&2 on 28-30th June 2010*
52. *Research Supervisory Accreditation Program- Level 1 on 29-30th Sept and 1st Nov 2009*

Conference/Symposium/Workshop/Seminar Attended related to teaching

1. MONASH MALAYSIA EDUCATION TECHNOLOGY TRAINING WORKSHOP Hosted by Education Management in partnership with Facilities Management (FMD) Event Details Venue: Smart Classroom (9-3-04) on 10 September 2015
2. MONASH MALAYSIA SMART CLASSROOM – OPEN FORUM AND TRAINING PROGRAM (SEMESTER 2, 2015) Hosted by Education Management in partnership with Facilities Management (FMD) Event Details Venue: Smart Classroom (9-3-04) on 13 October 2015
3. Monash University Malaysia Symposium on "*Celebrating Innovative Learning Practice: Opportunity for Community Engagement and Collaboration*" at Monash University on 29 Oct 2014
4. *Education Innovators Forum* on engaging staff and students in a collaborative cross-institutional open forum discussion on critical learning and teaching matters held at Monash University on 28 Oct 2014
5. The Education Seminar Series entitled "Effective Use of a Learning Management System to Influence On-line Learning" at Monash University Malaysia on 5 August 2014
6. *Educational Excellence Moodle 2 Training at Monash University Sunway Campus on 29th Jun 2012.*
7. "*Google Docs training-preparing PDP & PR Documents*" at Monash University Sunway Campus on 5th Jun 2012.
8. "*Google Apps training*" at Monash University Sunway Campus on 2nd August 2011.
9. "*Ducat Workshop*" at Monash University Sunway Campus on 25th May 2010.
10. "*Introduction to MUSO Blackboard*" at Monash University Sunway Campus on 21 January 2010.
11. "*NLP*" *Presentation Skills for Lectures held at Sheraton Imperial Kuala Lumpur Hotel, on 17th June 2009.*
12. *Speak Right! Speak Clearly-Communicating Effectively in Teaching held at Monash University Malaysia on 13th April 2009.*
13. *Carrick Citations and Teaching Awards workshop held at Monash University Malaysia on 1st February 2008.*

Training/Workshop/Seminar Attended related to personal development

- 1 *Transformational Leadership at Monash University Sunway Campus on 5-6 Dec 2013*
- 2 *Managing Change for Better Performances at Monash University Sunway Campus on 19-20 Sept 2013*
- 3 *“Microsoft Excel 2010 Advance” at Monash University Sunway Campus on 22-23 Aug 2013*
- 4 *'Emotional Intelligence in Action!' University Sunway Campus on 1-2 Aug 2013*
- 5 *Mental Health First Aid (MHFA) Training at Monash University Sunway Campus on 10-11 July 2013*
- 6 *“Essential of Microsoft Project” at JW Marriott Hotel, Kuala Lumpur on 25-26th Apr 2013.*
- 7 *“Microsoft Excel 2010/2007 Mastering Pivot Table” at Monash University Sunway Campus on 5th Apr 2013*
- 8 *'Power of Influential Communication' at Monash University Sunway Campus on 5-6 July 2012*
- 9 *“Microsoft Excel 2010 Advance” at Monash University Sunway Campus on 24-25 May 2012*
- 10 *“Microsoft Excel 2010/2007 Mastering Pivot Table” at Monash University Sunway Campus on 6th Jun 2012*
- 11 *“Project Management Using Microsoft Project” at JW Marriott Hotel, Kuala Lumpur on 3-4th June 2010.*
- 12 *Discrimination and Sexual Harrassment- advisers' awareness information Session, Monash University Sunway Campus, 8th April 2010.*
- 13 *Microsoft Excel 2007 Advance at Monash University Sunway Campus on 22 July 2009.*
- 14 *Microsoft PowerPoint 2007 Advance at Monash University Sunway Campus on 1 July 2009.*

Organized workshop/demonstrations

1. Organized “Polymer Synthesis” Workshop for SMK Tinggi Port Dickson at Monash University Malaysia 42 students for recruitment from the East Malaysia and Seremban regions on 23 Apr 2018.
2. Organized the booth research presentation entitled “Polysaccharides-Drug Delivery” for BASF Kids' Lab 2016-22-24th Oct 2016
3. Organized the booth research presentation entitled “Polysaccharides-Drug Delivery” on the 23 Aug at Monash University Malaysia for the Innovation and collaboration open day 2016 present by the Minister of Science, Technology and Innovation, Datuk Jeffery Cheah, Prof Helen Barlett and Prof Mahendran.
4. Organizing the ITEX competitive exhibition at KLCC on 12-14 May 2016 entitled ‘Biodegradable Polymers for drug delivery and waste water treatment’ and won Gold prize.
5. **“Demonstration of Biodegradable Hydrogel from Sago Waste” on Monash University Open Day in 2010.**
6. **Workshop on “Water Analysis”** at Monash University Sunway Campus on 18th, 25th June and 13th July 2009
7. **“Exhibition on “Preparation of Hydrogel from Sago Waste for Slow Release System”** at Monash University Sunway Campus, on 13 December 2008.

8. ***“Demonstration of Biodegradable Hydrogel from Sago Waste”*** on Monash University Open Day on 16th December 2007.
9. ***Biotechnology Workshop 2007 on 24th March 2007 on “Analysis of Vitamin C from Drumstick fruit”***for Secondary School.

Attended workshop/demonstration

1. Workshop entitled ' Demand-driven innovation project by public-private research network' which is organised by the Ministry of Education on 17 Nov 2014

Activities by invitation

1. As an invited **guest lecture**, a lecture delivered on "Cellulose-based polymers for future material applications" on 3rd April by online Skype for undergraduate and postgraduate students (300 numbers) of Department of Chemistry of PSGR Krishnammal College for Women, Peelamedu, Coimbatore, Tamil Nadu, India. (invited in Feb 2018)
2. Invited **Guest Editorial Team** of the Special issue of the Journal of Drug delivery, Hindwai Publication. Dr. Sachin Shaw, Faculty of Department of Mathematics and Statistical Sciences, Botswana International University of Science and Technology (BIUST), Botswana. (17May2018)
3. Invited to International Conference **as an advisory members of International Conference** on environmental and Biomedical Nanotechnology (ICEBN 2018), New Delhi on 14-15th Sept 2018. (18 Apr 2018)
4. Invited as the **Advisory Committee of Postgraduate Diploma in Biomedical Sciences**, Jeffrey Cheah School of Medicine and Health Sciences, Monash University Malaysia. (17 May 2018)
5. Invited by Prof Ezharul from JCSMH, MUM to present my research work to Prof. Mark Banaszak Holl, Head of Chemical Engineering, Monash University (Clayton campus) and meet to have brief introduction and discuss on further collaborative research work.(15 May 2018)
6. An **Invitation for contributing a review paper in the field of hydrogels** for the full-thematic issue of SCI cited Journal, Current Medicinal Chemistry (16 May 2018)
7. Invited by Prof Chan Eng San from SoEng, MUM to present my research work at SoEngineering in the presence of Professor Gil Garner is a Director of the Bioresource Processing Research Institute of Australia (BioPRIA) and Director of the new ARC ITRH16- Processing Advanced Lignocellulosics (PALS) – a new national industry transformation hub and meet to have brief introduction and discuss on further collaborative research work.(11 June 2018)
8. Visiting and Meeting with MyBiomass with Prof Gil Garner is a Director of BioPria on 12 June 2018 to extend collaborative work with MyBiomass and BioPria.

New research engagement with industry

1. Establish collaborative research network with Prof. Antonio Patti at Monash University Australia. 2016-2018
2. Establish collaborative research network with Dr Kai Dan at A*STAR, Singapore 2016-2018
3. Establish collaborative research network with Prof Loh Xian Jun at A*STAR, Singapore 2016-2018
4. Establish collaborative research network with Prof Steven Langford at Swinburne University, Australia 2003-2018.
5. Establish collaborative research network with Prof. Phil Andrews at Monash University Australia. 2016-2018
6. Establish collaborative research network with Prof. Mansor Ahmad at Universiti Putra Malaysia, Malaysia. 1996-2018

7. Establish collaborative research network with Dr. Murali Kumarasamy at Centre for Nanotechnology, Indian Institute of Technology (IIT), Roorkee, India. 2017-2018
8. Establish collaborative research network with Professor Dhinakar Raj, Translational Research Platform for Veterinary Biologicals, Tamil Nadu Veterinary and Animal Sciences University (TANUVAS), India.2017-2018
9. Establish collaborative research network with Prof. Muthusamy Raman, Tamil Nadu Veterinary, and Animal Sciences University, Chennai, India.2016-2018
10. Establish collaborative research network with Prof. Rahmah at Institute for Research in Molecular Medicine, University of Science Malaysia.2017
11. Establish collaborative research network with Dr Gayathri at Faculty of Veterinary, University Putra Malaysia, Malaysia 2016-2018
12. Establish collaborative research network with Dr Saravanan Muniyandy at Department of Pharmacy, Fatima College of Health Sciences, Al Maqam, Al Ain, United Arab Emirates 2010-2018

Referees

Professor Steven Langford

Professor of Organic Chemistry,
Associate Dean Research & Development
Faculty of Science, Engineering & Technology

Swinburne University of Technology

Email : sjlangford@swin.edu.au

Phone : +61 3 9214 4859

Associate Professor Lim Yau Yan,

Senior lecturer of Chemistry,
School of Sciences,
Monash University Malaysia,
Bandar Sunway, Selangor, Malaysia

Email : lim.yau.yan@monash.edu

Phone : +60 3 55146103

Professor Mansor Ahmad,

Professor of Chemistry,
Department of Chemistry,
Universiti Putra Malaysia,
43400 UPM, Serdang, Selangor Malaysia

Email : mansorahmad@putra.upm.edu.my

Or mansorahmad@gmail.com

Phone : +603-89466044