

CURRICULUM VITAE

PERSONAL PARTICULARS

Surname Juan
First name Joon Ching
Email Address juan.joon.ching@sci.monash.edu.my
Personal e-mail joon.c.juan@gmail.com
Office no. +603 55146106
Fax no. +603 55146364
Personal number +6017 325 8288

Present Appointment:

2008-Present Lecturer at School of Science, Monash University, Sunway Campus, Malaysia.
Teaching Inorganic Chemistry, Organic Chemistry, Environmental Chemistry and Instrumental Analysis.
Unit Coordinator for 1st year unit in Chemistry, 2nd year unit in Aquatic Chemistry and 3rd year unit in Environmental Chemistry.
Supervisor for Post Graduate and Honours Student.
Radioactive Protection Officer.

ACADEMIC BACKGROUND & QUALIFICATIONS

Ph.D (Chemistry), National University of Malaysia, Malaysia, 2008.
Post Graduate Scholarship recipient from Ministry of Science.
Thesis title: Development of novel green solid acid catalyst based on 12-tungstophosphoric acid and zirconium sulfate for esterification of fatty acids.
Award: Best Thesis Award in Chemistry, National University of Malaysia (2008).

B.Sc. (Hons) in Chemical Technology, National University of Malaysia, Malaysia, 2003.

ACADEMIC AWARDS

2011 Pro Vice Chancellor (PVC) Award. Received PVC award in research by Monash University, Sunway Campus.

2008 Excellent Thesis Award (PhD). Universiti Kebangsaan Malaysia. Development of novel green solid acid catalyst based on 12-tungstophosphoric acid and zirconium sulfate for esterification of fatty acids.

2008 Best Research Paper. International Conference on X-Ray Applications in Research & Industry. Characterization of

zirconium sulfate supported on a mesoporous molecular sieve HMS catalyst using XRD, XRF and XPS technique.

- 2005 Research Fellowship, UNESCO/China Great Wall Co-sponsored fellowship.
Institute of Modern Catalysis. Beijing University of Chemical Technology, State Key Laboratory of Chemical Resource Engineering, Ministry of Education, Beijing, China.
- 2005 Received Silver Medal in Research Expo & Innovation 2005. Universiti Kebangsaan Malaysia. New Type Solid 12-tungstophosphoric acid catalyst entrapped in mesoporous silica for esterification reaction.
- 2004 Received Silver Medal in Research Expo & Innovation 2004. Universiti Kebangsaan Malaysia. Heterogeneous superacidic solid acid catalyst of nanostructure 12-tungstophosphoric for esterification reaction.

PROFESSIONAL SOCIETIES AND SERVICES

- | | |
|--------------|----------------------------------------------------------------------|
| 2010-Present | Treasurer, Malaysia Section of Royal Society of Chemistry (RSC), UK. |
| 2007-Present | Member of Royal Society of Chemistry (MRSC), UK |
| 2008-Presen | Certified Radioactive Protection Officer, Malaysia |
| 2007-Present | Member of Malaysia Nuclear Society (MNS), Malaysia |
| 2007-Present | Member of X-Ray Application Malaysia (XAPP), Malaysia |
| 2005-Present | Member of Malaysian Institute of Chemistry, Malaysia |

Reviewer:

- | | |
|---------------|------------------------------------|
| 2010- Present | Fuel |
| 2010-Present | Applied Energy |
| 2010-Present | Applied Catalysis B: Environmental |
| 2009-Present | Material Letters |
| 2009-Present | Journal of Catalysis |
| 2009-Present | Catalysis Letter |
| 2009-Present | Catalysis Today |

RESEARCH INTERESTS/AREAS

The main research interests focus on the development of novel heterogeneous catalyst/biocatalyst for various types of reactions. Besides, I also interest to study the physicochemical properties of the synthesized catalyst and reaction mechanisms which lead to a better understanding of the catalytic behaviour.

To promote green chemistry, attempts are being made to eliminate the use of solvent or additional reagent in the reaction media and conduct the reaction at moderate temperature.

My research interest is in the area of heterogeneous catalysis:

1. Heterogeneous acid and/or enzyme catalyst for esterification of long chain fatty acid.
2. Heterogeneous base, acid and/or enzyme catalyst for biodiesel production.
3. Gas-to-Liquids (GTL), Fischer-Tropsch (Liquid fuel).
4. Photocatalyst for dye or organic pollutant degradation.
5. Kinetic Modeling.
6. Biohydrogen production by using anaerobic microbe.

Currently I am supervising two 2 Ph.D student and 1 MSc student. I have supervised 5 honours students.

PUBLICATIONS

Journal Publications (ISI peer reviewed journals)

1. Taufiq-Yap, Y.H., Lee, H.V., Yunus, R., Juan, J.C. 2011. Transesterification of non-edible *Jatropha curcas* oil to biodiesel using binary Ca-Mg oxide catalyst: Effect of stoichiometric composition. *Chemical Engineering Journal* 178: 342-347 (IF: 3.074)
2. Low, F.C.F., Wu T.Y., Teh, C.Y. Juan J.C., Balasubramanian, N. 2011. Investigation into photocatalytic decolorisation of CI reactive black 5 using titanium dioxide nanopowder. *Coloration Technology* 127: 1-7. (IF: 0.970)
3. Lee, H.V., Yunus, R., Juan, J.C., Taufiq-Yap, Y.H. 2011. Process of optimization design for jatropha-based biodiesel production using response surface methodology. *Fuel Processing Technology* 92: 2420-2428. (IF: 2.781)
4. Chan, S.H.S., Wu, T.Y., Juan J.C., The, C.Y. 2011. Recent developments of metal oxide semiconductors as photocatalyst in advanced oxidation process (AOPs) for treatment of dye waste-water. *Journal of Chemical Technology and Biotechnology* 86: 1130-1158. (IF: 1.818)
5. Juan, J.C. Kartika, D.A., Wu, T.Y., Taufiq Yap, Y.H. 2010. Biodiesel production from *Jatropha* oil by catalytic and non-catalytic approaches: An overview. *Bioresource Technology* 102: 452-460. (IF: 4.365).

6. Juan, J.C., Zhang, J.C. & Yarmo, M.A. 2008. Study of catalyst comprising zirconium sulfate supported on a mesoporous molecular sieve HMS for esterification of fatty acid under solvent-free condition. *Applied Catalysis A: General* 347: 133-141. (IF: 3.190)
7. Juan, J.C., Zhang, J.C. & Yarmo, M.A. 2008. Efficient esterification of fatty acids with alcohols catalyzed by novel green $Zr(SO_4)_2 \cdot 4H_2O$ catalyst under solvent free conditions. *Catalysis Letters* 126: 319-324. (IF: 1.867)
8. Juan, J.C., Zhang, J.C., Yarmo, M.A. 2007. 12-Tungstophosphoric acid supported on MCM-41 for esterification of fatty acid under solvent-free condition. *Journal of Molecular Catalysis A: Chemical* 267: 265-271. (IF: 2.814)
9. Juan, J.C., Zhang, J.C., Jiang, Y., Cao, W. & Yarmo, M.A. 2007. The zirconium sulfate microcrystal structure in relation to their activity in the esterification. *Journal of Molecular Catalysis A: Chemical* 272: 91-95. (IF: 2.814)
10. Juan, J.C., Jiang, Y., Meng, X., Cao, W. & Yarmo, M.A. & Zhang, J.C. 2007. Supported zirconium sulfate on carbon nanotubes as water-tolerant solid acid catalyst. *Material Research Bulletin* 42: 1278-1285. (IF: 1.812)
11. Jiang, Y., Juan, J.C., Meng, X., Cao, W., Yarmo, M.A. & Zhang, J.C. 2007. Preparation and catalytic application of novel water tolerant solid acid catalysts of zirconium sulfate/HZSM-5. *Chemical Research in Chinese Universities* 23: 349-354. (IF: 0.363)
12. Juan, J.C., Zhang, J.C. & Yarmo, M.A. 2006. Tungstophosphoric acid entrapped on mesoporous silica via sol gel technique. *Advanced Materials Research* 11-12: 69-72.
13. Juan, J.C., Zhang, J.C., Jiang, Y., Cao, W. & Yarmo, M.A. 2007. Zirconium sulfate supported on activated carbon as catalyst for esterification of oleic acid by n-butanol under solvent-less conditions. *Catalysis Letters* 117: 153-158. (IF: 1.867)
14. Juan, J.C., Zhang, J.C. & Yarmo, M.A. 2007. Structure and reactivity of silica-supported zirconium sulfate for esterification of fatty acid under solvent-free condition. *Applied Catalysis A: General* 332: 209-215. (IF: 3.190)
15. Jiang, Y., Juan, J.C., Li, X., Cao, W. & Zhang, J.C. 2007. Preparation of butyl acrylate catalyzed by a hydrophobic solid acid catalyst- $H_3PW_{12}O_{40}$ supported on HZSM-5. *Journal of Beijing University of Chemical Technology* 34: 258-262.
16. Lv, Y.G., Zhang, J.C., Cao, W., Juan, J.C., Zhang, F.J. & Xu, Z. 2007. Synthesis and characteristics of a novel rare earth complex of $Eu(TTA)_2(N-HPA)Phen$. *Journal of Photochemistry and Photobiology A: Chemical* 188: 155-160. (IF: 2.776)
17. Lv, Y.G., Zhang, J.C., Cao, W., Juan, J.C., Zhang, F.J. & Xu, Z. 2006. Enhanced luminescence of Eu^{3+} by Y^{3+} in ternary complexes $Eu_xY_{1-x}(TTA)_3Dipy$.

Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy 68: 382-386. (IF: 1.622)

18. Yarmo, M.A., Shariff, R.S.R., Omar, S.R., Juan, J.C. & Haron, R. 2006. New perspective in recent solid acid catalyst. *Material Science Forum* 517: 117-122. (IF: 0.399)

Journal Publications (Peer reviewed journals)

1. Juan, J.C., Yarmo, M.A. & Daud, J.M. 2007. A new reversed method for separation PEG 600 on C8 column coupled with evaporative light scattering detector. *Malaysian Journal of Chemistry* 9: 60-66.
2. Juan, J.C., Yarmo, M.A., Shafie, M.F.Z., Shariff, R.S.R., Indra, M.S. & Ramli, A. 2005. Relationship of 12-tungstophosphoric acid supported on mesoporous MCM-41 for esterification reaction. *Malaysian Journal of Analytical Sciences* 9: 90-98.
3. Shariff, R.S.R., Juan, J.C., Indra, M.S., Zaini, M.F., Omar, S.R., Ramli, A. & Yarmo, M.A. 2005. Pencirian struktur dan ciri permukaan bagi pengubahsuaian kimia bahan ITQ-6. *Malaysian Journal of Analytical Sciences* 9: 219-223.
4. Omar, S.R., Harun, F.W., Rinaldi, A., Shariff, R.S.R., Juan, J.C. & Yarmo, M.A. 2005. Pencirian sifat kimia dan fizikal sebatian mesoporos Ti-Zeolit ternyahlamina (Ti-ITQ-6). *Malaysian Journal of Analytical Sciences* 9: 267-273.

Patent

Juan, J.C., Zhang, J.C., Jiang, Y., Cao, W. & Yarmo, M.A. 2006. Esterification of fatty acid under solvent-less condition. CN 2006100807209 (Patent).

Conference/Proceedings

1. Juan, J.C., W., Yarmo, M.A. & Zhang, J.C. 2008. Characterization of zirconium sulfate supported on a mesoporous molecular sieve HMS catalyst using XRD, XRF and XPS technique. Oral presentation in International Conference on X-Ray Applications in Research & Industry (ICXRI-4). Universiti Malaysia Sabah, Kota Kinabalu, Sabah, Malaysia, 2-6 June.
2. Juan, J.C., Jiang, Y., Meng, X., Cao, W., Yarmo, M.A. & Zhang, J.C. 2006. Water tolerant solid acid of supported zirconium sulfate on HZSM-5 for esterification of oleic acid. Oral presentation in 6th International Conference on X-Ray Applications in Research & Industry (ICXRI-3). IOI Resort Hotel, Malaysia. Kuala Lumpur, 29-30 November.
3. Juan, J.C., Yarmo, M.A. & Zhang, J.C. 2005. Tungstophosphoric acid entrapped on mesoporous silica via sol gel technique. (Selected paper from AICAM) Oral presentation in International Symposium on Advanced Technology (ISAT-4). Beijing University of Chemical Technology, China. Beijing, 3-5 November.

4. Juan, J.C., Yarmo, M.A. & Zhang, J.C. 2005. Tungstophosphoric acid entrapped on mesoporous silica via sol gel technique. Poster presentation in Asian International Conference on Advanced Material (AICAM). Beijing University of Chemical Technology, China. Beijing, 3-5 November.
5. Juan, J.C., Yarmo, M.A., Shafie, M.F.Z., Shariff, R.S.R. & Ramli, A. 2004. A study 12-tungstophosphoric acid supported on mesoporous silica material. Oral presentation in Simposium Kimia Analisis Malaysia ke-17 (SKAM-17). Swiss-Garden Resort, Malaysia. Kuantan, 24-26 Ogos.
6. Juan, J.C., Yarmo, M.A. & Daud, J.M. 2004. Direct Qualitative analysis of poly(ethylene glycol) by reversed-phase high performance liquid chromatography with evaporative light scattering detector. Oral presentation in Simposium Kimia Analisis Malaysia ke-17 (SKAM-17). Swiss-Garden Resort, Malaysia. Kuantan, 24-26 Ogos.
7. Juan, J.C., Yarmo, M.A., Shafie, M.F.Z., Shariff, R.S.R., Indra, M.S., Harun, F.W., Omar, S.R., Rinaldi, A. & Ramli A. 2004. Characterization of heteropolyacid based on 12-tungstophosphoric acid supported on mesoporous MCM-41. Oral presentation in International Conference on X-Ray Applications in Research & Industry (ICXRI-2). Park Royal Hotel, Malaysia. Pulau Pinang, 15-16 September.