

Curriculum Vitae

| Basic Information | |  |
|---|--|---|
| Full Name | : Ng Eng Poh | |
| Date of Birth | : 20.12.1981 (29 years old) | |
| Gender | : Male | |
| Nationality | : Malaysian | |
| Email | : engpoh81@yahoo.com.au | |
| Highest Level of Academic Qualification | | |
| Level | : Doctor of Philosophy (PhD.) degree | |
| Field of Study | : Material Chemistry | |
| Major | : Synthesis and application of nanoporous materials (zeolites) | |
| Thesis title | : Nanoporous Materials with Enhanced Hydrophilicity and High Water Sorption Capacity for Treatment of Lubricant Oils | |
| Institution | : Univesité de Haut Alsace (2006-2009) | |
| Location | : Mulhouse, France | |
| Graduation date | : Sept. 2009 | |
| 2nd Highest Level of Academic Qualification | | |
| Level | : Master (MSc.) degree | |
| Field of Study | : Chemistry (Physical) | |
| Major | : Organic and heterogeneous catalysis chemistry | |
| Thesis title | : Synthesis and Characterization of Sulfated AIMCM-41 and Its Catalytic Activity in Dibenzoylation of Biphenyl with Benzoyl Chloride | |
| Institution | : Technology University of Malaysia | |
| Location | : Johor, Malaysia | |
| Graduation date | : August 2006 | |
| 3rd Highest Level of Academic Qualification | | |
| Level | : Bachelor (BSc. 1 st Class Hons.) degree | |
| Field of Study | : Industrial Chemistry | |
| Major | : Chemistry (Organic Chemistry) | |
| Grade | : 1st Class Honors (CPA: 3.71/4.00) | |
| Thesis title | : Synthesis of α,β -Unsaturated Butenolide Organic Compounds | |
| Institution | : Technology University of Malaysia | |
| Location | : Johor, Malaysia | |
| Graduation date | : August 2004 | |

Experience

May 2010 – Present: Lecturer in Universiti Sains Malaysia, Penang, Malaysia.

Sept 2009 – Feb 2010: Post-doctoral fellow (Universite de Caen, France) working on the preparation and application of zeolite/fiber composite for extending lubricant oil lifetime *via* inhibition of oil degradation.

Oct 2006 – Dec 2009: PhD. student working on design of hydrophilic molecular sieves nanocrystals for oil purification, catalyst and thin film deposition (sensing application).

May 2006 – Oct 2006: Worked as Research Officer in Zeolite and Porous Materials Group (ZPMG), Malaysia to produce biofuel from organic waste.

Jun 2004 – Apr 2006: Master degree student working on modification of mesoporous materials for acidic catalytic reactions.

Mar 2004 – Jun 2004: Worked as Research Assistant in Institute of Ibnu Sina for Fundamental Science Studies, Malaysia. The project title was "Post Laboratory Production of Amorphous Porous Silica and Synthetic Zeolites from Rice Husk".

Jun 2003 – Feb 2004: Handled undergraduate (BSc.) research project.

Feb 2003 – May 2003: Worked as Industrial Trainee in Fumakilla Malaysia Ltd. to design and formulate water based air freshener gel.

Awards and recognitions

1. Recipient of Caen Basse-Normandie Post-doctoral Fellowship.
2. 1st prize for the best poster Presentation in *Group de Francais de Zeolithes* (GFZ) Conference, France, 2-4th Apr. 2009.
3. Recipient of the PhD scholarship of the EU's 6th Framework Programme, 2006-2009.
4. Finalist for the application of PhD. program in Max Planck Institute for Advanced Materials, Stuttgart, Germany, Apr. 2006.
5. Bsc. (First-class honors) degree in Industrial Chemistry, Universiti Teknologi malaysia.
6. PTPTN Scholarship by Malaysia Higher Education Fund Corporation (2000-2004).
7. Recipient of the Dean Award (2000-2004).

Research interests

1. Synthesis and Characterization of Porous Materials
2. Heterogeneous catalysis
3. Nanocrystals and colloidal nanoparticles
4. Surface chemistry
5. Chemistry of nanostructured materials

List of publications

A. Books and Reviews

1. Gerardo Majano, **Eng-Poh Ng**, Louwanda Lakiss, Svetlana Mintova, "What more in Nanosized Molecular Sieves", Proceedings of XIV Zeolite Forum, Poland, Kocierz, ISBN: 978-83-60514-05-4, 17-34.
2. **Eng-Poh Ng**, Svetlana Mintova, "Nanoporous Materials with Enhanced Hydrophilicity and High Water Capacity", *Micropor. Mesopor. Mater.* 114(1-3) (2008) 1-26.

B. Articles

1. **Eng-Poh Ng**, Svetlana Mintova, "Quantitative determination of moisture in lubricating oils by FT-IR spectroscopy combined with solvent extraction approach", *Appl. Spectr.*, Submitted.
2. **Eng-Poh Ng**, Lama Itani, Satpal Singh Sekhon, Svetlana Mintova, "MnAlPO-5 nanocrystals - Investigation of crystal growth process in ionic liquid media", *Chem. Eur. J.*, (2010) DOI/10.1002/chem.201001083.
3. E. Leite, Tz. Babeva, **E.-P. Ng**, V. Toal, S. Mintova, I. Naydenova, "Optical Properties of Photopolymer Layers Doped with Aluminophosphate Nanocrystals", *J. Phys. Chem. C*, 114 (2010) 16767-16775.
4. **Eng-Poh Ng**, Luc Delmotte, Svetlana Mintova, "Selective Capture of Water Using Microporous Adsorbents To Increase the Lifetime of Lubricants", *ChemSusChem*, 2(3) (2009) 255-260.
5. **Eng-Poh Ng**, Satpal Singh Sekhon, Svetlana Mintova, "Discrete MnAlPO-5 nanocrystals synthesized by an ionothermal approach", *Chem. Commun.*, (2009) 1661-1663.
6. G. Majano, **E.-P. Ng**, S. Mintova, "Inhibition of lubricant degradation by nanoporous materials", *Stud. Surf. Sci. Catal.* 174(1) 2008, 569-572.

7. **Eng-Poh Ng**, Luc Delmotte, Svetlana Mintova, "Environmentally benign synthesis of nanosized aluminophosphate enhanced by microwave heating", *Green Chem.*, 10 (2008) 1043-1048.
8. Tosheva, L., **Ng, E.-P.**, Mintova, S., Hölzl, M.; Metzger, T. H.; Doyle, A. M., "AlPO-18 Seed Layers and Films by Secondary Growth", *Chem. Mater.* 20(17) (2008) 5721-5726.
9. **Eng-Poh Ng**, Svetlana Mintova, "Nanoporous Materials as High Selective Water Sorbents in Lubricants", Topics in Chemistry and Material Science: Advanced Micro- and Mesoporous Materials (Volume 1), Bulgaria, Heron Press Science Series, ISBN: 978-954-580-239-3, 322-329.
10. **Eng-Poh Ng**, Hadi Nur, Ka-Lun Wong, Mohd Nazlan Mohd Muhid, Halimaton Hamdan, "Generation of Brönsted Acidity in AIMCM-41 by Sulphation for Enhanced Liquid Phase *tert*-Butylation of Phenol", *Appl. Catal. A Gen.* 323 (2007) 58-65.
11. **Ng Eng Poh**, Hadi Nur, Mohd Nazlan Mohd Muhid, Halimaton Hamdan, "Sulfated AIMCM-41: Mesoporous Solid Brönsted Acid Catalyst for Dibenzoylation of Biphenyl", *Catal. Today* 114 (2006) 257-262.

C. Oral Presentations

1. **Eng-Poh Ng**, "Design and Application of Hydrophilic Nanoporous Materials for Selective Capturing of Water to Increase Lubricants Lifetime", PhD. defense, Caen, **France**, 14th Dec. 2009.
2. **Eng-Poh Ng**, Gerardo Majano, Svetlana Mintova, "Porous Materials for Oil Filtering Device", SOILCY meeting, Amsterdam, **Netherlands**, 14-17th Apr. 2009.
3. **Eng-Poh Ng**, Gerardo Majano, Svetlana Mintova, "Lubricant purification: Efficient sorption performance of nanoporous materials", SOILCY meeting, Barcelona, **Spain**, 30th Jan.-1st Feb. 2008.
4. Gerardo Majano, **Eng-Poh Ng** and Svetlana Mintova, "Sorption of water and hydrocarbons on molecular sieves", SOILCY IP European Project, Varna, **Bulgaria**, 3-5th Oct. 2007.
5. **Eng-Poh Ng**, Gerardo Majano and Svetlana Mintova, "Synthesis & optimization of molecular sieves for sorption of water and hydrocarbons", SOILCY IP European Project, Varna, **Bulgaria**, 3-5th Oct. 2007.

6. **Eng-Poh Ng** and Svetlana Mintova, "Nanoporous Materials as High Selective Water Sorbents in Lubricants", Second International Symposium *Advanced Micro- and Mesoporous Materials*, Varna, **Bulgaria**, 6-9th Sept. 2007.
7. Gerardo Majano, **Eng-Poh Ng**, Louwanda Lakiss and Svetlana Mintova, "What more in Nanosized Molecular Sieves", Plenary Lectures, Kocierz, **Poland**, XIV Forum Zeolitowe, 2nd Sept. 2007.
8. **Eng-Poh Ng** and Svetlana Mintova, "Treatment of oil with nanozeolites: quantitative water study", Wearcheck, Brennumberg, **Germany**, 20th May 2007.
9. **Eng-Poh Ng** and Svetlana Mintova, "Hydrophilic Nanozeolitic Materials as Sorbents for Water Removal in Lubricant", Stenum, Graz, **Austria**, 24-26th Feb. 2007.
10. **Ng Eng Poh** "Sulfated AIMCM-41: Mesoporous Solid Brönsted Acid Catalyst for Dibenzoylation of Biphenyl", Max Planck Institute for Advanced Materials, Stuttgart, **Germany**, 3rd Apr. 2006.

D. Poster Presentations

1. Gerardo Majano, **Eng-Poh Ng** and Svetlana Mintova, "Molecular Sieves as Environmentally Friendly Sorbents and Antioxidants for Lubricating Oil", 16th International Zeolite Conference, Sorrento, Italy, 4-9th Jul. 2010.
2. **Eng-Poh Ng**, Gerardo Majano, Svetlana Mintova, "Molecular sieves as antioxidant additives for lubricant oil formulations", Poster Presentation in 22nd German Zeolite Conference, Karlsruhe, Germany, 3-5th Mar. 2010.
3. **Eng-Poh Ng**, Svetlana Mintova, "Microwave green synthesis of AlPO-*n* and SAPO-*n* (*n* = 5 and 18) nanocrystals", GFZ Conference, Normandie, France, 2-4th Apr. 2009.
4. **Eng-Poh Ng**, Gerardo Majano, Svetlana Mintova, "Inhibition of Lubricant Degradation by Nanoporous Materials", 4th International FEZA Conference, Paris, 2-6th Sept. 2008.
5. **Eng-Poh Ng**, Gerardo Majano and Svetlana Mintova, "Degradation of lubricants controlled by nanoporous materials", Poster Presentation in GFZ Conference, Grenoble, France, 5-7th May 2007.
6. G. Majano, **E.-P. Ng**, L. Lakiss, S. Mintova, "Synthesis and advanced applications of molecular sieves", CNRS meeting, Paris, France, 16-18th June 2007.

7. Gerardo Majano, **Eng-Poh Ng** and Svetlana Mintova, "Degradation of lubricants by nanoporous materials", Annual Industrial Meeting, Mulhouse, France, 8-10th Jan. 2007.
8. G. Majano, **E.-P. Ng**, S. Mintova, "Degradation of lubricants controlled by nanoporous materials", GFZ, Paris, France, 9-12th Jan. 2007.
9. **Ng Eng Poh** and Halimatun Hamdan, "Structural Properties and Surface Acidity Characterization of Sulfated AIMCM-41", International Science Congress (ISC), Putra World Trade Centre, K. Lumpur, Malaysia, 9-13th Aug. 2005.

| Technical Instrumentation | | |
|---------------------------|---|--------------|
| No. | Skills | Proficiency |
| 1. | X-ray diffraction analysis (XRD) | Advanced |
| 2. | Nitrogen adsorption-desorption isotherm analyzer (ASAP 2040) | Advanced |
| 3. | Surface analyzer | Advanced |
| 4. | <i>Ex-situ</i> and <i>in-situ</i> infrared spectroscopy (FTIR) | Advanced |
| 5. | Raman spectroscopy | Advanced |
| 6. | DRIFTS-FTIR | Advanced |
| 7. | Scanning electron microscopy (SEM) | Advanced |
| 8. | Thermogravimetric and differential thermal analysis (TG/DTA) | Advanced |
| 9. | Temperature programmed desorption analysis (TPD) | Intermediate |
| 10. | Dynamic light scattering (DLS) | Advanced |
| 11. | Zeta potentiometry | Advanced |
| 12. | Liquid state nuclear magnetic resonance spectroscopy (NMR) | Advanced |
| 13. | Solid state nuclear magnetic resonance spectroscopy (NMR) | Intermediate |
| 14. | Atomic absorption spectrometer (AAS) | Advanced |
| 15. | Gas chromatography-Mass spectrometry (GC-MS) | Advanced |
| 16. | Gas chromatography (GC-FID) | Advanced |
| 17. | Ultraviolet-visible Spectrometer (UV-Vis) | Advanced |
| 18. | CHN elemental analyzer | Advanced |
| 19. | High pressure liquid chromatography (HPLC) | Intermediate |
| 20. | Mercury porosimetry | Advanced |
| 21. | Computer literacy – Microsoft office (Word, Excel, PowerPoint), ChemOffice (Chem Draw, Chem 3D), HyperChem, Chem Sketch, Origin 7.0, Origin 8.0, Diamond, Data Master | Advanced |

Referees:

1.

Prof. Dr. Svetlana Mintova

(Supervisor during PhD study)

Laboratory for Catalysis & Spectrochemistry,

University of Caen,

6 bd du maréchal Juin,

14050 Caen Cedex, France.

Email: svetlana.mintova@ensicaen.fr

Tel: +33(0)231452821

2.

Prof. Satpal Singh Sekhon

Department of Applied Physics,

Guru Nanak Dev University,

Amritsar 143005, India

Email: sekhon_apd@yahoo.com

Fax: +91 183 258 820

3.

Prof. Dr. Jean-Pierre Gilson

(Jury of PhD defense & Director of laboratory)

Laboratory for Catalysis & Spectrochemistry,

University of Caen,

6 bd du maréchal Juin,

14050 Caen Cedex, France.

Email: jean-pierre.gilson@ensicaen.fr

Tel: +33(0)231452817