

# LY CAM HUNG

Address: Blk 401, Clementi Avenue 1,  
# 09 - 288, Singapore 120401

Tel: (65) 96580446

Email: lycamhung@nus.edu.sg

Website: www.nus.edu.sg

---

## Personal Data

- Place/ Date of Birth: HoChiMinh City / September 1st, 1977
- Nationality: Vietnamese
- Gender: Male
- Marital Status: Married
- Race: Chinese
- Languages: English, Vietnamese and Chinese dialect (Teo Chew)

## Educational Background

- *Aug 2006 – Aug 2010*
  - Ph.D. degree in Chemical Engineering, National University of Singapore. The thesis was submitted in August, 2010 - with the cumulative average point (CAP) of 4.5 on the scale of 5.0
  - Thesis title: Development of Reduced Models for Polymer Electrolyte Membrane Fuel Cells
  - Supervisor: Asst. Prof. Erik Birgersson
- *Aug 2003 – Aug 2005*
  - Master of Engineering degree in Chemical Engineering, National University of Singapore. Obtained the Master degree with CAP of 4.25/5.0
  - Thesis title: Unsteady mass transfer around spheroidal drops in potential flow
  - Supervisor: Dr. Moshe Favelukis
- *Sep 1996 – Jan 2001*

- Bachelor Degree in Chemical Engineering, Vietnam National University of Ho Chi Minh City. Obtained Bachelor degree with CAP of 3.34 on a scale of 4.00.

## Professional Experience

- Research engineer, Department of Chemical and Biomolecular Engineering, Faculty of Engineering, National University of Singapore (NUS); 2010-2011.
- Reviewer, Applied Energy, 2010.
- Lab demonstrator for Chemical Engineering Process Lab I in Department of Chemical and Biomolecular Engineering, NUS; 2006-2010.
- Lecturer in Inorganic Chemical Engineering Department, Faculty of Engineering, Vietnam National University of Ho Chi Minh City; 2005-2006.
- Lab demonstrator for Chemical Engineering Process Lab I in Department of Chemical and Biomolecular Engineering, NUS; 2003-2005.
- Assistant lecturer in Inorganic Chemical Engineering Department, Faculty of Engineering, Vietnam National University of Ho Chi Minh City; 2001-2003. Main responsibilities are:
  - Teaching General Chemical courses (both Vietnamese and English classes).
  - Instructor for lab experiments.

## Awards

- The First Class Honor in 1998, 1999, 2000.
- The Best Student Awards in 2001 - Bachelor of Chemical Engineering
- Aug 2003 – Aug 2005: NUS Research Scholarship Recipient (Master of Engineering)
- Aug 2006 – Aug 2010: NUS Research Scholarship Recipient (Ph.D.)

## Computer Skill

- Programming Languages: COMSOL Multiphysics (Expert), Matlab, Mathematica;
- Software: Microsoft Office (Excel, Word, Power Point, Outlook), MS Visio, Maple, AutoCAD, Adobe Acrobat;
- Operating Systems: MS-DOS, Windows.

# Publications

## *Journal papers:*

- H. Ly, E. Birgersson, and M. Vynnycky. Asymptotically Reduced Model for a Proton Exchange Membrane Fuel Cell Stack: Automated Model Generation and Verification. *Journal of The Electrochemical Society*, **157** (7), B982 (2010).
- H. Ly, E. Birgersson, M. Vynnycky, and A.P. Sasmito. Validated Reduction and Accelerated Numerical Computation of a Model for the Proton Exchange Membrane Fuel Cell. *Journal of The Electrochemical Society*, **156** (10), B1156 (2009).
- M. Favelukis and C.H. Ly. Unsteady mass transfer around spheroidal drop in potential flow. *Chemical Engineering Science*, **60**, 7011 (2005).
- H. Ly, E. Birgersson, and M. Vynnycky. Computationally Efficient Two-Phase Models for the Proton Exchange Membrane Fuel Cell: Asymptotic Reduction and Thermal Decoupling (submitted to *International Journal of Hydrogen Energy*);
- H. Ly, E. Birgersson, and M. Vynnycky. Geometrical Reduction of Three-Dimensional Flow Channels into Two-Dimensional Porous Counterparts in Fuel Cells (to be submitted to *Journal of The Electrochemical Society*);

## *Conference papers:*

- H. Ly, A.P. Sasmito, E. Birgersson, K.W. Lum and A.S. Mujumdar. Towards a Mathematical Multi-Scale Framework for Total Air-Conditioning in Mines. *4th Sriwijaya International Seminar on Energy Science and Technology*, Indonesia (2011)
- R. H. P. Liang, T. Zou, H. Ly, E. Birgersson. Explorative Study of New Designs for the Proton Exchange Membrane Fuel Cell. *The 3rd International Conference on Fuel Cell & Hydrogen Technology*, Kuala Lumpur, Malaysia (2011)
- Praveen Chalasani, Hung Ly, Erik Birgersson. Multi-Objective Optimization of a Proton Exchange Membrane Fuel Cell System for Transportation Applications. *5th Asian Conference on Electrochemical Power Sources – ACEPS-5*, Singapore (2010).
- Ashwini Kumar Sharma, Erik Birgersson, and Hung Ly. Numerical optimization of nano-sized functional groups in a proton exchange membrane fuel cell. *MRS-S Trilateral Conference on Advances in Nanoscience Energy, Water & Healthcare*, Singapore (2010).
- H. Ly, E. Birgersson, and M. Vynnycky. Development of an Automatically Generated Model for The Study of Liquid-water Cooling in a PEMFC Stack, in *Third European Fuel Cell Technology & Applications Conference - Piero Lunghi Conference*, Rome, Italy, p.133 (2009)

- H. Ly, E. Birgersson, and M. Vynnycky. Reduced Model for a PEMFC Stack: Automated Code Generation and Verification, in *216th ECS Meeting*, Vienna, Austria (2009)
- H. Ly, E. Birgersson, and M. Vynnycky. PEM Fuel Cells and Stacks: Thermal Decoupling and Model Reduction. in *216th ECS Meeting*, Vienna, Austria (2009).
- H. Ly, E. Birgersson, S. L. Ee, and M. Vynnycky. Development of Fast and Efficient Mathematical Models for the Proton Exchange Membrane Fuel Cell, in *International Conference on Applied Energy*, The University of Hong Kong, p.1122 (2009)
- H. Ly, E. Birgersson, S. L. Ee, and M. Vynnycky. Scaling Analysis and a Simple Correlation for the Performance of a Proton Exchange Membrane Fuel Cell, in *International Conference on Applied Energy*, The University of Hong Kong, p.1210 (2009)
- S. L. Ee, E. Birgersson, and H. Ly. Scaling Analysis and a Simple Correlation for the Performance of a Direct Methanol Fuel Cell Anode, in *International Conference on Applied Energy*, The University of Hong Kong, p.1071 (2009)
- K. W. Lum, E. Birgersson, H. Ly, H. J. Poh, and A.S. Mujumdar. A Numerical Study and Design of Multiple Jet Impingement in a PEMFC. *International Conference on Heat Transfer, Fluid Mechanics and Thermodynamics*, Pretoria, South Africa (2008).

***Parts of the work were also presented in the following keynote speeches:***

- Erik Birgersson and Arun S Mujumdar. Modeling Transport Phenomena in PEM Fuel Cells - Current Status and Future Challenges. *15th Regional Symposium on Chemical Engineering*, Kuala Lumpur, Malaysia (2008).
- Erik Birgersson and Arun S Mujumdar. Computational Modeling in Electrochemical Energy Systems - Current Status and Future Direction. *International Conference on Issue and Challenges in Energy Conversion and Management*, Banaras Hindu University, Varanasi, India (2009)
- Erik Birgersson. Modeling Fuel Cells: What, Why and How. *Sriwijaya International Seminar on Energy Science and Technology*, Sriwijaya University, Palembang Indonesia (2009)