

Nuwong CHOLLACOOP, Ph.D.

CONTACT:

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Date of Birth 17 April 1977

Place of Birth Phuket, THAILAND

Nationality THAILAND



EDUCATION:

Degree title **Doctorate of Philosophy**

Subject Materials Engineering with Bio-Engineering minor (Cumulative GPA of 4.9/5.0)

Date Sep 1999 – Jan 2004

Institution **Massachusetts Institute of Technology** (Cambridge, MA, USA)

Degree title **Bachelor of Science (with Honors and Magna cum Laude)**

Subject Engineering with Economics minor (GPA of 4.0/4.0)

Date Sep 1995 – May 1999

Institution **Brown University** (Providence, RI, USA)

AWARDS

Sep 2009 Green Talents 2009: The International Forum for High Potentials in Green Technologies by Federal Ministry of Education and Research (BMBF), Germany
15 Green Talents 2009 were selected by renowned German scientists from 156 young researchers who applied from 43 different countries (<http://www.greentalents.de/>)

EXPERIENCES

Date Aug 2004 – present

Institution National Metal and Materials Technology Center (MTEC), THAILAND

Subject **Lab Head**, Bioenergy Laboratory

- Co-supervising Biofuel Testing Lab and Automotive and Alternative Fuel Lab
- Conduct researches on biofuel production/characterization and its effect on engine performance/emission

Date Jun – Aug 2010

Institution Institute for Combustion Engines (VKA), RWTH-Aachen University, Germany

Subject **Invited Researcher**, DAAD Research Short Stay 2010
Conduct research collaboration under Cluster of Excellence, “Tailor-Made Fuels from Biomass (TMFB)” in the field of “Combustion engine and Optical diagnostics” under funding by Deutscher Akademischer Austausch Dienst (**DAAD**)

Date Nov – Dec 2009

Institution National Institute of Advanced Industrial Science and Technology (**AIST**), JAPAN

Subject **Invited Researcher**, Asia Biomass Energy Researchers Invitation Program 2009
Conduct research collaboration in the field of “Quality Control and Standardization” at Research Center for New Fuels and Vehicle Technology (**NFV**) under funding by New Energy Foundation (**NEF**), <http://www.asiabiomass.jp/english/receipt.html>

Date Nov 2008 – present

Institution Economic Research Institute for ASEAN and East Asia (**ERIA**)

Subject **Country Expert** for the Working Group on

- Benchmarking of Biodiesel Fuel Standardization in East Asia, operated by **NFV, AIST**, <http://www.eria.org/research/y2008-no7.html>
- Sustainable Automobile Society in East Asia, operated by **JARI** (Japan Automotive Research Institute), <http://www.eria.org/research/y2008-no8-3.html>

Date Jan 2007
 Institution National Institute of Advanced Industrial Science and Technology (**AIST**), JAPAN
 Subject **Visiting Researcher**, Energy Technology Research Institute (ETRI)
 Conduct research collaboration in the field of “Standardization and Upgrading of Biodiesel Fuel Quality” under funding by **NEDO** (New Energy and Industrial Technology Development Organization) of Japan during 2005-2007

HIGHLIGHT RESEARCH PROJECT

Date Jul 2009 – Mar 2014
 Institution(s) National Institute of Advanced Industrial Science and Technology (**AIST**), Waseda University, Thailand Institute of Scientific and Technological Research (**TISTR**) and King Mongkut’s University of Technology North Bangkok (**KMUTNB**)
 Subject **MTEC Project Leader** of “Innovation on Production and Automotive Utilization of Biofuels from Non-food Biomass”, funded by Japan Science and Technology Agency (**JST**) and the Japan International Cooperation Agency (**JICA**)

Date 2009 - 2010
 Institution(s) Institut de Recherches sur la Catalyse et l’Environnement de Lyon (**IRCELYON**) and Laboratoire de Catalyse en Chimie Organique (**LACCO**)
 Subject **MTEC Project Leader** of “Valorisation of Asian Tropical Non-Food Vegetable Oils as Alternative Fuels”

Date May – Jun 2009
 Institution(s) Asian and Pacific Centre for Transfer of Technology (**APCTT**) of United Nations Economic and Social Commission for Asia and the Pacific (**UNESCAP**)
 Subject **National Expert** under the development of an institutional cooperation mechanism for strengthening capacity of member countries to promote the adoption and utilization of renewable energy technologies (RETs)

Date Nov 2008 – Mar 2009
 Institution(s) New Energy and Industrial Technology Development Organization (**NEDO**), Asian Representative Office
 Subject **Project Leader** of “Investigation to Build up Technological Capability for Design, Scaling Up and Construction of Biodiesel Plant in Thailand, Phase 2: Glycerin Purification”, funded by **NEDO** (New Energy and Industrial Technology Development Organization), Asian Representative Office

Date Nov 2008 & Sep 2009
 Institution(s) British High Commission (**BHC**), Singapore
 Subject **Co-Organizer** of SEA-EU-NET Energy Workshop on Biofuel Development to foster collaboration between researchers of EU and ASEAN on biofuel development, funded by **SEA-EU-NET Partners in Science**

Date Apr – Sep 2008
 Institution(s) GMS Environment Operations Center (**EOC**) of Asian Development Bank (**ADB**)
 Subject **Project Researcher** of “Exploring CEP-Private Sector Partnership for developing Biodiesel as alternative fuel in the GMS”, TA 6289–REG: Greater Mekong Subregion – Core Environment Program (CEP) and Biodiversity Conservation Corridors Initiative (BCI) Phase 1 (2006 – 2009)

Date Dec 2007 – Feb 2008
 Institution(s) New Energy and Industrial Technology Development Organization (**NEDO**), Asian Representative Office

- Subject **Project Leader** of “Investigation to Build up Technological Capability for Design, Scaling Up and Construction of Biodiesel Plant in Thailand”, funded by **NEDO** (New Energy and Industrial Technology Development Organization), Asian Representative Office
- Date Aug 2007 – Feb 2008
- Institution(s) Toyota Motor Asia Pacific Engineering & Manufacturing Company (**TMAP-EM**)
- Subject **Project Leader** of “Effectiveness of Oxidation Additives in biodiesel”, funded by Toyota Motor Corporation (**TMC**)
- Date Aug 2007 – Dec 2008
- Institution(s) Ministry of Foreign Affairs, Thailand
- Subject **Project Researcher** under Foreign Mission Integrated Projects (**FMIP**) on
- Collaboration on biofuel development between USA and Thailand (Aug 07 – Feb 08)
 - Collaboration on renewable energy from Brazil for Thailand renewable energy strategic plan (Sep 07 – Dec 08)
- Date Jul 2005 – Feb 2007
- Institution(s) National Institute of Advanced Industrial Science and Technology (**AIST**)
Thailand Institute of Scientific and Technological Research (**TISTR**)
- Subject **Project Researcher** of “Standardization and Upgrading of Biodiesel Fuel Quality”, funded by **NEDO** (New Energy and Industrial Technology Development Organization)

SELECTED PUBLISHED WORKS

2009

- N. Viriya-empikul, P. Krasae, B. Puttasawat, B. Yoosuk, **N. Chollacoop** and K. Faungnawakij, “Waste shells of mollusk and egg as biodiesel production catalysts,” *Bioresource Technology*, 101 (2010), 3765-3767
- S. Sukkasi, **N. Chollacoop**, W. Ellis, S. Grimley and S. Jai-in, “Considerations for Planning Sustainable Biodiesel Development in the Greater Mekong Subregion,” *World Renewable Energy Congress 2009 – Asia (WREC 2009)*, May 18-23, 2009, Bangkok, Thailand
- W. Ellis, S. Nivitchanyong, S. Jai-in, S. Grimley, **N. Chollacoop**, S. Sukkasi and D. Ghaznavi, “Does Cambodia need biofuels? Challenges, opportunities and policy options for *Jatropha curcas*-based biofuels,” *World Renewable Energy Congress 2009 – Asia (WREC 2009)*, May 18-23, 2009, Bangkok, Thailand
- T. Baitiang, C. Sukjamsri, S. Topaiboul and **N. Chollacoop**, “Investigation of Fuel Spray Characteristics of Palm-Derived Biodiesel,” *World Renewable Energy Congress 2009 – Asia (WREC 2009)*, May 18-23, 2009, Bangkok, Thailand
- P. Udomsap, **N. Chollacoop**, S. Topaiboul and T. Hirotsu, “Effect of Antioxidants on the Oxidative Stability of Fatty Acid Methyl Ester (FAME) under Different Storage Conditions,” *World Renewable Energy Congress 2009 – Asia (WREC 2009)*, May 18-23, 2009, Bangkok, Thailand
- N. Thongket, S. Topaiboul, **N. Chollacoop**, C. Charoenphonphanich and H. Kosaka, “Effect of Biodiesel Properties on Non-Metallic Parts in Diesel Engine,” *World Renewable Energy Congress 2009 – Asia (WREC 2009)*, May 18-23, 2009, Bangkok, Thailand
- **N. Chollacoop**, “Integration of Oil, Bio-fuels and Automotive Industries,” *11th Automotive Asia Forum 2009*, March 20, 2009, Bangkok, Thailand
- **N. Chollacoop**, S. Jai-in, S. Sukkasi, P. Saosee and U. Sahaptsombut, “Biodiesel Development in Thailand,” *World Alternative Energy Sciences Expo 2009 (WAESE 2009)*, March 7, 2009, Bangkok, Thailand
- K. Suwannakit, T. Doungmukpanao, S. Topaiboul and **N. Chollacoop**, “Performance, Black Smoke and Durability of Single-Cylinder Diesel Engine Using Pure Biodiesel,” *2nd Thammasart University International Conference on Chemical, Environmental and Energy Engineering (TU-ChEEE 2009)*, March 3-4, 2009, Bangkok, Thailand
- M. Kananont, **N. Chollacoop**, S. Topaiboul, C. Charoenphonphanich and T. Kamimoto, “Investigations of Engine Performance, Combustion Characteristics and Emissions of a Direct-Injection Engine Using Neat Biodiesel,” *2nd Thammasart University International Conference on Chemical, Environmental and Energy Engineering (TU-ChEEE 2009)*, March 3-4, 2009, Bangkok, Thailand

- S. Thongchai, **N. Chollacoop**, S. Topaiboul, C. Charoenphonphanich and T. Kamimoto, “*Effect of Butanol-Diesel Blends on Performance and Emission of Commonrail Engine*,” 2nd Thammasart University International Conference on Chemical, Environmental and Energy Engineering (TU-ChEEE 2009), March 3-4, 2009, Bangkok, Thailand
- K. Rungsawat, S. Topaiboul, E. Viyanit, **N. Chollacoop**, C. Charoenphonphanich and K. Takahashi, “*Effect of biodiesel on fuel tank in automotive fuel system*,” 2nd Thammasart University International Conference on Chemical, Environmental and Energy Engineering (TU-ChEEE 2009), March 3-4, 2009, Bangkok, Thailand
- P. Krasae, B. Puttasawat, B. Yoosuk, N. Viriya-empikul, K. Faungnawakij and **N. Chollacoop**, “*SrO/MgO Based Solid Catalysts for Transesterification of Palm Olein*,” Pure and Applied Chemistry International Conference 2009 (PACCON 2009), January 14-16, 2009, Phitsanulok, Thailand
- B. Puttasawat, P. Krasae, B. Yoosuk, N. Viriya-empikul, K. Faungnawakij, **N. Chollacoop** and S. Topaiboul, “*Effect of Water on the Transesterification of Palm Olein using CaO/MgO as a Solid Base Catalyst*,” Pure and Applied Chemistry International Conference 2009 (PACCON 2009), January 14-16, 2009, Phitsanulok, Thailand

2008

- P. Bhandhubanyong, S. Sukkasi, **N. Chollacoop**, S. Jai-in and K. Sukondhasingha, “*Status of Biofuel in Greater Mekong Subregion*,” 5th Biomass-Asia Workshop (5th BAWS), December 4-6, 2008, Guangzhou, China
- **N. Chollacoop**, “*Benchmarking of Biodiesel Fuel Standardization in East Asia*,” 11th International Convention of the East Asian Economic Association (EAEA11), November 15-16, 2008, Manila, Philippines
- S. Topaiboul, **N. Chollacoop**, T. Baitiang, K. Suwannakit, T. Duangmukpanao and M. Kananont, “*Biodiesel as an Alternative Fuel for Direct-Injection Diesel Engine*,” XVII International Symposium on Alcohol Fuels (ISAF 2008), October 13-16, 2008, Taiyuan, China
- **N. Chollacoop**, “*Science and Technology for Community*,” Thailand Research Expo 2008, September 15, 2008, Bangkok, Thailand
- **N. Chollacoop**, “*Bio-fuels Impacts on Engine and Emission*,” EAS Workshop on Bio-Fuels, June 19, 2008, Bangkok, Thailand
- Y. Laoonual, **N. Chollacoop**, S. Jugjai, S. Chanchaona and S. Topaiboul, “*Effect of Natural Gas Quality Variation in Thailand on the Engine Performance and Emission*,” NGV2008, June 3-5, 2008, Rio de Janeiro, Brazil
- **N. Chollacoop**, S. Topaiboul and V. Goodwin, “*Effectiveness of Biodiesel from Various Tropical Oil Crops on Lubricity Improvement of Ultra Low Sulfur Diesel (ULSD)*,” 3rd World Bioenergy 2008, May 27-29, 2008, Jonkoping, Sweden

2007

- Y. Laoonual, **N. Chollacoop**, S. Jugjai, S. Chanchaona and S. Topaiboul, “*A Theoretical Gas Quality Analysis of Natural Gas for Vehicles (NGV) in Thailand*,” ANGVA2007, November 27-29, 2007, Bangkok, Thailand
- T. Baitiang, C. Sukjamsri, S. Topaiboul and **N. Chollacoop**, “*Development of Biodiesel Farm Truck*,” 4th Biomass Asia Workshop, Shah Alam, Malaysia, November 20-22, 2007
- **N. Chollacoop**, “*Biofuel Technology and Future Trend: Case Studies from US*,” Biofuel: Future of Thai Energy, November 2, 2007, Bangkok, Thailand
- **N. Chollacoop**, “*Material and Engine Compatibility with Biofuels*,” Advanced Global Biofuels Summit 2007, September 4, 2007, Bangkok, Thailand

KNOWLEDGE OF LANGUAGES

English	Very Good
Thai	Native Speaker