CURRICULUM VITAE

Dai-Viet N. Vo, Ph.D.

Senior Lecturer

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Publons: publons.com/a/1288502/

Education

2008-2011 **Doctor of Philosophy in Chemical Engineering**

School of Chemical Engineering, The University of New South Wales, Sydney, Australia.

Thesis Title: Fischer-Tropsch synthesis over promoted semiconductor oxide-supported Mo carbide catalysts

Supervisor: Prof. Adesoji A. Adesina (Editorial board of **Catalysis Communications**)

Thesis abstract: This study has evaluated the performance of molybdenum carbide as catalyst for Fischer-Tropsch synthesis. The effect of different promoter oxide groups

(alkali, alkaline-earth, transition and rare-earth metals) and various semiconductor oxide supports (Al₂O₃, TiO₂, SiO₂ and ZrO₂) was examined. Runs were conducted in a computercontrolled fixed-bed reactor at different feed compositions and reaction temperatures. Both α -MoC_{1-x} and β -MoC_{1-x} (0 \le x \le 1) phases were formed during carburization run with a mixture of H₂/C₃H₈ on promoted and unpromoted MoC_{1-x} with no detectable MoO₃ phase as measured in X-ray diffraction suggesting the complete conversion of MoO₃ precursor to phase. Temperature-programmed carburization showed that the transformation from MoO₃ to the MoC_{1-x} phase was a 2-step process involving the formation of an intermediate oxycarbide form. The existence of a compensation effect and isokinetic relationship for oxycarbide and carbide phase formation over promoted and unpromoted catalysts suggested that solid-state carburization was governed by a topotactic mechanism. The optimal carburization rate was observed at H₂/C₃H₈=5:1 and TiO₂ support exhibited the highest carbide formation rate. MoC_{1-x} catalysts possessed weak and strong acid as well as basic centers. Although H₂ and CO chemisorbed on MoC_{1-x} surface, CO adsorption was stronger than H₂ chemisorption due to higher CO uptake and heat of desorption. Promoter addition enhanced strong basic site concentration and CO uptake. Carburization with 5H₂/1C₃H₈ at 973 K for 2 h appeared to be optimal preparation condition for olefin selectivity. TiO₂ support was the best support for maximum CO consumption rate whilst Al₂O₃ gave the highest olefin-to-paraffin ratio. Promoted MoC_{1-x} catalysts gave improved chain growth probability and CO consumption rate with optimal H₂ mole fraction of 0.67-0.75. Fischer-Tropsch activity and chain growth factor increased with K loading and attained a maximum at 3wt% K. A quantitative relationship between activation energy and feed composition as well as carbon number was obtained over MoC₁x catalyst. Fischer-Tropsch activity was stable with time-on-stream for 120 h. A mechanism involving molecular CO chemisorption with gas phase H₂ attack to yield enolic species was used to develop a kinetic model that adequately captured individual hydrocarbon species and the behavior of olefin-to-paraffin ratio with composition.

Achievements: Top-ranked publication (1 book chapter and more than 20 refereed journal and conference papers within 3 years) in Reactor Engineering & Technology Group at The University of New South Wales.

2007-2008 Master of Chemical Engineering

School of Chemical Engineering, The University of New South Wales, Sydney, Australia.

Thesis Title: Photocatalytic degradation of Red Water from military explosives manufacturing plants

Supervisor: Prof. Adesoji A. Adesina

Brief summary of thesis: Photocatalytic degradation of wastewater (Red water from military explosives manufacturing plants) over TiO₂ photocatalyst has been carried out at different reaction conditions (including catalyst loading, feed gas composition, light intensity, initial solution pH and impurity concentration) in a bubble column photocatalytic reactor.

2001-2005 **Bachelor of Chemical Engineering**

Department of Chemical Engineering, HCMC University of Technology, Vietnam.

Experience

- 6/2019-**Present** Director of Center of Excellence for Green Energy and Environmental Nanomaterials (CE@GrEEN), Nguyen Tat Thanh University, Ho Chi Minh City, Vietnam.
- 2013-Jun 2019 Senior Lecturer at Faculty of Chemical & Natural Resources
 Engineering, Universiti Malaysia Pahang, Kuantan, Malaysia.

 Department: Chemical Engineering Gas Technology
- 2012-2013 Postdoctoral research associate at Chemical Engineering Program,
 Texas A&M University at Qatar, Doha, Qatar.

 Research project: Intensifying methane reforming by combining
 carbonate and chemical looping (NPRP 5-420-2-166).
- 2011-2012 Postdoctoral fellow at School of Chemical Engineering, University of New South Wales, Sydney, Australia.

2008	Teaching assistant at School of Chemical Engineering, University of
	New South Wales.
2007-2011	Research assistant at University of New South Wales.
2006	R & D engineer at Vilube Corporation Vietnam.
2005	Research assistant at Institute of Chemical Engineering, HCM City, Vietnam.
2004	Practicing in PLC Vietnam as a production engineer.
2003	Trainee process engineer at BIBICA Vietnam.

Awards

- Top Peer Reviewer 2019 powered by Publons (Top 1% of Reviewers in Cross-Field during 2018-2019)
- Early Career Chemist Travel Grant awarded by the 2015 International Congress of Pacific Basin Societies (Pacifichem 2015)
- UMP Excellent Service Performance Award in 2014
- Postdoctoral Writing Fellowship Grants 2011
- UNSW PhD Student Completion Scholarship 2011
- UNSW Postgraduate Research Student Support (PRSS) Scheme 2010

Research Grants

Dai-Viet N. Vo has received 21 prestigious research grants as principal investigator and co-investigator from 2 different countries with the total budget of about **USD \$252,640**.

Malaysia research grant

• Fundamental Research Grant Scheme (FRGS-1/2018) – RDU 190197 (1 Jan 2019 to 31 Dec 2020)

Project: Reaction kinetics and mechanism of glycerol dry reforming over bimetallic Nickel-based catalyst supported on aluminum dross

Co-investigator (RM 89,270)

Other members: Dr. Sumaiya Bt Zainal Abidin@ Murad (PI), Dr. Cheng Chin Kui, Dr. Asmida Binti Ideris, Dr. Mohammad Tazli Bin Azizan, Prof. Taufiq Yap Yun Hin.

 UMP Postgraduate Research Grant Scheme (UMP-PRGS) – PGRS 180366 (1 Mar 2018 to 28 Feb 2021)

Project: Methane dry reforming over mesoporous Al₂O₃-supported Co catalysts for sustainable syngas production

Principal investigator (Grant Writer, **RM 3,500**)

Other members: Mr. Mahadi Bin Bahari

 UMP Postgraduate Research Grant Scheme (UMP-PRGS) – PGRS 180367 (1 Mar 2018 to 28 Feb 2021)

Project: Syngas production by ethanol dry reforming using Cu-based perovskite catalysts

Principal investigator (Grant Writer, RM 3,500)

Other members: Mr. Attili Ramkiran

 UMP Postgraduate Research Grant Scheme (UMP-PRGS) – PGRS 180368 (1 Mar 2018 to 28 Feb 2020)

Project: Ethanol CO₂ reforming over Al₂O₃-supported Cu-based catalysts for syngas production

Principal investigator (Grant Writer, **RM 2,500**)

Other members: Ms. Nor Shafiqah Binti Mohd Nasir

 UMP Postgraduate Research Grant Scheme (UMP-PRGS) – PGRS 180365 (1 Mar 2018 to 28 Feb 2020)

Project: Syngas production from dry reforming of ethylene glycol over Al_2O_3 supported Ni-based catalysts

Principal investigator (Grant Writer, **RM 2,500**)

Other members: Mr. Lau Ngie Jun

• UMP Flagship Leap 3 Initiatives Grant – RDU 172202 (28 Jun 2017 to 27 Jun 2019)

Project: Catalytic conversion of Palm Oil Mill Effluent into biogasoline

Co-investigator (RM 98,232)

• **UMP Research Grant - RDU 170326** (1 Mar 2017 to 1 Mar 2019)

Project: Bi-reforming of methane for syngas production via promoted Ni/SBA-15 catalyst

Principal investigator (Grant Writer, **RM 35,000**)

Other members: Dr. Herma Dina binti Setiabudi, Dr. Nurul Aini bt Mohamed Razali, Dr. Sumaiya Bt Zainal Abiding@ Murad, Dr. Lakhveer Singh.

UMP Postgraduate Research Grant Scheme (UMP-PRGS) – PGRS 160367 (1 May 2016 to 30 Apr 2018)

Project: Hydrogen synthesis from methanol dry reforming over one-pot synthesized Ni/SBA-15 catalyst

Principal investigator (Grant Writer, RM 2,500)

Other members: Mr. Tan Ji Siang

UMP Postgraduate Research Grant Scheme (UMP-PRGS) – PGRS 160314 (1 May 2016 to 30 Apr 2019)

Project: Synthetic gas production from methane CO₂ reforming over Lanthanasupported Ni catalysts

Principal investigator (Grant Writer, **RM 4,000**)

Other members: Mr. Sharanjit Singh

UMP Postgraduate Research Grant Scheme (UMP-PRGS) – PGRS 160313 (1 May 2016 to 30 Apr 2018)

Project: Hydrogen synthesis from methane dry reforming over Nickel/SBA-15 catalyst

Principal investigator (Grant Writer, RM 3,000)

Other members: Mr. Osaze Omoregbe

• **UMP Research Grant - RDU 160323** (10 May 2016 to 9 May 2018)

Project: Syngas production from CO₂ reforming of ethanol over Lanthanide-group promoted Cobalt-based catalysts

Principal investigator (Grant Writer, **RM 31,500**)

Other members: Dr. Herma Dina binti Setiabudi, Dr. Nurul Aini bt Mohamed Razali, Dr. Mohd Sabri bin Mahmud, Prof. Maksudur Rahman Khan.

 Fundamental Research Grant Scheme (FRGS) – RDU 150126 (2 Nov 2015 to 1 Nov 2017)

Project: Influence of metallic and basic sites of Ni-promoted SBA-15 on the mechanistic path of CO₂ methanation

Co-investigator (RM 117,740)

Other members: Dr. Herma Dina binti Setiabudi (PI), Prof. Sugeng Triwahyono, Dr. Nurul Aini binti Mohamed Razali.

 UMP Postgraduate Research Grant Scheme (UMP-PRGS) – GRS 150348 (15 Mar 2015 to 14 Mar 2018)

Project: Hydrogen production from Ethanol dry reforming over Co-based catalysts

Principal investigator (Grant Writer, **RM 5,000**)

Other members: Mr. Fahim Fayaz

• UMP Postgraduate Research Grant Scheme (UMP-PRGS) – GRS 150343 (15 Mar 2015 to 14 Mar 2017)

Project: Hydrogen synthesis from Ethanol dry reforming over Ni-based catalysts

Principal investigator (Grant Writer, RM 2,800)

Other members: Mr. Mahadi B. Bahari

• Fundamental Research Grant Scheme (FRGS)

(Ref:FRGS/2/2014/TK05/UTP/02/3)

Project: A study on reaction mechanism of catalytic hydrogen production using density functional theory (DFT)

Co-investigator (RM 146,000)

Other members: Dr. Bawadi bin Abdullah (PI), Md. Abdus Salam, Prof. Bassim H. Hameed and Assoc. Prof. Suriati binti Sufian.

• **UMP Research Grant - RDU 140391** (15 Jul 2014 to 14 Jul 2016)

Project: Synthesis and characterization of metal supported SBA-15 nanocatalyst for conversion of carbon dioxide to fine chemicals

Co-investigator (RM 34,000)

Other members: Dr. Nurul Aini bt Mohamed Razali (PI), Dr. Syamsul Bahari Abdullah and Dr. Ir. Said Nurdin.

Fundamental Research Grant Scheme (FRGS) – RDU 140138 (1 Jul 2014 to 30 Jun 2016)

Project: Fundamental study of Fischer-Tropsch reaction mechanism over a Cobaltbased catalyst

Principal investigator (Grant Writer, RM 85,000)

Other members: Dr. Mohd Sabri bin Mahmud, Dr. Cheng Chin Kui, Dr. Syamsul Bahari Abdullah, Dr. Bawadi bin Abdullah, Assoc. Prof. Abdurahman Hamid Nour, Ir. Arman bin Abdullah and Assoc. Prof. Jolius bin Gimbun.

Fundamental Research Grant Scheme (FRGS) – RDU 140112 (1 Jul 2014 to 30 Jun 2016)

Project: Kinetics and spectroscopic analyses of syngas production from Glycerol steam reforming over 15wt%Ni/85wt%Alumina catalyst

Co-investigator (RM 106,000)

Other members: Dr. Cheng Chin Kui (PI), Assoc. Prof. Chin Sim Yee, Dr. Lam Su Shiung, Assoc. Prof. Md. Maksudur Rahman Khan, Assoc. Prof. Jolius bin Gimbun.

• UMP Research Grant - RDU 140374 (1 Jun 2014 to 31 May 2016)

Project: Fundamental investigation of methane dry reforming over lanthanidegroup promoted Co/Al₂O₃ catalysts.

<u>Principal investigator</u> (Grant Writer, <u>RM 39,000</u>)

Other members: Dr. Mohd Sabri bin Mahmud, Assoc. Prof. Hayder A. Abdul Bari, Dr. Cheng Chin Kui, Dr. Sumaiya Bt Zainal Abiding@ Murad and Assoc. Prof. Jolius bin Gimbun.

• UMP Research Grant - RDU 130376 (1 Nov 2013 to 31 Oct 2015)

Project: Ethanol steam reforming over an alkali-promoted bimetallic Co-Ni catalyst system for sustainable energy generation.

Principal investigator (Grant Writer, **RM 29,000**)

Other members: Dr. Mohd Sabri bin Mahmud, Dr. Syamsul Bahari bin Abdullah and Dr. Cheng Chin Kui.

Australia research grant

• **Postdoctoral Writing Fellowship Grants 2011** awarded by University of New South Wales (2011-2012)

Principal investigator (Grant Writer, AUD \$23,000)

Consultancy

- Trainer, Workshop on High Impact Factor Publication, Mar 6, 2018, UMP, Kuantan, Malaysia.
- Project leader for designing a tubular furnace reactor system for Center of Excellent for Advanced Research in Fluid Flow (CARIFF), UMP from Jan 15 to Mar 31, 2016.
- Project leader for a design project entitled "Tubular Furnace Reactor System for Universiti Teknologi Petronas (UTP)" from UMP Green Technology SDN. BHD. from Feb 2 to May 31, 2015. Job scope is summarized as follows:
 - Design a Tubular Furnace Reactor System
 - o Ensure that the design meets the requirement of client
 - o Involve in testing and commissioning
 - Make sure the system completed as per schedule

Patents

• **D.-V.N. Vo**, M.B. Bahari, T.J. Siang, F. Ghulamy, O. Omoregbe, *Boron promoted catalysts for hydrogen production*, Patent No. PI 2017001349, Sept 15, 2017, Malaysian Intellectual Property (MYIPO).

- **D.-V.N. Vo**, S. Singh, T.J. Siang, *A Multi-functional Ni-based Catalyst for Enhanced Syngas Production*, Patent No. PI 2016400008, May 23, 2016, Malaysian Intellectual Property (MYIPO).
- **D.-V.N. Vo**, T.C. Kong, T.J. Siang, *A Multifunctional Catalytic Reactor*, Patent No. PI 2015001572, June 19, 2015, Malaysian Intellectual Property (MYIPO).

Professional Affiliations

- H-Member of International Association for Hydrogen Energy (IAHE), 11 Apr 2019
 (Membership No.: 19025)
- Member of World Society of Sustainable Energy Technologies (WSSET), 27 Mar 2019
- Professional Technologist (P. Tech.), Malaysia Board of Technologists (MBOT),
 2018
- Member of the International Zeolite Association (IZA), 2017
- Graduate Engineer, Board of Engineers Malaysia (BEM), 21 Aug 2017

Professional Activity

Editor & Editorial Board Members

- Assistant Subject Editor: **International Journal of Hydrogen Energy** (Elsevier, Q1, ISI, IF = 4.229)
- Editor: **Green Processing and Synthesis** (De Gruyter, ISI, Q4, IF = 0.736)
- Managing Editor: Material Science Research India (MSRI)
 (http://www.materialsciencejournal.org/)
- Editorial Board Member of the following journals:
 - Scientific Reports (Nature Research: https://www.nature.com/srep/): ISI, Q1,
 IF = 4.122

- o **Heliyon** (Elsevier) indexed in Scopus: from 2018-2019
- SN Applied Sciences (Springer)
- o **PLOS ONE** (https://journals.plos.org/plosone/): ISI, Q1, IF = 2.766
- o Current Chinese Chemistry Journal (Bentham Open)
- Associate Editorial Board Member of journals given below:
 - The Open Chemical Engineering Journal (Bentham Open) indexed in Scopus
 - Nanoscience & Nanotechnology-Asia (BENTHAM SCIENCE) indexed in Scopus
 - Current Green Chemistry (BENTHAM SCIENCE) indexed in Emerging Sources Citation Index (ESCI)
 - o Current Catalysis (BENTHAM SCIENCE)
- Advisory Board for Heliyon (Elsevier, Scopus-indexed): from 2019 to present

Guest Editor

Dr. Vo has served as Managing Guest Editor or Guest Editor for 12 Special Issues as follows:

- Managing Guest Editor for a Special Issue entitled "Heterogeneous Photocatalysts:
 From Fundamentals to Innovative Applications" in Topics in Catalysis (Springer,
 ISI, IF: 2.226)
- Guest Editor for a Special Issue entitled "Advanced Nanostructured Photocatalysts for Innovative Photocatalytic Applications" in Arabian Journal of Chemistry (Elsevier, ISI, IF: 3.298)

- Guest Editor for a Special Issue entitled "Innovative TiO₂-based Photocatalysis: Recent Advances and Emerging Applications" in **Journal of Chemical Technology & Biotechnology** (Wiley, ISI, IF: 2.659)
- Guest Editor for a Special Issue entitled "Energy and Resource Valorisation of Biomass and Waste towards Sustainable Environment via Thermochemical and Biological Application" in Frontiers in Energy Research (Scopus, CiteScore: 3.35)
- Guest Editor for a Special Issue entitled "Recent Development and Applications of Sustainable Biofuel Cells" in International Journal of Hydrogen Energy (Elsevier, Q1, ISI, IF = 4.229)
- Managing Guest Editor for a Special Issue entitled "Hydrogen energy production from industrial and advanced reforming processes" in Chemical Engineering and Technology (Wiley, Q3, ISI, IF = 1.588)
- Managing Guest Editor for a Special Issue entitled "Waste and Biomass-derived Hydrogen Synthesis and Implementation" in International Journal of Hydrogen Energy (Elsevier, Q1, ISI, IF = 4.229)
- Managing Guest Editor for a Special Issue entitled "Innovations in Catalysts Synthesis and Applications for Green Fuels and Chemicals Production" in Catalysts (MDPI, Q2, ISI, IF = 3.465)
- Managing Guest Editor for a Topical Collection entitled "Advanced CO₂ Utilization for Green Fuels and Chemicals Production" in SN Applied Sciences (Springer Nature)
- Managing Guest Editor for a Special Issue in Comptes Rendus Chimie (ESChE 2019 conf.) (Elsevier, Q3, ISI, IF = 1.877)
- Managing Guest Editor for a Special Issue in Waste and Biomass Valorization (ESChE 2019 conf.) (Springer, Q3, ISI, IF = 1.874)

Serving as Guest Editor for a Special Issue entitled "A Special Issue on Towards a
 Sustainable Hydrogen Production and Utilization" in International Journal of
 Hydrogen Energy (ICCEIB 2018 conf.) (Elsevier, Q1, ISI, IF = 4.229).

Chairperson of parallel session in conference

- Chairperson for the parallel session of the following 7 conferences:
 - Energy Security and Chemical Engineering Congress (ESChE 2019), Jul 17-19, 2019, Kuala Lumpur, Malaysia.
 - International Conference on Advanced Nanomaterials for Green Growth, Apr
 5-7, 2019, Hanoi, Vietnam
 - The 31st International Symposium on Chemical Engineering, Nov 30 Dec 2, 2018, Chiang Mai, Thailand.
 - o 4th International Conference of Chemical Engineering & Industrial Biotechnology, Aug 1-2, 2018, Kuala Lumpur, Malaysia.
 - 2nd Fluids Engineering (FluidsChE 2017), Apr 4-6, 2017, Kota Kinabalu, Malaysia.
 - Fluids Engineering (FluidsChE 2015), Nov 25-27, 2015, Langkawi Island, Malaysia.
 - 5th International Conference on Environment 2015 (ICENV 2015), Aug 18-19, 2015, Penang, Malaysia.

Conference technical program committee

- Member of technical program committee (or scientific committee) for 20 international conferences given below;
 - o 5th International Conference of Chemical Engineering & Industrial Biotechnology (ICCEIB 2020), Aug 9-11, 2020, Kuala Lumpur, Malaysia.
 - 2020 5th International Conference on Energy Materials and Applications (ICEMA 2020), May 6-9, 2020, Paris, France.

- o The 2nd International Symposium on Hydrogen Energy and Energy Technologies (HEET 2019), Nov 14-15, 2019, Osaka, Japan.
- 2019 International Conference on Geoscience and Environmental Chemistry,
 Sept 20-22, 2019, Dalian, China.
- Energy Security and Chemical Engineering Congress (ESChE 2019), Jul 17-19, 2019, Kuala Lumpur, Malaysia.
- 4th International Conference on Energy Materials and Applications (ICEMA 2019), May 11-13, 2019, Beijing, China.
- International Conference on Advanced Nanomaterials for Green Growth, Apr
 5-7, 2019, Hanoi, Vietnam
- o 2018 International Symposium on Hydrogen Energy and Energy Technologies (HEET 2018), Nov 14-16, 2018, Nagoya, Japan.
- 3rd International Conference on Energy Materials and Applications (ICEMA 2018), May 9-11, 2018, Zamora, Spain.
- 2nd International Conference on Geoscience, Energy and Materials, Apr 10-12, 2018, Kuala Lumpur, Malaysia.
- o 4th International Conference of Chemical Engineering & Industrial Biotechnology, Aug 1-2, 2018, Kuala Lumpur, Malaysia.
- 20th International Conference on Smart Materials Chemistry and Engineering, Feb 15-16, 2018, London, UK
- 20th International Conference on Smart Materials Chemistry and Engineering Applications, Jan 29-30, 2018, Sydney, Australia
- International Conference on Geoscience, Energy and Materials, Apr 10-12,
 2017, Kuala Lumpur, Malaysia.
- 2nd Fluids Engineering (FluidsChE 2017), Apr 4-6, 2017, Kota Kinabalu, Malaysia.

- o International Conference on Composite Materials & Renewable Energy Applications (ICCMREA 2017), Apr 2-4, 2017, Istanbul, Turkey.
- Fluids Engineering (FluidsChE 2015), Nov 25-27, 2015, Langkawi Island,
 Malaysia.
- 2015 International Conference on Engineering & Computational Innovative Sciences, ENCINS' 2015, Apr 20-23, 2015, Casablanca, Morocco.
- 2015 International Conference on Solar Energy & Building, ICSoEB' 2015,
 Jan 20-21, 2015, Sousse, Tunisia.
- 2014 World Symposium on Mechatronics Engineering & Applied Physics,
 WSMEAP' 2014, June 18-20, 2014, Sousse, Tunisia.

Reviewer

- Elsevier Book Proposal Reviewer: 1 book proposal
- Recognized as Outstanding Reviewer for the following 7 journals:
 - o Journal of Environmental Chemical Engineering (Elsevier)
 - Catalysis Today (Elsevier)
 - o International Journal of Hydrogen Energy (Elsevier)
 - Renewable Energy (Elsevier)
 - o Microporous and Mesoporous Materials (Elsevier)
 - Applied Catalysis A: General (Elsevier)
 - o Chemical Engineering Science (Elsevier)
- Awarded as Recognized Reviewer for 7 journals given below:
 - Applied Energy (Elsevier)
 - Fuel Processing Technology (Elsevier)

- Heliyon (Elsevier)
- o Colloid and Interface Science Communications (Elsevier)
- o Journal of the Energy Institute (Elsevier)
- o Fuel (Elsevier)
- o Molecular Catalysis (Elsevier)
- Optics Communications (Elsevier)
- Reviewer for the following journals (31 journals):
 - o Fuel (Elsevier, IF = 3.357 @ 2013) journal: 3 Papers
 - o Bulletin of Chemical Reaction Engineering & Catalysis: 1 Paper
 - o Journal of Environmental Chemical Engineering (Elsevier): 32 Papers
 - o Renewable Energy (Elsevier, IF = 3.404): 3 Papers
 - o Catalysis Today (Elsevier, IF = 4.312): 10 Papers
 - o Applied Energy (Elsevier, IF = 5.746): 1 Paper
 - Chemical Engineering Transactions (The Italian Association of Chemical Engineering): 2 Papers
 - o International Journal of Industrial Chemistry (Springer): 1 Paper
 - o Sustainable Energy & Fuels (RSC): 3 Papers
 - o Fuel Processing Technology (Elsevier, IF = 3.752 @ 2017): 2 Papers
 - o Malaysian Journal of Catalysis: 2 Papers
 - o Journal of Mechanical Engineering and Sciences (JMES): 1 Paper
 - o International Journal of Hydrogen Energy (Elsevier): 8 Papers
 - Beilstein Journal of Nanotechnology: 1 Paper

- o Microporous and Mesoporous Materials (Elsevier): 3 Papers
- o Applied Catalysis A: General (Elsevier): 2 Papers
- o Colloid and Interface Science Communications (Elsevier): 2 Papers
- o Waste and Biomass Valorization (Springer): 1 Paper
- o ACS Applied Energy Materials (ACS): 2 Papers
- o Applied Petrochemical Research (Springer): 1 Paper
- o Applied Organometallic Chemistry (Wiley): 1 Paper
- o International Journal of Energy Research (Wiley): 1 Paper
- o Heliyon (Elsevier): 1 Paper
- o Current Organic Chemistry (Bentham Science): 1 Paper
- o Journal of Sustainability Science and Management: 1 Paper
- o Oriental Journal of Chemistry: 1 Paper
- o Environmental Science: Nano (RSC): 2 Papers
- o Chemical Engineering Science (Elsevier): 2 Papers
- o Plos One: 1 Paper
- o Journal of the Energy Institute (Elsevier): 1 Paper
- o Optics Communications (Elsevier): 2 Papers
- Reviewer for conferences given below:
 - o 13th International Conference on Chemical and Process Engineering (ICheaP13), May 28-31, 2017, Milano, Italy.
 - 2nd Fluids Engineering (FluidsChE 2017), Apr 4-6, 2017, Kota Kinabalu, Malaysia.

- Advancement in Petroleum and Chemical Engineering Technology and Applications International Conference 2015 (APCETA 2015), Dec 1-3, 2015, Krabi, Thailand.
- 2015 International Symposium on Science and Mathematics (ISySM'2015),
 Nov 24-26, 2015, Bandung, Indonesia.
- Fluids Engineering (FluidsChE 2015), Nov 25-27, 2015, Langkawi Island,
 Malaysia (5 papers).
- o 2015 Advancement on Mechanical and Manufacturing Engineering Technology (ADMMET2015), Nov 24-26, 2015, Bandung, Indonesia.
- o 2015 Progress in Applied Mathematics in Science and Engineering (PIAMSE), Sept 29 Oct 01, 2015, Bali, Indonesia.
- 2015 International Symposium on Social Sciences, Arts and Humanities (SYSSARM), Sept 29 - Oct 01, 2015, Bali, Indonesia.
- Game Physics and Mechanics International Conference 2015 (GAMEPEC 2015), Aug 25-27, 2015, Langkawi Island, Kedah, Malaysia.
- 2015 Advanced Research in Material Sciences, Manufacturing, Mechanical and Mechatronic Engineering Technology International Conference (AR4MET2015), Jun 2-4, 2014, Bali, Indonesia.
- 2015 International Conference on Solar Energy & Building, ICSoEB' 2015,
 Jan 20-21, 2014, Sousse, Tunisia.
- 2014 IEEE Student Conference on Research and Development, IEEE SCOReD 2014, Dec 16-17, 2014, Penang, Malaysia.
- 2014 World Symposium on Mechatronics Engineering & Applied Physics,
 WSMEAP' 2014, Jun 18-20, 2014, Sousse, Tunisia (1 paper).
- o The 3rd International Conference on Process Engineering and Advanced Materials, ICPEAM2014, Jun 3-5, 2014, Kuala Lumpur, Malaysia (3 papers).

- International Conference of Chemical Engineering and Industrial Biotechnology, ICCEIB 2013, Aug 28-29, 2013, Kuantan, Pahang, Malaysia (1 paper).
- Member of Review Board for the following journals:
 - o International Journal of Research in Engineering and Technology

Research grant evaluator

- Examiner for research grant proposals given below:
 - o UMP Post Graduate Research Grant Scheme (UMP-PGRS), Title: "Utilization of marine based shell waste in producing hydroxyapatite biocomposite for biomedical applications" on Feb 16, 2017.

Thesis defense

- External examiner for thesis oral defense for the following postgraduates:
 - Master thesis:
 - Mr. Sanjith Udayakumar (Thesis title: Experimental Investigation of Alkaline Processing of Malaysian Monazite for Recovery of Rare Earth Elements and Thorium) at Universiti Sains Malaysia, Malaysia in Jun 2019.
 - Ms. Najwa Binti Ibrahim (Thesis title: Chlorination of nitrided Malaysian ilmenite mineral reduced with polypropylene and coal) at Universiti Sains Malaysia, Malaysia in Oct 2018.
 - Mr. Sang Dinh Ngo (Thesis title: Development Ni-Cu Supported on Modified Carbon Microspheres Catalyst for In-Situ Pyrolysis and Catalytic Upgrading of Napier Grass) at Thammasat University, Thailand on Jul 23, 2018.
 - Ms. Wachiraporn Kettum (Thesis title: Production Aromatic Rich Bio-Oil with Ca/Ni/Boronic-Kit-6 Catalyst) at Thammasat University, Thailand on Jul 23, 2018.

• Internal examiner for thesis oral defense at UMP for the following postgraduates

o Master thesis:

- Mr. Siew Kah Weng (Thesis title: Synthesis and characterization of La-Ni/Al₂O₃ catalyst for glycerol dry reforming) on Jun 18, 2014.
- Chairman of Postgraduate Research Proposal Evaluation at Universiti Malaysia Pahang (UMP), Malaysia for the following students:

o PhD students:

- Ms. Rusmawarni Ramli (Thesis title: Purification of locally produced Xylose reductase by reverse micelle method for enhancing Xylitol synthesis from Meranti wood sawdust) on Mar 20, 2014.
- Mr. Alaa Mashjel Ali (Thesis title: Synthesis of novel high performance polyurethane nanocomposites from Castor oil as renewable Polyol: Study on mechanical, thermal and barrier properties) on Nov 28, 2013.
- Mr. Chandrasekar Santhana Krishman (Thesis title: Downstream purification of diagnostic monoclonal antibody (MAb) against congenital adrenalin hyperplasia using mixed matrix membrane technology) on Aug 27, 2013.

o Master students:

- Ms. Siti Mazlifah Binti Ismail (Thesis title: Biological treatment of acidic palm oil mill effluent (POME) by using soil mixed culture) on Mar 20, 2014.
- Mr. Ahmad Bazly bin Bustary (Thesis title: BTX removal from petrochemical industry wastewater using enzyme produced by P. putida) on Jul 30, 2013.
- Ms. Noor Ashila binti Ramli (Thesis title: Solubility determination for carbamazepine co-crystals in ethanolic solution at varies temperature) on Jul 30, 2013.

• Examiner for Postgraduate Research Proposal Evaluation at UMP for students given below:

o Ph.D. students:

• Mr. Mohammed Anwar Hossein (Thesis title: Synthesis and characterization of rare-earth metal-doped catalysts for the production of Bio-gasoline from POME) on Jun 8, 2016.

o Master students:

- Ms. Syahida Nasuha Binti Mohd Bukhari (Thesis title: Synthesis and characterization of Ni-promoted SBA-15 for CO₂ methanation) on Feb 15, 2017.
- Mr. Ng Kim Hoong (Thesis title: A novel renewable energy production from photocatalytic degradation of POME over UV-responsive Titania) on Apr 23, 2014.
- Ms. Nur Adiba Binti Mohd Noor (Thesis title: Understanding the reaction mechanism in extractive reaction to synthesize biodiesel using ethanol as solvent) on Mar 11, 2014.
- Examiner of Pre-viva for the following postgraduates at UMP:

o Master students:

- Ms. Syafiqah Amira Binti Khairuddin (Thesis title: *Synthesis and characterization of Zeolites from palm oil fuel ash (POFA) using potassium hydroxide (KOH) with hydrothermal and ultrasound effects*) on Feb 15, 2017.
- Mr. Woon Chee Wai (Thesis title: Development of electrocatalyst for aircathode microbial fuel cell for power generation and simultaneously treatment of palm oil mill effluent) on Feb 8, 2017.

- Ms. Norazimah Binti Harun (Thesis title: Glycerol dry reforming for syngas production using Ag promoted on Ni based catalyst supported on alumina) on Jan 24, 2017.
- Mr. MD Rahim Uddin (Thesis title: *Photocatalyst development for CO*₂ conversion into methanol under visible light irradiation) on Sept 4, 2015.
- Ms. Kong Zi Ying (Thesis title: Application of CuFe₂O₄ for photocatalytic Fenton degradation of glycerol) on May 15, 2015.
- Ms. Lee Hua Chyn (Thesis title: Synthesis and characterization of cement clinker-supported nickel catalyst for glycerol dry reforming) on June 11, 2014.
- Mr. Siew Kah Weng (Thesis title: Synthesis and characterization of La-Ni/Al₂O₃ catalyst for glycerol dry reforming) on May 28, 2014.
- Chairman of Pre-viva for the following postgraduates at UMP:
 - o Ph.D. students:
 - Mr. Hassan Dhiaaldeen Mahammed (Thesis title: Enhancing flow in ducts using structured internal surface) on May 27, 2016.
- Secretary for thesis oral defense at UMP for the following postgraduates:
 - o Master students:
 - Ms. Lee Hua Chyn (Thesis title: Synthesis and characterization of cement clinker-supported nickel catalyst for glycerol dry reforming) on June 16, 2014.

Others

 Fellow Researcher for Center of Excellence for Advanced Research in Fluid Flow (CARIFF) from 25th July 2014 to 24th July 2016.

- Member of Reaction Box and Oil & Gas Group at Faculty of Chemical & Natural Resources Engineering, Universiti Malaysia Pahang, Malaysia from June 2013-June 2016.
- Member of Reactor Engineering & Technology Group, School of Chemical Engineering, The University of New South Wales, Sydney, Australia from 2007-2012.

Publications

1	Publication	Number	Research Impact
Books		2	Citations: 717
E	Edited Books		
Book Chapters		8	
	Editorial	1	
Journal	Discussion	1	
	Review Articles	7	h-index: 13
	Research Articles	91	
	Total Journal Papers	100	
	Plenary Lectures	2	
Conference paper	Keynote Lectures	2	
	Invited Talk	1	i10-index: 24
	Oral Presentations	53	
	Poster Presentations	22	
	Total Conference Papers	80	

Book

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2. **D.-V.N. Vo**, A.A. Adesina, Fischer-Tropsch synthesis over promoted Molybdenum Carbide catalysts: Catalyst design and kinetic studies of Fischer-Tropsch synthesis for green fuel production, Scholars' Press, Saarbrücken, Germany, p476, May 13, 2014 (ISBN-10: 363971234X; ISBN-13: 978-3-639-71234-6).

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- 3. S. Nanda, P.K. Sarangi, **D.-V.N. Vo** (Eds.), *Fuel Processing and Energy Utilization*, CRC Press, Taylor & Francis Group, USA, 2019 (ISBN 9781138593206).
- 4. S. Nanda, **D.-V.N. Vo**, P.K. Sarangi (Eds.), *Biorefinery of Alternative Resources:*Targeting Green Fuels and Platform Chemicals, Springer, US, 2019 (In Press).
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- 153. M.B. Bahari, N.H.H. Phuc, N. Ainirazali, **D.-V.N. Vo**, *Catalytic Performance of La-Ni/Al₂O₃ Catalyst for CO₂ Reforming of Ethanol*, The International Chemical Congress of Pacific Basin Societies (Pacifichem 2015), Dec 15-20, 2015, Hawaii, USA. (Oral)
- 154. F. Fayaz, M.B. Bahari, T.C. Kong, S. Akbari, K.B. Vu, **D.-V.N. Vo**, *Syngas Production from Ethanol Dry Reforming over Co/Al₂O₃ Catalyst*, Fluids Engineering (FluidsChE 2015), Nov 25-27, 2015, Langkawi Island, Malaysia. (Oral)

- 155. T.J. Siang, H.M. Zakaria, K. Selvarajah, B. Abdullah, F. Alenazey, **D.-V.N. Vo**, *CO*₂ (*Dry*) *Reforming of Methane over Ce-promoted Ni/Al*₂*O*₃ *Catalyst*, Fluids Engineering (FluidsChE 2015), Nov 25-27, 2015, Langkawi Island, Malaysia. (Oral)
- 156. M.B. Bahari, F. Fayaz, B. Abdullah, N. Ainirazali, **D.-V.N. Vo**, *Hydrogen Generation from Ethanol Dry Reforming on Ni-based Catalysts: Effect of Semiconductor Oxide Supports*, Fluids Engineering (FluidsChE 2015), Nov 25-27, 2015, Langkawi Island, Malaysia. (Oral)
- 157. N.N.M. Arif, **D.-V.N. Vo**, S.Z. Abidin, Carbon Dioxide (CO₂) Dry Reforming of Glycerol for Hydrogen Production using Ni/ZrO₂ and Ni/CaO as Catalysts, Fluids Engineering (FluidsChE 2015), Nov 25-27, 2015, Langkawi Island, Malaysia. (Oral)
- 158. S.Z. Abidin, C.C. Kui, **D.-V.N. Vo**, N. Harun, N.M. Yunus, N.N.M. Arif, *Effect of different oxides support on Ni-based catalysts to the syngas production for carbon dioxide (CO₂) dry reforming of glycerol*, Third International Conference Catalysis for Renewable Sources: Fuel, Energy, Chemicals (CRS-3), Sept 6-11, 2015, Sicily, Italy. (Oral)
- 159. M.B. Bahari, B. Abdullah, F. Alenazey, **D.-V.N. Vo**, *Ethanol dry reforming for H2-rich syngas production over Ce-Ni/Al₂O₃ catalyst*, 5th International Conference on Environment 2015 (ICENV 2015), Aug 18-19, 2015, Penang, Malaysia. (Oral)
- 160. T.J. Siang, F.-L.W. Ming, F. Alenazey, **D.-V.N. Vo**, *Hydrogen production from CH*₄ *dry reforming over bimetallic Ni-Co/Al*₂*O*₃ *catalyst*, 5th International Conference on Environment 2015 (ICENV 2015), Aug 18-19, 2015, Penang, Malaysia. (Poster)
- 161. M.B. Bahari, F.-L.W. Ming, F. Fayaz, N. Ainirazali, N.H.H. Phuc, **D.-V.N. Vo**, *Evaluation of Co-promoted Ni/Al₂O₃ catalyst for CO₂ reforming of ethanol*, The Engineering Technology International Conference (ETIC 2015), Aug 10-11, 2015, Bali, Indonesia. (Oral)
- 162. M.B. Bahari, N.H.H. Phuc, N. Ainirazali, **D.-V.N. Vo**, *Evaluation of La-promoted Ni/Al₂O₃ catalyst for ethanol dry reforming*, The 15th Korea Japan Symposium on Catalysis, May 26-28, 2015, Busan, Republic of Korea. (Oral)

- 163. K. Selvarajah, C.K. Cheng, F. Alenazey, **D.-V.N. Vo**, *Syngas production from methane dry reforming over Ni/Al₂O₃ catalyst*, The 15th Korea Japan Symposium on Catalysis, May 26-28, 2015, Busan, Republic of Korea. (Poster)
- 164. M.B. Bahari, T.J. Siang, **D.-V.N. Vo**, *Ethanol dry reforming over Ce-promoted Ni/Al₂O₃ catalyst for hydrogen synthesis*, National Conference for Postgraduate Research (NCON-PGR) 2015, Jan 24-25, 2015, Kuantan, Malaysia. (Oral)

2014

- 165. **D.-V.N. Vo**, B. Abdullah, V. Arcotumapathy, C.K. Cheng, A.A. Adesina, *CO hydrogenation over Alumina-supported Mo carbide catalysts*, 8th International Conference on Environmental Catalysis (ICEC 2014), Aug 24 27, 2014, Asheville, North Carolina, USA. (Poster)
- 166. A.H.A. Rahman, B. Abdullah, **D.-V.N. Vo**, *Modelling of carbon dioxide leakage in abandon wells using computational fluid dynamics*, The 3rd International Conference on Process Engineering and Advanced Materials (ICPEAM2014), Jun 3-5, 2014, Kuala Lumpur, Malaysia. (Oral)
- 167. B. Abdullah, **D.-V.N. Vo**, *An evaluation of fish scales as potential adsorbents: pH and concentration effect*, The 3rd International Conference on Process Engineering and Advanced Materials (ICPEAM2014), Jun 3-5, 2014, Kuala Lumpur, Malaysia. (Oral)

- 168. V. Arcotumapathy, **D.-V.N. Vo**, D. Chesterfield, C.T. Tin, A. Siahvashi, F.P. Lucien, A.A. Adesina, *Kinetics and mechanistic studies of methane steam reforming over Ce/Ni/SBA-15 catalyst*, Chemeca 2013, Sept 29 2 Oct, 2013, Brisbane, Australia. (Poster)
- 169. V. Arcotumapathy, **D.-V.N. Vo**, D. Chesterfield, C.T. Tin, A. Siahvashi, F.P. Lucien, A.A. Adesina, *Carbon formation studies during methane steam reforming over Ce promoted Ni/SBA-15*, Chemeca 2013, Sept 29 2 Oct, 2013, Brisbane, Australia. (Poster)
- 170. B. Abdullah, F.E. Zailan, **D.-V.N. Vo**, S. Yusup, Y. Uemura, *Biofuels production* from rubber seed oil using Calcium-based catalyst, 9th World Congress of Chemical

- Engineering (Incorporating 15th Asian Pacific Confederation of Chemical Engineering Congress), Aug 18-23, 2013, Coex, Seoul, Korea. (Poster)
- 171. B. Abdullah, D.M. Tuan, **D.-V.N. Vo**, *The production of hydrogen via glycerol reforming using Limestone-based catalyst*, 9th World Congress of Chemical Engineering (Incorporating 15th Asian Pacific Confederation of Chemical Engineering Congress), Aug 18-23, 2013, Coex, Seoul, Korea. (Oral)
- 172. B. Abdullah, A.F.M. Anwar, **D.-V.N. Vo**, *Catalyst preparation and characterization of calcium oxide-based catalyst for Fischer-Tropsch synthesis*, SCEJ 78th Annual Meeting, Mar 17-19, 2013, Osaka, Japan. (Oral)

- 173. A.S. Qazaq, **D.-V.N. Vo**, C. Dave, A.A. Adesina, *Application of photocatalysis to the treatment of complex industrial aqueous effluent in a pilot-scale bubble column reactor*, Chemeca 2012, Sept 23-26, 2012, Wellington, New Zealand. (Poster)
- 174. **D.-V.N. Vo**, V. Arcotumapathy, A.A. Adesina, *Fischer-Tropsch synthesis over* MoC_{1-x}/Al_2O_3 catalyst: Effect of carburizing agent, 7th International Conference on Environmental Catalysis, Sept 2 6, 2012, Lyon, France. (Poster)
- 175. **D.-V.N. Vo**, B. Abdullah, A. Siahvashi, A.A. Adesina, *Alumina-supported molybdenum carbide catalyst for Fischer-Tropsch synthesis: Effect of Mo loading and reaction conditions*, The 15th International Congress on Catalysis, Jul 1-6, 2012, Munich, Germany. (Poster)
- 176. **D.-V.N. Vo**, B. Abdullah, A. Siahvashi, A.A. Adesina, *Non-linear ASF product distribution over alkaline-earth promoted Molybdenum carbide catalysts for hydrocarbon synthesis*, Syngas Convention, Apr 1-4, 2012, Cape Town, South Africa. (Poster)
- 177. **D.-V.N. Vo**, K. Dawsa-ad, S.Y. Foo, A.A. Adesina, *Fischer-Tropsch synthesis over zirconia-supported Co-Mn bimetallic catalyst*, Syngas Convention, Apr 1-4, 2012, Cape Town, South Africa. (Oral)

178. A. Siahvashi, **D.-V.N. Vo**, A.A. Adesina, *Synthesis gas production via propane dry* (*CO*₂) reforming: Influence of potassium promotion on bimetallic Mo-Ni/Al₂O₃, Syngas Convention, Apr 1-4, 2012, Cape Town, South Africa. (Oral)

2011

- 179. **D.-V.N. Vo**, A.A. Adesina, *Fischer-Tropsch synthesis (FTS) over Alkaline-earth (Group II) promoted Molybdenum carbide catalysts*, Chemeca 2011, Sept 18-21, 2011, Sydney, Australia. (Poster)
- 180. **D.-V.N. Vo**, N. Memarpouri, A. Siahvashi, A.A. Adesina, *A 2-stage dual fixed bed reactor configuration for direct natural gas conversion to higher hydrocarbons*, The 6th Asia Pacific Chemical Reaction Engineering Symposium, Sept 18-21, 2011, Beijing, China. (Poster)
- 181. D.-V.N. Vo, A.A. Adesina, Evaluation of Ca-promoted Mo carbide catalyst for CO hydrogenation, 22nd North American Catalysis Society Meeting, Jun 5-10, 2011, Detroit, USA. (Poster)

- 182. **D.-V.N. Vo**, A.A. Adesina, *CO hydrogenation over potassium promoted Mo carbide catalyst*, Chemeca 2010, Sept 26-29, 2010, Adelaide, Australia. (Oral)
- 183. **D.-V.N. Vo**, C.G. Cooper, T.-H. Nguyen, A.A. Adesina, *Fischer-Tropsch synthesis: Effect of promoter type on alumina-supported Mo carbide catalysts*, 6th International Conference on Environmental Catalysis, Sept 12-15, 2010, Beijing, China. (Poster)
- 184. **D.-V.N. Vo**, T.-H. Nguyen, A.A. Adesina, *Fischer-Tropsch synthesis over promoted Mo carbide catalysts: Time-on-stream behaviour*, 240th American Chemical Society National Meeting, Aug 22-26, 2010, Boston, USA. (Oral)
- 185. **D.-V.N. Vo**, C.G. Cooper, T.-H. Nguyen, A.A. Adesina, *Hydrocarbon production over alumina-supported Molybdenum carbide catalyst*, 5th Asia Pacific Congress on Catalysis, Jul 18-23, 2010, Sapporo, Japan. (Oral)
- 186. **D.-V.N. Vo**, C.G. Cooper, T.-H. Nguyen, A.A. Adesina, Fischer-Tropsch synthesis on Mo carbide catalyst: Effect of support type on physicochemical properties and

- *activity*, 21st International Symposium on Chemical Reaction Engineering, Jun 13-16, 2010, Philadelphia, USA. (Poster)
- 187. D. Aw, **D.-V.N. Vo**, A.A. Adesina, *Carbon monoxide hydrogenation over SAPO-supported Co-Mo catalysts*, 21st International Symposium on Chemical Reaction Engineering, Jun 13-16, 2010, Philadelphia, USA. (Poster)

<u>2009</u>

- 188. **D.-V.N. Vo**, C.G. Cooper, C.B. Dave, T.-H. Nguyen, A.A. Adesina, D.B. Bukur, *Synthesis of Mo₂C/Al₂O₃ via propane carburization for Fischer-Tropsch reaction*, Chemeca 2009, Sept 27-30, 2009, Perth, Australia. (Oral)
- 189. **D.-V.N. Vo**, C.G. Cooper, T.-H. Nguyen, A.A. Adesina, *Alumina supported Mo₂C catalyst prepared via propane carburization*, 8th World Congress of Chemical Engineering, Aug 23-27, 2009, Montreal, Canada. (Oral)
- 190. **D.-V.N. Vo**, T.-H. Nguyen, J. Lea, J. Reid, A.A. Adesina, *Photocatalytic degradation of Red water from military explosives manufacturing plants*, 8th World Congress of Chemical Engineering, Aug 23-27, 2009, Montreal, Canada. (Oral)
- 191. C. Dave, B. Abdullah, **D.-V.N. Vo**, T.-H. Nguyen, C.G. Cooper, A.A. Adesina, *ERT measurement of gas hold-up distribution in bubble column with coalescence inhibiting solutions*, 8th World Congress of Chemical Engineering, Aug 23-27, 2009, Montreal, Canada. (Oral)

[Highlighted by Industrial Tomography Systems plc, ITS plc, 2009]

192. T.-H. Nguyen, **D.-V.N. Vo**, Y.-J. Lee, A.A. Adesina, *Properties of alumina-supported cobalt Fischer-Tropsch catalysts: Effect of the metal precursor source*, 3-Day International Symposium, Apr 15-17, 2009, Sydney, Australia. (Oral)

2008

193. C.G. Cooper, B. Abdullah, T.-H. Nguyen, **D.-V.N. Vo**, F. Althenayan, F.P. Lucien, A.A. Adesina, *GTL fuel synthesis: Product distribution and generalised kinetic modelling for individual hydrocarbon species*, Chemeca 2008, Sept 29-Oct 02, 2008, Newcastle, Australia. (Oral)

194. C.G. Cooper, B. Abdullah, **D.-V.N. Vo**, T.-H. Nguyen, F.P. Lucien, A.A. Adesina, *An evaluative study of the intrinsic reaction metrics of Co/Al₂O₃ Fischer-Tropsch catalyst*, The 14th International Congress on Catalysis, Jul 13-18, 2008, Seoul, Korea. (Poster)

Presentations

List of conferences and workshops, Dai-Viet N. Vo has attended is summarized below:

- International Conference on Advanced Nanomaterials for Green Growth, Apr 5-7, 2019, Hanoi, Vietnam.
- The 31st International Symposium on Chemical Engineering, Nov 30 Dec 2, 2018, Chiang Mai, Thailand.
- ACCMS-Theme Meeting on Multiscale Modelling of Materials for Sustainable Development, Sept 7-9, 2018, Hanoi, Vietnam.
- 4th International Conference of Chemical Engineering & Industrial Biotechnology, Aug 1-2, 2018, Kuala Lumpur, Malaysia.
- 3rd International Conference on Energy Materials and Applications (ICEMA 2018), May 9-11, 2018, Zamora, Spain.
- 15th International Conference on Environmental Science and Technology, Aug 31 2 Sept, 2017, Rhodes, Greece.
- Conference on Chemical Engineering and Materials (CEM 2017), June 6-7, 2017, Ho Chi Minh, Vietnam.
- International Conference on Fluids and Chemical Engineering (FluidsChE 2017),
 Apr 4-6, 2017, Sabah, Malaysia.
- International Conference on Catalysis (iCAT2016), Sept 20-21, 2016, Johor Bahru, Malaysia.
- 4th International Conference on Process Engineering and Advanced Materials (ICPEAM2016), Aug 15-17, 2016, Kuala Lumpur, Malaysia.

- 251st ACS National Meeting & Exposition, Mar 13-17, 2016, San Diego, USA.
- The International Chemical Congress of Pacific Basin Societies (Pacifichem 2015), Dec 15-20, 2015, Hawaii, USA.
- Fluids Engineering (FluidsChE 2015), Nov 25-27, 2015, Langkawi Island, Malaysia.
- 5th International Conference on Environment 2015 (ICENV 2015), Aug 18-19, 2015, Penang, Malaysia.
- The Engineering Technology International Conference (ETIC 2015), Aug 10-11, 2015, Bali, Indonesia.
- The 15th Korea Japan Symposium on Catalysis, May 26-28, 2015, Busan, Republic of Korea.
- FKKSA Colloquium, Universiti Malaysia Pahang, Sept 12, 2014, Kuantan, Pahang, Malaysia.
- 8th International Conference on Environmental Catalysis (ICEC 2014), Aug 24 27,
 2014, Asheville, North Carolina, USA.
- The 10th Natural Gas Conversion Symposium, Mar 2-7, 2013, Doha, Qatar.
- Joint Qatar Foundation Annual Research Forum and Arab Expatriate Scientists Network Symposium, Oct 21-23, 2012, Doha, Qatar.
- Chemeca 2011, Sept 18-21, 2011, Sydney, Australia.
- The 3rd Annual 1-day Workshop on Industrial Process Reactor, Nov 27, 2010, Sydney, Australia.
- Chemeca 2010, Sept 26-29, 2010, Adelaide, Australia.
- Joint Chemical Engineering Committee (JCEC) Postgraduate Symposium 2010, Sydney, Australia.
- 5th Asia Pacific Congress on Catalysis, Jul 18-23, 2010, Sapporo, Japan.

- 21st International Symposium on Chemical Reaction Engineering, Jun 13-16, 2010, Philadelphia, USA.
- The 2nd UNSW, UNSW@ADFA & UoW Joint Mini-meeting in Chemical Engineering and Related Areas, Nov 28, 2009, Canberra, Australia.

Teaching

- Teaching performance evaluation at UMP: GOOD performance in the Instructional Evaluation and exceptional commitment towards teaching and learning from Semester I 2013/2014 to present (Mark > 80).
- Courses taught by **D.-V. N. Vo** at **Universiti Malaysia Pahang** (UMP) from 2013 to present are summarized as:
 - o **BKG4463** Gas Storage & Reticulation (Semester II 2018/2019-Present)
 - o **BKF1253** Physical Chemistry (Semester II 2017/2018-Present)
 - BKG3453 Gas Processing & Liquefaction (Coordinator, Semester I 2015/2016-Present)
 - DKK2771 Chemical Reaction Engineering Lab (Coordinator, Semester I 2015/2016-Present)
 - BKG3473 Gas Processing & Utilization (Coordinator, Semester I 2013/2014-Present)
 - o **DKK2142** Plant Supervision (Semester I 2013/2014, 52 students)
 - o **BKF3731** Unit Operation Lab (Semester I 2013/2014-Present)
 - o **DKK2781** Process Instrumentation & Control Lab (Semester II 2013/2014)
 - BKF4916 Industrial Training (University supervisor & examiner for 11 students practicing at 8 industrial plants and research institutes in Penang, Malaysia, Semester II 2012/2013)

Table 1. Brief summary of courses taught at UMP from Semester I 2013/2014 to present.

Semester	BKG3473	DKK2142	BKF3731	DKK2781	BKF4916	LI DKK
S I 2013/2014	Coordinator, 22 students	52 students	9 students	-	11 students	-
S II 2013/2014	Coordinator, 30 students	-	31 students	26 students	-	-
S I 2014/2015	Coordinator, 31 students	-	30 students	-	-	13 students
S II 2014/2015	Coordinator, 30 students	-	-	32 students	-	-
Semester	BKG3453	DKK2771	BKF3731	DKK2443	BKF4916	LI DKK
S I 2015/2016	Coordinator, 15 students	Coordinator, 22 students	-	-	4 students	-
S II 2015/2016	Coordinator, 15 students	-	-	25 students	-	-
SI 2016/2017	Coordinator, 15 students	-	-	-	-	-
SII 2016/2017	Coordinator, 26 students	-	-	-	-	-
SI 2017/2018	Coordinator, 10 students	-	-	-	-	-
Semester	BKG3453	BKF1253	DKK2771		BKG4463	
SII 2017/2018	Coordinator, 13 students	15 students		-	-	
SI 2018/2019	Coordinator, 11 students	-	15 students		-	

SII
2018/2019

Coordinator, - - Coordinator,

- Examiner for Undergraduate Research Project from 30 Oct 2013 to present (No. of students examined: 7 students) at UMP.
- Examiner for Plant Design Project from Dec 2013 to present (No. of student groups evaluated: 2 groups) at UMP.
- Provided technical trainings on Micromeritics AutoChem II 2920 (Theory, operation, application and sample analysis) to 2 lab technicians and 1 research assistant at Texas A&M University at Qatar in 2013.

Supervision

Supervision performed at Universiti Malaysia Pahang is given as:

PhD Students:

- Nurul Asmawati Binti Roslan, Ph.D. of Chem. Eng. (2018-Ongoing, Cosupervisor).
- Tran Ngoc Thang, Ph.D. of Chem. Eng. (2018-Ongoing, Supervisor).
- Mahadi Bin Bahari, Ph.D. of Chem. Eng. *Methane dry reforming over mesoporous Co-Al₂O₃ catalyst for syngas production* (2017-Ongoing, Supervisor).
- Attili Ramkiran, Ph.D. of Chem. Eng. *Ethanol dry reforming over Ni-based catalysts* (2017-Ongoing, Co-supervisor).
- Sharanjit Singh, Ph.D. of Chem. Eng. Syngas production from methane reforming processes over Boron promoted Ni/SBA-15 catalysts (2015-2019, Graduated, Supervisor).
- Fahim Fayaz, Ph.D. of Chem. Eng. Syngas production from ethanol dry reforming over La and Ce promoted Co/Al₂O₃ catalysts (2015-2019, Graduated, Supervisor).

Master Students:

- Nor Shafiqah Binti Mohd Nasir, Master of Chem. Eng. *Ethanol dry reforming over Cu-based catalysts for syngas production* (2017-Ongoing, Supervisor).
- Lau Ngie Jun, Master of Chem. Eng. Syngas production over dry reforming of ethylene glycol over Ni-based catalyst (2017-Ongoing, Supervisor).
- Vijehy A/L Balakrishnan, Master of Chemical Engineering with Entrepreneurship (2016, Graduated, Supervisor).
- Abdulkarim Abdulrahman Mohamed Suliman, Master of Chemical Engineering with Entrepreneurship (2016, Graduated, Supervisor).
- Tan Ji Siang, Master of Chem. Eng. Combined steam and CO₂ reforming of methane over carbon-resistant Boron-promoted Ni/SBA-15 catalysts for syngas production (2015-2018, Graduated, Supervisor).
- Osaze Omoregbe, Master of Chem. Eng. Synthesis and characterization of Lapromoted Ni/SBA-15 catalysts for methane dry reforming (2015-2017, Graduated, Supervisor).
- Mahadi Bin Bahari, Master of Chem. Eng. Ethanol Dry Reforming over Lanthanide-promoted Ni/Al₂O₃ Catalysts for Syngas Production (2014-2017, Graduated, Supervisor).
- Nur Nabillah Bt Mohd Arif, Master of Chem. Eng. Glycerol dry reforming for hydrogen-rich production over Ni/CaO, Ni/ZrO₂ and 5%Re-Ni/CaO (2014-2017, Graduated, Co-supervisor).

<u>Undergraduate Students:</u>

- Muthuveerapan A/L M. Muthiah, Bachelor of Chem. Eng. Methane dry reforming over mesoporous Al₂O₃-supported Co catalysts with potassium promoter (2018, Supervisor).
- Vama Dev Pillai A/L Mohanan, Bachelor of Chem. Eng. *Methane dry reforming* over mesoporous Al₂O₃-supported Ni catalyst (2018, Supervisor).

- Low Chen Wei, Bachelor of Chem. Eng. Syngas production from dry reforming of ethanol using K-promoted Co/Al₂O₃ catalyst (2016-2017, Supervisor).
- Kameshvaran A/L Perumal, Bachelor of Chem. Eng. *Syngas production from ethanol dry reforming over 10%Ni/SBA-15 catalyst* (2016-2017, Supervisor).
- Niroshen Gunarajan, Bachelor of Chem. Eng. *Syngas production from methane dry reforming over Co/SBA-15 catalyst* (2016-2017, Supervisor).
- Haridas A/L Vijayakumar, Bachelor of Chem. Eng. *Methane dry reforming over* 1%Boron/10%Nickel/SBA-15 catalyst (2016-2017, Supervisor).
- Yogesvaran A/L Rajendran, Bachelor of Chem. Eng. Syngas production from ethanol dry reforming over 10%Ni/Al₂O₃ catalyst (2015-2016, Supervisor).
- Mahatdir Bin Mahamad, Bachelor of Chem. Eng. *H*₂ generation from methane dry reforming over La-promoted Ni catalyst (2015-2016, Supervisor).
- Goo Boon Chin, Bachelor of Chem. Eng. *Hydrogen production from ethanol dry reforming over La-promoted Ni/Al₂O₃ catalyst (2015-2016, Supervisor).*
- Poon Full Sieng, Bachelor of Chem. Eng. *Methanol Dry Reforming for syngas* production over Lanthanum-promoted Cobalt/Alumina (2015-2016, Supervisor).
- Dominick Anak Gira, Bachelor of Chem. Eng. *Ethanol reforming over Ni/Al₂O₃* catalyst for H₂ production (2014-2015, Supervisor).
- Muhamad Hisyam Bin Zakaria, Bachelor of Chem. Eng. *Methane dry reforming* over Ce-promoted Ni/Al₂O₃ catalyst: kinetic studies (2014-2015, Supervisor).
- Tai Chan Kong, Bachelor of Chem. Eng. *Methane dry reforming for H*₂ *production over lanthanide-group promoted Co/Al*₂*O*₃ *catalysts* (2014-2015, Supervisor).
- Tan Ji Siang, Bachelor of Chem. Eng. *Hydrogen production via CO₂ reforming of methane over bimetallic Mo-Co/Al₂O₃ catalyst (2014-2015, Supervisor).*
- Kavineshshen A/L Selvarajah, Bachelor of Chem. Eng. *Methane dry reforming over semiconductor-oxide supported Ni catalysts* (2014-2015, Supervisor).

Plant Design Project:

• Process & Plant Design Project (Semester I 2014/2015-Semester II 2014/2015, 5 students/group).

Title: Production of 35 000 Metric Tonne per Annum of Propylene Oxide

• Process & Plant Design Project (Semester I 2013/2014-Semester II 2013/2014, 5 students/group).

Title: Design of an Acetylene production plant with productivity of 60 000 Metric Tonne per Annum.

Supervision performed at University of New South Wales is summarized as:

Master Students:

• Niusha Memarpouri, Master of Chem. Eng. *Direct natural gas conversion to higher hydrocarbon over potassium-promoted Mo carbide catalyst* (2011-Graduated, Cosupervisor).

Undergraduate Students:

- Kunakorn Dawsa-ad, Bachelor of Chem. Eng. Fischer-Tropsch synthesis over Zirconia-supported Co-Mn catalyst (2011-Graduated, Co-supervisor).
- Ang Zheng Hui Ian, Bachelor of Chem. Eng. Fischer-Tropsch synthesis over supported Mo₂C catalysts with CO₂-containing syngas (2010-Graduated, Cosupervisor).
- Tan Boo Soen Christopher, Bachelor of Chem. Eng. *Dry reforming reaction over Ceria-promoted Ni-Mo₂C and Co-Mo₂C catalysts* (2010-Graduated, Co-supervisor).
- Douglas Aw, Bachelor of Chem. Eng. *Carbon monoxide hydrogenation over SAPO-supported Co-Mo catalysts* (2009-Graduated, Co-supervisor).

Exhibition

CiTrex2018 (Creation, Innovation, Technology & Research Exposition)

• L.C. Wei, F. Fayaz, L.N. Jun, M.B. Bahari, **D.-V.N. Vo**, *Syngas production from dry reforming of ethanol using K-promoted Co/Al₂O₃*, Citrex2018, Feb 07-08, 2018, UMP, Kuantan, Pahang, Malaysia (Gold Medal).

Pecipta17

• **D.-V.N. Vo**, M.B. Bahari, T.J. Siang, F. Fayaz, *A reactor for hydrogen production with low CO*₂ *emission*, Pecipta17, Oct 7-9, 2017, Terengganu, Malaysia (Silver Medal).

CiTrex2017 (Creation, Innovation, Technology & Research Exposition)

- **D.-V.N. Vo**, M.B. Bahari, O. Omoregbe, T.J. Siang, F. Fayaz, A. Ramkiran, *A novel CO₂ utilization process for hydrogen production from biomass*, Citrex2017, Mar 15-16, 2017, UMP, Kuantan, Pahang, Malaysia (Gold Medal).
- **D.-V.N. Vo**, M.B. Bahari, O. Omoregbe, T.J. Siang, F. Fayaz, A. Ramkiran, *Oxidative dry reforming of ethanol using Co-based catalyst for syngas production*, Citrex2017, Mar 15-16, 2017, UMP, Kuantan, Pahang, Malaysia (Silver Medal).
- L.N. Jun, T.J. Siang, S. Singh, **D.-V.N. Vo**, Syngas production from CO₂-steam reforming of methane over Ni/Ce-SBA-15 catalyst, Citrex2017, Mar 15-16, 2017, UMP, Kuantan, Pahang, Malaysia (Silver Medal).
- Y. Rajendran, T.J. Siang, S. Singh, F. Fayaz, **D.-V.N. Vo**, *Syngas production from ethanol dry reforming over 10%Ni/Al₂O₃ catalyst*, Citrex2017, Mar 15-16, 2017, UMP, Kuantan, Pahang, Malaysia (Silver Medal).
- K. Murugayah, S. Singh, O. Omoregbe, D.-V. N. Vo, Ni/La-SBA-15 catalyst for methane dry reforming, Citrex2017, Mar 15-16, 2017, UMP, Kuantan, Pahang, Malaysia (Gold Medal).

International Trade Fair Ideas Inventions New Products (iENA 2016)

• **D.-V.N. Vo**, O. Omoregbe, S. Singh, T.J. Siang, F. Fayaz, *Multi-functional Ni/SBA-15 catalyst for syngas production*, iENA 2016, Oct 27-30, 2016, Nuremberg, Germany (Gold Medal).

27th International Invention & Innovation Exhibition (ITEX'16)

• **D.-V.N. Vo**, O. Omoregbe, S. Singh, T.J. Siang, F. Fayaz, *Multi-functional modified Ni/SBA-15 catalysts for syngas production from various H-containing compounds*, ITEX'16, May 12-14, 2016, Kuala Lumpur, Malaysia (Gold Medal).

i-FINOG (International Festival Innovation on Green Technology 2016)

• G.B. Chin, T.J. Siang, M.B. Bahari, **D.-V.N. Vo**, *Hydrogen-rich syngas production* from ethanol dry reforming on La-doped Ni/Al₂O₃ catalysts: Effect of promoter loading, i-FINOG, Apr 15-17, 2016, UMP, Kuantan, Pahang, Malaysia (Gold Medal).

CiTrex2016 (Creation, Innovation, Technology & Research Exposition)

- **D.-V.N. Vo**, O. Omoregbe, T.J. Siang, S. Singh, *Multi-functional modified Ni/SBA-15 catalysts for syngas production from various H-containing compounds*, Citrex2016, Mar 7-8, 2016, UMP, Kuantan, Pahang, Malaysia (Gold Medal).
- **D.-V.N. Vo**, M. Bahari, F. Fayaz, *Renewable hydrogen production from bio-ethanol using Co-based catalysts*, Citrex2016, Mar 7-8, 2016, UMP, Kuantan, Pahang, Malaysia (Bronze Medal).

Malaysia Technology Expo 2016 (MTE2016)

• **D.-V.N. Vo**, T.C. Kong, T.J. Siang, *A novel multifunctional catalytic reactor system for sustainable hydrogen production*, Malaysia Technology Expo 2016 (MTE2016), Feb 18-20, 2016 Kuala Lumpur, Malaysia (Silver Medal).

2015 Kaohsiung International Invention and Design EXPO (KIDE)

• K. Selvarajah, M.B. Bahari, **D.-V.N. Vo**, *Syngas production from CO₂ reforming of Methane over supported Nickel catalysts*, 2015 Kaohsiung International Invention and Design EXPO (KIDE), Dec 4-6, 2015, Kaohsiung, Taiwan (Gold Medal).

International Engineering Invention & Innovation Exhibition (i-ENVEX) 2015

 K. Selvarajah, K.R. Shuan, D.-V.N. Vo, Syngas production from methane dry reforming over Nickel-based catalysts, International Engineering Invention & Innovation Exhibition (i-ENVEX) 2015, Apr 17-19, 2015, UniMAP, Perlis, Malaysia (Gold Medal).

CiTrex2015 (Creation, Innovation, Technology & Research Exposition)

- **D.-V.N. Vo**, T.C. Kong, K.R. Shuan, T.J. Siang, M.B. Bahari, *A Novel Multifunctional Catalytic Reactor System for Sustainable Hydrogen Production*, Citrex 2015, Mar 9-10, 2015, UMP, Kuantan, Pahang, Malaysia (Gold Medal).
- **D.-V.N. Vo**, M.B. Bahari, T.J. Siang, T.K. Wei, N. Ainirazali, *Dry Reforming of Ethanol for Hydrogen Generation over La-promoted Ni/Al₂O₃ Catalyst*, Citrex2015, Mar 9-10, 2015, UMP, Kuantan, Pahang, Malaysia (Silver Medal).
- K. Selvarajah, K.R. Shuan, **D.-V.N. Vo**, *Methane dry reforming over semiconductor-oxide supported nickel catalysts*, Citrex2015, Mar 9-10, 2015, UMP, Kuantan, Pahang, Malaysia (Gold Medal).
- D.A. Gira, F. Fayaz, M.B. Bahari, **D.-V.N. Vo**, *Hydrogen production from ethanol dry reforming over Ce-Ni/Al₂O₃ catalyst*, Citrex2015, Mar 9-10, 2015, UMP, Kuantan, Pahang, Malaysia (Silver Medal).
- T.J. Siang, T.K. Wei, **D.-V.N. Vo**, *Hydrogen production from CH*₄ *dry reforming over bimetallic Ni-Co/Al*₂*O*₃ *catalyst*, Citrex2015, Mar 9-10, 2015, UMP, Kuantan, Pahang, Malaysia (Bronze Medal).

Professional Training

List of workshops and trainings, Dai-Viet N. Vo has participated in is summarized below:

- Workshop on Conceptual Design of Chemical/Biochemical Processes, Jul 1-2, 2013, Kuantan, Malaysia.
- FKKSA Academic CQI (Continuous Quality Improvement) Workshop, Jul 4-5, 2013, Kuantan, Malaysia.
- Compressed Gas Safety Course organized by VELOSI, Jul 10, 2012, Doha, Qatar.

• Electrical Safety Course organized by VELOSI, Sept 13, 2012, Doha, Qatar.

Administration

- Publication & Resources coordinator for Faculty of Chemical & Natural Resources
 Engineering, UMP from 1 Sept 2015 to present.
- Undergraduate Research Project (PSM) Coordinator from 1 Nov 2013 to 1 Sept 2015 for Faculty of Chemical & Natural Resources Engineering (Chem. Eng. Gas Technol.) @ UMP.
- Academic advisor: for 28 students of Chem. Eng. Gas Technol. at Faculty of Chemical & Natural Resources Engineering @ UMP from Sept 2013.

Skills

Research skills

- Design and operation of different gas and liquid phase catalytic reaction systems including:
 - o Bubble column photocatalytic reactor for wastewater treatment
 - Fixed-bed reactor system operating at ambient to 40 bar for Fischer-Tropsch synthesis
 - o Fixed-bed reactor system for CO₂ (dry) reforming of methane or propane
 - A 2-stage dual fixed-bed reactor system for direct higher hydrocarbon production from natural gas
- Have operated and performed preventive maintenance as well as troubleshooting for the following analytical equipment:
 - Gas Chromatograph: Shimadzu
 GC-17A, Agilent 7890A GC
 and Bruker 450 GC
- Shimadzu 5000 Total Organic
 Carbon Analyzer and Solid Sample
 Module TOC Analyzer

- Quantachrome Autosorb-1 unit
- o ThermoCahn TGA 2121 unit
- Pfeiffer ThermoStar
 Quadrupole Mass Spectrometer
- Micromeritics AutoChem 2910
 and AutoChem II 2920
- Philip X'pert Pro MPD system for XRD measurement

- Mettler-Toledo T90 Autotitrator system
- Nicolet Nexus FTIRSpectrophotometer
- JASCO UV-Visible
 Spectrophotometer
- Shimadzu UV-1601UV-Vis
 Spectrophotometer
- o Micromeritics TriStar II 3020

Computer skills

- Application software: Microsoft Office Suite
- Technical software: Auto CAD, Polymath, SigmaPlot, Microsoft Visio, Origin, TableCurve 2D and 3D.
- Analytical software: Class-VP, OMNIC, TGA, Quantachrome Instrument, GRAMS-32.

References

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