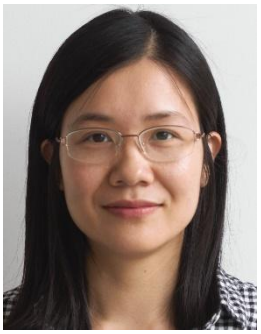
Personal information



Date of birth: April 24th, 1983
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Hard-working and enthusiastic researcher with a background in petrochemical engineering, chemical engineering, and experience in heterogeneous catalysis and spectroscopic characterization techniques. Besides, I enjoy working in an international and scientific environment, looking for a new challenge.

PROFESSIONAL EXPERIENCE

Leibniz Institute for Catalysis (LIKAT), the University of Rostock, Germany
Scientist ***01/02/2018-present / Rostock, Germany***

- Experimental research:
  - develop and apply in situ/ operando Electron Paramagnetic Resonance (EPR) and GC to study different catalysts for oligomerisation of butene at high pressure (industrial project).
  - plan, perform and evaluate in situ EPR/MS, Diffuse Reflectance Infrared Fourier Transform Spectroscopy (DRIFTS) experiments for different reactions at high temperature, for example, selective catalytic reduction (SCR) of NO_x with NH_3, CO oxidation, H_2 reduction, the preferential oxidation of CO (CO-PROX), CO_2 conversion
  - characterize catalysts by FTIR, UV-Vis-DRS, EPR, NH_3-TPD, Raman, SEM
  - category and analyse data, write proposals, reports and publications.
  - discuss lab solutions and build setup/equipment with technicians and students.
- Education:
  - instruct and supervise bachelor, master and PhD students in planning and performing experiments, analysing data, and writing reports, publications and theses.
  - correct the reports, publications and thesis of students.
  - give the practical courses for bachelor, master and PhD students.
- Other activities:
  - review papers for many journals.
  - support and improve the cooperation between LIKAT, University of Rostock and Vietnamese Universities.

The Laboratory of Industrial Chemistry at Ruhr-University Bochum, Germany
Postdoc ***01/05/2017-31/01/2018 / Bochum, Germany***
Prof. Dr. Wolfgang Gruenert (DFG German Project)

- Research topic: “Active sites in Fe zeolite catalysts for reaction with nitrogen oxides”
- Main activities:

- Synthesis Co-zeolites and Fe-zeolites by different methods.
- characterize catalysts by UV-Vis-DRS, FTIR, EPR.
- perform the catalytic tests for NH_3-SCR of NO_x.
- analyse data, write reports

Leibniz Institute for Catalysis (LIKAT), the University of Rostock, Germany
PhD student ***14/02/2014-30/04/2017 / Rostock, Germany***
Prof. Dr. Angelika Brueckner (DFG German Project, Vietnamese Fellowship)
Research topic: "Structure-reactivity relationships in modified V_xOy/CeO_2 catalysts for selective catalytic reduction of NO_x"

- Laboratory operation:
  - operate coupling in situ UV-Vis-DRS/DRIFTS/MS, in situ FTIR, UV-Vis-DRS/MS, and EPR/MS spectroscopic set-ups.
  - operate the catalytic test system of continuous-flow fixed-bed reactor connected with the UV detector and online GC for product analysis.
- Experimental research:
  - Synthesize different supports of modified CeO_2, for examples $Ce_{1-x}Zr_xO_2$, $Ce_{1-x}Ti_xO_2$, $Ce_{0.5}Ti_{0.5-x}Mn_x$ by different methods namely sol-gel, co-precipitation, hydrothermal.
  - Synthesize modifed V_xO_y/CeO_2 catalysts by wet impregnation method.
  - Develop and apply in situ UV-Vis-DRS/DRIFTS/MS, in situ FTIR, UV-Vis-DRS/MS, and EPR/MS spectroscopic set-ups to study the structure-reactivity relationships and reaction mechanism of these catalysts for NH_3-SCR of NO_x.
  - Test the catalytic activity for low-temperature NH_3-SCR of NO_x.
  - Collaborate with other groups in LIKAT and the University of Rostock
  - Categorize, analyze and simulate data, write the reports and published five academic papers.
- Education: train undergraduate students in the laboratory.
- Other activities:
  - Teach Vietnamese language for children in Diên Hông-Gemeinsam unter einem Dach e.V, Rostock.
  - Contribute to the establishment of a project between LIKAT, the University of Rostock and two Universities in Vietnam (value 500000 EUR per year for exchanging students, scientists and professors).

Hanoi University of Science and Technology
Researcher and Lecturer in Petrochemical Technology ***01/09/2008-04/2022 / Hanoi, Vietnam***

- Laboratory operation: built, operated and maintained the available laboratory equipments.
- Applied research:
  - Promoter of the project: "Catalysts for biodiesel production from vegetable oils.
  - Researcher of the project "Experimental investigations of emulsion fuel for diesel engines to protect the environment and save energy".
  - Promoter of the project "Synthesis metal-organic framework materials and adsorptive removal of methyl orange from aqueous solution using these materials"
- Education:
  - delivered classes on Catalysts and Kinetics of Catalysis, Simulation, Pipes & Storage Tanks.
  - Teached and supervized bachelor students in practical courses and their researches for bachelor thesis.

PetroVietnam Manpower Development & Services Company
Engineer ***01/10.2017-30/08/2008 / Hanoi, Vietnam***
Main activities:

- Consultancy for PetroVietnam manpower development
- Collection and Preselection engineers for some companies of PetroVietnam and workers for labor export to some companies in Japan, Korea, UAE.
- Designed and adjusted classes to improve the skills, foreign language and labour discipline for selected workers.

ACADEMIC EDUCATION

1998 – 2001 Lam Son High School for Gifted Students, Thanh Hoa, Vietnam
- Major: Chemistry
- Greatest distinction

2001 – 2006 School of Chemical Engineering,
Hanoi University of Science and Technology, Vietnam
- Major: Chemical engineering focus on Petrochemical engineering
- Great distinction

2006 – 2008 Master at School of Chemical Engineering, Hanoi University of Science and Technology, Vietnam
- Major: Science in Chemical engineering

02/2014 –04/2017 PhD student at Leibniz Institute for Catalysis, the University of Rostock, Germany
Prof. Dr. Angelika Brückner
Major: Heterogeneous catalysis and Spectroscopy
- Thesis title: "Structure-Reactivity relationships in modified V_xO_y/CeO_2 catalysts for selective catalytic reduction of NO_x"
- Greatest distinction (Magna cum laude)

PERSONAL SKILLS AND ADDITIONAL INFORMATION

- Language:
  - Vietnamese: native
  - English: professional proficiency
  - German: Basic user (B1 level certificate)
- Computer skills: Aspen HYSYS, Origin, OMNIC, GRAMS/32, GCsolution, SIM14, Matlab
- Award:
  - Bronze medal of National Chemistry Olympic for high school student (2000).
  - Scholarship for good students in Hanoi University of Science and Technology, Vietnam (2001-2006).
  - Vietnamese fellowship for PhD studying in Germany (2014-2017).
  - Travel Grant for young scientist of the German Catalysis Society (GeCatS)
  - The best presentation in the 19th Northern German doctoral colloquium (NDDK), Hamburg, Germany (2016).

PUBLICATIONS

1. Peña Fuentes, D., Mussweiler, C.-J., Schiorlin, M., Höft, H., Rabee, A.I.M., **Vuong, T.H**., Franke, R., Brandenburg, R. and Kubis, C. (**2025**), *Chemistry – Methods*, 202500057. https://doi.org/10.1002/cmtd.202500057
2. T. Zhang, P. Ren, Y. Qin, **T. H. Vuong,** A. V. Cunha, R. W. A. Havenith, J. Rabeah, S. Das, *Adv. Sci.* **2025**, 12, 2415339. **https://doi.org/10.1002/advs.202415339**
3. M. Jabłońska, A. Mollá Robles, M. Rotko, **T. H. Vuong**, H. Lei, Ž. Lavrič, M. Grilc, M. F. Lukman, R. Valiullin, M. Bertmer, J. Möllmer, J. Rabeah, A. Pöppl, U. Simon, R. Gläser, *ChemSusChem* **2024**, 17, e202400198. **https://doi.org/10.1002/cssc.202400198**
4. Abdallah I. M. Rabee, Hayder Abed, Thanh Huyen Vuong, Stephan Bartling, Laura Kraußer, Hanan Atia, Nils Rockstroh, Evgenii V. Kondratenko, Angelika Brückner, and Jabor Rabeah, *ACS Catalysis*, **2024** *14* (14), 10913-10927, DOI: 10.1021/acscatal.4c01493
5. Hayder Abed, Hanan Atia, **Thanh Huyen Vuong**, Stephan Bartling, Nils Rockstroh, Udo Armbruster, Angelika Brückner, Jabor Rabeah, *International Journal of Hydrogen Energy*, **2024**, 58, 1053-1061, https://doi.org/10.1016/j.ijhydene.2024.01.263
6. Qiyang Zhang, Jabor Rabeah, **Thanh Huyen Vuong**, Tatiana Otroshchenko and Evgenii V. Kondratenko, *Catalysis Science & Technology*, **2023**, 13, 767-773
7. Ali M. Abdel- Mageed, Sebastian Cisneros, Jawaher Mosrati, Hanan Atia, **Thanh Huyen Vuong**, Nils Rockstroh, Sebastian Wohlrab, Angelika Brückner, Jabor Rabeah, *ChemCatChem*, **2023**, 15, e2022016 69
8. Liwei Dai, Abderrezak Torche, Christian Strelow, Tobias Kipp, **Thanh Huyen Vuong**, Jabor Rabeah, Kevin Oldenburg, Gabriel Bester, Alf Mews, Christian Klinke, and Rostyslav Lesyuk, *ACS Applied Materials & Interfaces*, **2022**, 14, 16, 18806-188
9. Anh Binh Ngo, **Thanh Huyen Vuong**, Hanan Atia, Jana Weiss, Jabor Rabeah, Udo Armbruster, Angelika Brueckner, *ChemCatChem*, **2022**, Vol.14, 15
10. Hayder Abed, Jawaher Mosrati, Ali M. Abdel-Mageed, Sebastian Cisneros, **Thanh Huyen Vuong**, Nils Rockstroh, Stephan Bartling, Sebastian Wohlrab, Angelika Brückner, Jabor Rabeah, *ChemCatChem*, **2022**, 14, e202200923
11. Liwei Dai, Christian Strelow, Tobias Kipp, Alf Mews, Iris Benkenstein, Dirk Eifler, **Thanh Huyen Vuong**, Jabor Rabeah, James McGettrick, Rostyslav Lesyuk, and Christian Klinke, *Chemistry of Materials*, **2021**, 33, 1,
12. Jawaher Mosrati, Hanan Atia, Reinhard Eckelt, **Thanh Huyen Vuong**, Jabor Rabeah, Mourad Mhamdi, Udo Armbruster, *Journal of Catalysis*, **2021**, 395, 325-339
13. **T. Huyen Vuong**, N. Rockstroh, U. Bentrup, J. Rabeah, J. Knossalla, S. Peitz, R. Franke, and A. Brückner, *ACS Catalysis*, **2021**, 11, 6, 3541-3552
14. Jawaher Mosrati Ali M. Abdel-Mageed, **Thanh Huyen Vuong**, Reni Grauke, Stephan Bartling, Nils Rockstroh, Hanan Atia, Udo Armbruster, Sebastian Wohlrab, Jabor Rabeah, and Angelika Brückner, *ACS Catalysis*, **2021**, 11, 17, 10933-10949
15. Dan Zhao, Xinxin Tian, Dmitry E. Doronkin, Shanlei Han, Vita A. Kondratenko, Jan-Dierk Grunwaldt, Anna Perechodjuk, **Thanh Huyen Vuong**, Jabor Rabeah, Reinhard Eckelt, Uwe Rodemerck, David Linke, Guiyuan Jiang, Haijun Jiao & Evgenii V. Kondratenko, *Nature*, **2021** , 599, 234-238
16. Shanlei Han, Tatiana Otroshchenko, Dan Zhao, Henrik Lund, Nils Rockstroh, **Thanh Huyen Vuong**, Jabor Rabeah, Uwe Rodemerck, David Linke, Manglai Gao, Guiyuan Jiang, Evgenii V. Kondratenko, *Applied Catalysis A: General*, **2020**, Vol 590, 117350
17. Shanlei Han, Yun Zhao, Tatiana Otroshchenko, Yaoyuan Zhang, Dan Zhao, Henrik Lund, **Thanh Huyen Vuong**, Jabor Rabeah, Ursula Bentrup, Vita A. Kondratenko, Uwe Rodemerck, David Linke, Manglai Gao, Haijun Jiao, Guiyuan Jiang, and Evgenii V. Kondratenko, *ACS Catalysis*, **2020**, 10, 2, 1575-1590
18. Ratnadip De, Sabrina Gonglach, Shounik Paul, Michael Haas, S. S. Sreejith, Philipp Gerschel, Ulf- Peter Apfel, **Thanh Huyen Vuong**, Jabor Rabeah, Soumyajit Roy, Wolfgang Schöfberger, *Angewand te Chemie*, **2020**, Vol 132, 26, 10614-106
19. Anh Binh Ngo, **Thanh Huyen Vuong**, Hanan Atia, Ursula Bentrup, Vita A. Kondratenko, Evgenii V. Kondratenko, Jabor Rabeah, Udo Ambruster, and Angelika Brückner, *Environmental Science & Technology*, **2020**, 54, 19, 11753-11761
20. Tatiana Otroshchenko, Olga Bulavchenko, **Thanh Huyen Vuong**, Jabor Rabeah, Ursula Bentrup, Alexander Matvienko, Uwe Rodemerck, Benjamin Paul, Ralph Kraehnert, David Linke, Evgenii V. Kondratenko, *Applied Catalysis A: General*, Vol 585, **2019**, 117189
21. Tuan Doan, Anh Dang, Dat Nguyen, Khanh Dinh, Phong Dam, **Thanh Huyen Vuong**, Minh Thang Le &

Pham Thanh Huyen, *Catalysis in Industry*, **2021**, 13, 27-37
22. Tuan Doan, Anh Dang, Dat Nguyen, **Thanh Huyen Vuong**, Minh Thang Le, Huyen Pham Thanh, *Journal of Chemistry*, Vol **2021**, ID 5552187
23. Tuan Doan, Khang Nguyen, Phong Dam, Nga Pham, Quan Vu, **Thanh Huyen Vuong**, Thanh Huyen Pham, Minh Thang Le, *Chemical Engineering & Technology*, **2020**, 43, 3
24. A. R. Fahami, T. Günter, D. E. Doronkin, M. Casapu, D. Zengel, **T. H. Vuong**, M. Simon, F. Breher, A. V. Kucherov, A. Brückner and J.-D. Grunwaldt, *Reaction Chemistry & Engineering*, **2019**, 4, 1000
25. Quan Luu Manh Ha, Udo Armbruster, Carsten Kreyenschulte, Hanan Atia, Henrik Lund, Huyen Thanh Vuong, Sebastian Wohlrab, *Catalysis Today* 334 **2019** 203-214
26. Tatiana Otroshchenko, Olga Bulavchenko, **Huyen V.Thanh**, Jabor Rabeah, Ursula Bentrup, Alexander Matvienko, Uwe Rodemerck, Benjamin Paul, Ralph Kraehnert, David Linke, Evgenii V.Kondratenko, *Applied Catalysis A: General*, **2019**
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36. **Vuong, T. H.;** Radnik, J.; Schneider, M.; Atia, H.; Armbruster, U.; Brückner, A., *Catal. Communi.* **2016**, 84, 171-174
37. **Vuong, T. H**.; Phan, T. T. N.; Phan, T. T. L.; Ngo, T. N., Nguyen, V. Q.; Pham, T. H., J. Chem., 5AB, **2011**, 49. (in Vietnamese)
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39. Phan, T. T. N.; **Vuong, T. H**., *J. Chem. & Appl*., 2, 19, **2013**. (in Vietnamese)
40. **Vuong, T. H**.; Phan, T. T. N.; Le, T. C.; Nguyen, T. H.; Pham, T. H., *J. Building mater. research & develop*., 1, **2014**. (in Vietnamese)