Curriculum Vitae

Personal information

Family name, First name : PHAN, DANG CAM TU
Date of birth : 15th July 1995
Place of birth : Binh Dinh, Viet Nam
Email : phandcamtu@duytan.edu.vn
Researcher unique identifiers:
ORCID: https://orcid.org/0000-0001-9769-6777
Web of science ResearcherID: AAK-1426-2020

Current position — Researcher and lecturer, Institute of Research and Development, Duy Tan University, Da Nang, Vietnam — 12/2022 - now

Previous position — Researcher, Molecular Modelling Laboratory GmbH, Park Innovaare, CH-5234 Villigen, Switzerland — 5/2022 - 8/2022

Education

PhD student in Physical and Theoretical Chemistry — 2017 – 2022
Quy Nhon University

Thesis title: Study on stability and nature of interactions between organic compounds and CO_2, H_2O using quantum chemical method

Supervisor: Assoc. Prof. Nguyen Tien Trung

Bachelor of Chemistry Teaching — 2013 - 2017
Quy Nhon University
GPA: 8.51/10 (3.53/4.0)

Graduate thesis: Study on reactions between $[PtCl_3(eugenol)]^-$ and some heterocyclic amines by using computational chemistry method

Supervisor: Assoc. Prof. Nguyen Tien Trung

Additional courseworks

- Catalysis (provided by MOMA project, Lecturers: Dr. Esteban Mejía, University of Rostock, Germany)
- Biomolecular modelling (provided by MOMA project, Lecturers: Prof. Arnout Voet, KU Leuven, Belgium)
- Quantum Computing (provided by Vietnam Institute for Advanced Study in Mathematics – VIASM, Vietnam)
- Machine Learning (in Udemy.com)

Skills

- **Quantum Computational Chemistry**: DFT and ab *initio* high level methods
- **Experience in use**: Gaussian, PSI4, VASP, CP2K
- **Computer skills**: LATEX, Python, Linux & Windows
- **Language:** Vietnamese (native), English (fluent)

Experience

- Expertise: noncovalent interactions, electronic properties of intermolecular interactions, complexes of organic compounds and CO_2/H_2O, doped silicon/germanium clusters.
- Experienced in theoretical electronic spectra: NMR, IR, ECD spectra, and DP4+ analysis for determining structures of organic compounds.
- Provided mentorship, training, and guidance to new students, accelerating their potential to conduct high quality research.

- Short-time visiting scholar at KU Leuven, Belgium, from Sep, 2019 to Dec, 2019 under the host of Prof. Minh Tho Nguyen.

Publications

1. Oxidation of metazachlor herbicide by ozone in the gas and aqueous phases: mechanistic, kinetics, and ecotoxicity studies

   Cam-Tu Phan Dang, Dinh Hieu Truong, Thi Le Anh Nguyen, Sonia Taamalli, Abderrahman El Bakali, Florent Louis, Duy Quang Dao, *Environmental Science and Pollution Research*, **2024**, 31, 49427–49439.

   DOI: https://doi.org/10.1007/s11356-024-34453-w

2. Revisiting conventional noncovalent interactions towards a complete understanding: from tetrel to pnicogen, chalcogen, and halogen bond

   Cam-Tu Phan Dang (first and corresponding author), Nguyen Minh Tam, Thanh-Nam Huynh, Nguyen Tien Trung, *RSC Advances*, **2023**, 13, 31507.

   DOI: 10.1039/d3ra06078k

3. Formation of pyramidal structures through mixing gold and platinum atoms: the AuxPty2+ clusters with x + y = 10

   Bao-Ngan Nguyen-Ha, **Cam-Tu Phan Dang**, Long Van Duong, My Phuong Pham-Ho, Minh Tho Nguyen, Nguyen Minh Tam, *RSC Advances*, **2023**, 13, 32893.

   DOI: 10.1039/d3ra06000d

4. Complexes of carbon dioxide with methanol and its monohalogen-substituted: beyond the tetrel bond

   Cam-Tu Phan Dang (first and corresponding author), Nguyen Tien Trung, *Chemical Physics Letters*, **2022**, 809, 140158.

   DOI: https://doi.org/10.1016/j.cplett.2022.140158

5. Theoretical aspects of nonconventional hydrogen bonds in the complexes of aldehydes and hydrogen chalcogenides

   Nguyen Thi Thanh Cuc, **Cam-Tu Dang Phan**, Nguyen Thi Ai Nhung, Minh Tho Nguyen, Nguyen Tien Trung, and Vu Thi Ngan, *Journal of Physical Chemistry A*, **2021**, 125, 10291-10302.
   DOI: https://doi.org/10.1021/acs.jpca.1c06708

6. Growth pattern of doubly metal doped silicon clusters M_2Si_n with M_2 = Mo_2, Nb_2, Ta_2, W_2, NbMo, TaW and n = 11–18. Formation of fused cages M_2Si_{18}

   Hung Tan Pham, **Cam-Tu Phan Dang**, Long Van Duong, Phan Toai Tuyn, Minh Tho Nguyen, *Chemical Physics Letters*, **2022**, 787, 139229.
   DOI: https://doi.org/10.1016/j.cplett.2021.139229

7. The growth pattern, stability and properties of complexes of C_2H_5OH and nCO_2 (n = 1-5) molecules: a theoretical study

   Cam-Tu Dang Phan, Nguyen Thi Ai Nhung, Nguyen Tien Trung, *ACS Omega*, **2020**, 5, 24, 14408–14416.
   DOI: https://doi.org/10.1021/acsomega.0c00948

8. General trends in structure, stability and role of interactions in the complexes of acetone and thioacetone with carbon dioxide and water

   Phan Dang Cam-Tu, Vu Thi Ngan, Nguyen Tien Trung, *Chemical Physics*, **2020**, 530, 110580. DOI: https://doi.org/10.1016/j.chemphys.2019.110580

9. Remarkable mixture of germanium with phosphorus and arsenic atoms making stable pentagonal hetero-prisms $[M@Ge_5E_5]^+$, E = P, As and M = Fe, Ru, Os

   Hung Tan Pham, **Cam-Tu Dang Phan**, Minh Tho Nguyen, Nguyen Minh Tam, *RSC Advances*, **2020**, 10, 19781-19789. DOI: https://doi.org/10.1039/D0RA01316A

10. Nervione, a new benzofuran derivative from *Nervilia concolor*

Cong-Luan Tran, Mai Dinh Tri, Nguyen Tien-Trung, Nhat-Minh Phan, **Cam-Tu D. Phan**, Thanh-Nha Tran, Thanh-Hung Do, Nguyen-Minh-An Tran, Thi-Ngoc-Mai Tran, Thuc-Huy Duong, *Natural Product Research*, **2021**. DOI: 10.1080/14786419.2021.1920585

11. A new 26-norlanostane from Phlogacanthus turgidus growing in Vietnam
Mai Dinh Tri, Nguyen Tan Phat, Nguyen Tien Trung, **Cam-Tu D. Phan**, Phan Nhat Minh, Mai Thanh Chi, Thi-Phuong Nguyen, Chi Hien Dang, Luu Hong Truong, Nguyen Kim Tuyen Pham, Trần Thị Ngọc Mai, Thuc-Huy Duong. *Journal of Asian Natural Products Research*, 24(2), **2021**. https://doi.org/10.1080/10286020.2021.1913125

12. Rukamtenol, a new spiro compound isolated from Flacourtia rukam Zoll. & Moritzi growing in Vietnam
Cam Thi Thai, Thuc-Huy Duong, Nguyen Tien Trung, **Cam-Tu D. Phan**, Quoc Vuong Nguyen, Tuyen Le-Thanh Nguyen, Kazuki Watanabe, Tuoi Thi-Hong Do, Thuy Ngoc Huynh & Hung Tran, *Natural Product Research*, **2020**. DOI: 10.1080/14786419.2020.1839451

13. Ricicomin A, a new alkaloid from the leaves of Ricinus communis Linn
Nguyen Kim Tuyen Pham, Thi Thao Linh Tran, Thuc Huy Duong, Nguyen Tien Trung, **Dang Cam Tu Phan**, Dinh Tri Mai, Van Kieu Nguyen, Bui Linh Chi Huynh, Thi Anh Tuyet Nguyen, Trong Duc Tran, Thi Ngoc Mai Tran & Tan Phat Nguyen, *Natural Product Research*, **2020**.
DOI: https://doi.org/10.1080/14786419.2020.1839456

14. A new diterpenoid from the leaves of Phyllanthus acidus. Thuc-Huy Duong, Nguyen T. Trung, **Cam-Tu D. Phan**, Vu-Duy Nguyen, Hoang-Chuong Nguyen, Thi-Bich-Ngoc Dao, Dinh-Tri Mai, Nakorn Niamnont, Thi-Ngoc-Mai Tran, Jirapast Sichaem, *Natural Product Research*, **2020**.
DOI: 10.1080/14786419.2020.1789980

15. Atypical Lindenane-type Sesquiterpenes from Lindera myrrha. Van-Giau Vo, Thuc Huy Duong, Mehdi A. Beniddir, Nguyen T. Trung, **Cam-Tu D. Phan**, Van-Kieu Nguyen, Quynh-Loan Le, Hoang-Dung Nguyen, Pierre Le Pogam, *Molecules*, **2020**, 25(8), 1830.
DOI: https://doi.org/10.3390/molecules25081830

16. Transformation between hexagonal prism and anti-prism of the singly and doubly Cr-doped Ge_{12} germanium clusters
Hung Tan Pham, **Phan Dang Cam-Tu**, Nguyen Tien Trung, Vu Thi Ngan, *Journal of Physical Chemistry A*, **2019**, 123, 50, 10721-10729. DOI: https://doi.org/10.1021/acs.jpca.9b08052

17. Insights into the cooperativity between multiple interactions of dimethyl sulfoxide with carbon dioxide and water
Khanh Pham Ngoc, **Phan Dang Cam-Tu**, Dai Quoc Ho, Quan Van Vo, Vu Thi Ngan, Minh Tho Nguyen, Nguyen T. Trung, *Journal of Computational Chemistry*, **2019**, 40, 464-474.
DOI: https://doi.org/10.1002/jcc.25732

18. A Sesquiterpenoid Tropolone and 1,2,3,4-Tetrahydronaphthalene Derivatives from *Olax imbricata* Roots
Huong T. M. Nguyen, Nga T. Vo, Suong T. M. Huynh, Lien T. M. Do, Thammara Aree, Santi Tip-pyang, **Cam-Tu D. Phan**, Nguyen T. Trung, Phung K. P. Nguyen, *Fitoterapia*, 132, **2019**, 1-6.
DOI: https://doi.org/10.1016/j.fitote.2018.11.007

19. Antioxidant Motifs in Flavonoids: O-H versus C-H Bond Dissociation
Vo Van Quan, Pham Cam Nam, Nguyen Minh Thong, Nguyen Tien Trung, **Phan Dang Cam-Tu**, Adam Mechler, *ACS Omega*, **2019**, 4, 8935-8942.
DOI: https://doi.org/10.1021/acsomega.9b00677

20. Interaction of ethanethiol with carbon dioxide and water: structure, stability and cooperativity
Phan Dang Cam Tu, Le Minh Trong, Nguyen Le Tuan, Vu Thi Ngan, Nguyen Thi Ai Nhung, Nguyen Tien Trung, *Vietnam Journal of Chemistry*, **2018**, 56(6E2), 318-324.

21. A theoretical study on structure, stability and behavior of complexes containing CH_3OH, CO_2 and H_2O

Phan Dang Cam Tu, Nguyen Thi Duong, Nguyen Ngoc Tri, Nguyen Tien Trung, *Vietnam Journal of Chemistry*, **2018**, 56(6E2), 245-250.

22. A study on structure and property of two complexes involving platinum (II), eugenol and 8-hydroxyquinolinederivatives
Truong Thi Cam Mai, **Phan Dang Cam Tu**, Nguyen Thi Thanh Chi, Nguyen Tien Trung, *Vietnam Journal of Chemistry*, **2018**, 56(4), 445-451.

23. A theoretical study on chemical bonding and infrared spectra of Si_nM (M = Sc, Y; n=1–10) clusters
Phan Dang Cam Tu, Nguyen Quoc Cuong, Vu Thi Ngan, Duong Tuan Quang, Nguyen Tien Trung, *Journal of Science and Technology*, **2016**, 54(4), 517–525.

24. A comparative study on structure, stability and electronic properties of doped silicon clusters Si_nX (X = Sc, Ti; n= 1-10) by using quantum chemical method
Le Nguyen Ngoc Lan, **Phan Dang Cam Tu**, Vu Thi Ngan, Nguyen Tien Trung, *Journal of Science and Technology,* **2015**, 53(1A), 180–191.

Conferences

- **Asia Pacific Conference of Theoretical and Computational Chemistry APATCC-10**, 19 – 23 February 2023, Quy Nhon, Vietnam (**Poster presentation**)
- Vietnamese workshop: Computational Chemistry and Applications, 19th-20th July **2019**, Quy Nhon, Vietnam. (**Oral presentation**)
- The 2nd Taiwan-Thailand-Vietnam Workshop on Theoretical and Computational Chemistry, 17th-20th January **2019**, Pathum Thani (Bangkok), Thailand. (**Poster presentation**)
- Vietnamese workshop of science and technology: Inorganic chemistry, 2nd November **2018**, Hanoi, Vietnam

HONORS and AWARDS

- Very good student for academic years 2014-2015, 2015-2016
- Student of 5 merits of Quy Nhon University
- Annual Government scholarship for excellent students from 2013 to 2017
- Quantum chemistry scholarship for excellent student in scientific research, academic year 2013-2014, 2016-2017, 2017-2018
- Korea – Vietnam Friends Scholarship for the student who has strong will to study despite difficult situation in 2016
- Postgraduate Scholarship of Vingroup Innovation Foundation (VINIF), Vingroup Big Data Institute (VINBIGDATA), 2020
- **Seal of Excellence** awarded for the project proposal *"Understanding chemical recycling of solid plastic waste via theoretical approach"* of Dang Cam Tu Phan and Politecnico di Milano, under **the Horizon 2020's Marie Sklodowska-Curie actions**, call **H2020-MSCA-IF-2022**, delivered by the European Commission.
- **Marie Sklodowska-Curie Actions (MSCA) Postdoctoral Fellowship, call H2020-MSCA-IF-2023** for the project proposal *"Understanding chemical recycling of solid plastic waste via theoretical approach"* at Politecnico di Milano, the European Commission.

References

1. Assoc. Prof. Nguyen Tien Trung

Director, Department of Research Affairs and International Relations,

Laboratory of Computational Chemistry and Modelling,

Quy Nhon University, Vietnam

E-mail: nguyentientrung@qnu.edu.vn

2. Assoc. Prof. Vu Thi Ngan

Leader of Laboratory of Computational Chemistry and Modelling,

Department of Chemistry, Faculty of Science, Quy Nhon University, Vietnam

E-mail: vuthingan@qnu.edu.vn

3. Prof. Minh Tho Nguyen
Department of Chemistry, KU Leuven, Leuven, Belgium
E-mail: minh.nguyen@kuleuven.be