

TRINH PHAN-CANH, Pharm. MSc. BIT.

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EDUCATION -----**Ph.D. Candidate in Molecular Genetics & Immunology** Jan 2021 – Present

- Medical University of Vienna – Max Perutz Labs Vienna, Vienna Biocenter Campus
- Thesis: *Antifungal Multidrug Resistance and Virulence of Candida auris*
- Advisor: Prof. Dr. Karl Kuchler

M.Sc. in Pharmacy (Highest Distinction – Rector's Award) Sep 2017 – Sep 2019

- School of Pharmacy, University of Medicine and Pharmacy at Ho Chi Minh City (UMP)
- Thesis: *Morphology, chemical composition and antimicrobial activity of Dirinaria applanata*

B.Sc. in Information Technology (Rector's Award for Academic Excellence) Oct 2015 – Feb 2018

- Vietnam National University – Ho Chi Minh City (VNU-HCM)
- Focus: Management Information Systems (Distance Education Program)

National Pharmacist Degree (Rector's Award for Academic & Extracurricular Excellence) 2010 – 2015

- School of Pharmacy, University of Medicine and Pharmacy at Ho Chi Minh City (UMP)
- Thesis: *Fermentation conditions for Bacillus subtilis KP3 spores' production*

SELECTED AWARDS AND DISTINCTIONS -----

- **Bernd Rode Award** – ASEA-UNINET Junior Researcher Award (2024)
- **Youth Travel Award** – FEBS Advanced Lecture Course, France (2024)
- **ESCMID Research Grant** – Outstanding project in fungal pathogenesis (2023)
- **FEMS Travel Grant** – Candida and Candidiasis Meeting, Canada (2023)
- **Ernst Mach Grant** – PhD Fellowship, ASEA-UNINET (2021–2023)
- **Pilot International Research Grant** – TRAC Sweden-Vietnam (2019)
- **Dean's List, Master's Degree of Pharmacy** – UMP Vietnam (2019)
- **Youth Leaders Award** – Rector's Board, UMP Vietnam (2017–2019)
- **Homtamin Scholarship** – Korea United Pharm – Awarded for academic excellence (2015)
- **Daewoong Scholarship** – Daewoong Pharmaceutical – Awarded for academic excellence (2013)
- **First Prize – Scientific Research Contest: Seeking Elixir** – UMP (2012)

PUBLICATIONS-----

1. **Phan-Canh T**, Penninger P, Seiser S, et al, Elbe-Bürger A & Kuchler K. *The carbonic anhydrase Nce103 controls fungal fitness and skin tropism of Candida auris*. **In revision, Nature Microbiology**, 2025.
2. **Phan-Canh T**, Jenull S, Bitencourt, et al. & Kuchler K. *White-Brown switching controls phenotypic plasticity and virulence of Candida auris*. **Cell Reports**, 2025, 115976. <https://doi.org/10.1016/j.celrep.2025.115976>
3. **Phan-Canh T**, Nguyen MLD, Phuc-Loi L, et al. & Kuchler K. *Rapid in vitro evolution of flucytosine resistance in Candida auris*. **mSphere**, 2025. <https://doi.org/10.1128/msphere.00977-24>
4. **Phan-Canh T**, Bitencourt T & Kuchler K. *Gene dosage of PDR16 modulates azole susceptibility in Candida auris*. **Microbiology Spectrum**, 2025. <https://doi.org/10.1128/spectrum.02659-24>
5. **Phan-Canh T** & Kuchler K. *Do morphogenetic switching and intraspecies variation enhance virulence of Candida auris?* **PLOS Pathogens**, 2024. <https://doi.org/10.1371/journal.ppat.1012559> (**Featured on MicrobeTV Podcast:** https://www.youtube.com/watch?v=DcHq_R8JaQM&t=1752s)

6. **Phan-Canh T**, et al. & Kuchler K. *Targeting the cytochrome bc1 complex subunit Rip1 potentiates caspofungin activity in Candida auris*. **In preparation, 2025.**
7. **Phan-Canh T**, et al, Chauhan N & Kuchler K. *Antifungal resistance can emerge in Candida auris without drug selection pressure*. **In preparation, 2025.**
8. Tsymala I, Penninger P, Nogueira F, Jenull S, **Phan-Canh T**, et al. & Kuchler K. *Innate lymphoid cells integrate sensing and plasticity to control fungal infections*. **In revision, Cell Reports, 2025.**
9. Cerbu D, Seiser S, **Phan-Canh T**, et al, Kuchler K & Elbe-Bürger A. *Octenidine effectively reduces Candida auris colonisation on human skin*. **Scientific Reports, 2025.** <https://doi.org/10.1038/s41598-025-11914-x>
10. Kavaklıoğlu G, Podhornik A, Vcelkova T, Marjanovic M, Beck MA, **Phan-Canh T**, et al. *L1TD1 associates with ORF1p to promote LINE-1 retrotransposition*. **eLife, 2025.** <https://doi.org/10.7554/eLife.96850.3>
11. Penninger P, Brezovec H, Tsymala I, Teufel M, **Phan-Canh T**, et al. & Kuchler K. *HDAC1 fine-tunes Th17 polarization in fungal infections*. **Cell Reports, 2024.** <https://doi.org/10.1016/j.celrep.2024.114993>
12. Bitencourt T, Nogueira F, Jenull S, **Phan-Canh T**, et al. Kuchler K, Lion T. *Multimomics reveals interspecies interaction pathways between A. fumigatus and K. pneumoniae*. **Communications Biology, 2024.** <https://doi.org/10.1038/s42003-024-07145-x>
13. Seiser S, Arzani H, Ayub T, **Phan-Canh T**, et al. & Kuchler K, Elbe-Bürger A. *Human and mouse skin models to study Candida auris infection*. **Microbes and Infection, 2023.** <https://doi.org/10.1016/j.micinf.2023.105234>
14. Jenull S, Shivarathri R, Tsymala I, Penninger P, **Phan-Canh T**, et al. & Kuchler K. *Transcriptomics defines echinocandin resistance in Candida auris*. **mBio, 2022.** <https://doi.org/10.1128/mbio.00799-22>
15. Shivarathri R, Chauhan M, Mazumdar R, **Phan-Canh T**, et al. & Kuchler K & Chauhan N. *A proteomic approach for the quantification of post-translational protein lysine acetylation in Candida albicans*. In: *Candida species*. **Methods in Molecular Biology, 2022.** https://doi.org/10.1007/978-1-0716-2549-1_3

ABSTRACTS, POSTERS, AND PRESENTATIONS -----

- **Poster & Poster Slam** – *Annual YSA PhD Symposium*, Medical University of Vienna (2025)
- **Poster** – *Host-pathogen interactions and virulence in human fungal pathogens*, FEBS Advanced Lecture Course, France (2024)
- **Poster** – *Candida and Candidiasis*, Microbiology Society, Montreal, Canada (2023)
- **Oral** – *Immune Control of Tissue Homeostasis*, TissueHome Symposium, Vienna (2023)
- **Poster** – VBC PhD Symposium, Vienna Biocenter Campus (2022)
- **Oral** – *Scientific Seminar of Young Vietnamese Intellectuals*, Prague, Czech Republic (2022)
- **Poster** – *Host-pathogen interactions and virulence in human fungal pathogens*, FEBS Advanced Lecture Course, France (2022)

RESEARCH EXPERIENCE-----

PhD Candidate, Karl Kuchler Lab, Max Perutz Labs, Vienna Biocenter 2021–Present

- CRISPR-based genetic manipulation, multi-omics (WGS, RNA-seq, proteomics, lipidomics)
- Host-pathogen and interkingdom interactions (yeast, *in vitro*, *in vivo* models)
- Drug resistance, microbial immunology and fungal pathogenesis

Lecturer, School of Pharmacy, UMP, Vietnam 2016–2021

- Led antimicrobial discovery projects using Myxobacteria and Streptomyces
- Supervised undergraduates and coordinated the Mycology Laboratory

Pharmacist & System Administrator, Drug Interactions Checker (thongtinhuoc.com.vn) 2015–2017

- Built and maintained drug info database; led safety content review and UX

OTHER TECHNICAL SKILLS-----

- Programming & Data Analysis: Proficient in R; working knowledge of Python, Bash, SQL, and Nextflow
- Omics Analysis: WGS, RNA-seq, proteomics, lipidomics (design, processing, interpretation); basic knowledge of scRNA-seq and spatial transcriptomics
- Visualization: ggplot2, GraphPad Prism, FlowJo, Adobe Illustrator, Photoshop, InDesign...
- Languages: English (professional fluency), Vietnamese (native)

REVIEWING EXPERIENCE -----

Regular Reviewer for *ASM Microbiology Spectrum*, *Pathogens and Disease*, *Fungal Genetics and Biology*...

MENTORING & TEACHING -----

- Supervision and Mentorship of Students (Master's, Diploma, Internships)
Successfully supervised multiple students whose research projects received national awards:
 - **School research competition in Institute of Science and Technology Austria (ISTA)** 2023
Mentees: Maja Prettnner, and Katja Walter
 - **National Eureka Award research competition, Vietnam** 2019
Mentee: Duong Nguyen Phi Long
 - **Finding Elixir Competition at UMP, Vietnam** 2018
Mentees: Tran Quoc Vuong, Nguyen Xuan Loc, Nguyen Thi Loan
 - **Summer Research Program at UMP, Vietnam** 2017, 2018, 2019
Mentees: Vo Linh Tu, Pham Tran Kim Quyen, Tran Thi Thu Ha
- Developed curriculum and led student research groups at UMP 2016–2021

LEADERSHIP & OUTREACH-----

- Founder, **PhD Talk**: Seminar series for Vietnamese biologists in Austria - phdtalk.github.io 2021-2022
- President, Vietnamese Student Association in Austria 2022–2024
- Organizer of national and university science conferences 2020–2021
- Member, Executive Committee, Vietnamese Youth and Student Federation in Europe 2021–2024
- Editor, Pharmacy Brief News: A bilingual outreach publication 2020
- Founder, President, Pharmacy Soft Skill Club 2011–2015

REFERENCES-----

Karl Kuchler, PhD

Professor of Molecular Biology, Medical University of Vienna, Austria

Adelheid Elbe-Bürger, PhD

Associate Professor of Dermatology & Immunology, Medical University of Vienna, Austria

Neeraj Chauhan, PhD

Associate Professor, HMH Center for Discovery and Innovation, USA