

# CURRICULUM VITAE

## TRINH PHAN-CANH

### PhD Student at Medical University of Vienna

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I have been studying clinical fungal infections for 4 years in Vietnam before starting research in fungal pathogenesis and drug-resistance mechanisms in Vienna. My PhD project focuses on *Candida auris*, an emerging human fungal pathogen causing invasive infections in immunosuppressed patients with a high rate of pan-antifungal drug resistance. In addition to proteomics data, we have evidence that morphogenetic changes play a critical role in *C. auris* pathogenesis, during host-fungal interplay and antifungal drug stress. We hypothesize that phenotypic switching controls virulence traits to promote host colonization, immune evasion, and drug resistance in *Candida auris*. I apply integrated omics datasets (RNA-seq, ATAC-seq, proteomics, metabolomics) and tools of reverse genetics (targeted gene disruption, insertions of reporter genes) to (i) dissect dynamics of regulatory networks and chromatin alterations in morphogenetic switching, host-fungal interaction, and drug response; (ii) identify virulence factors and antifungal drug resistance genes. The long-term goal is discovering the major mechanisms of virulence and drug resistance of *C. auris* to develop better therapeutic strategies.

## EDUCATION

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| 1/2021 - Current | <b>PhD in Immunology</b><br>Medical University of Vienna<br>Project: <i>Candida auris</i> : virulence factors, morphogenesis and drug resistance of a sticky human fungal pathogen. Supervisor: Karl Kuchler                                    |
| 9/2017 - 9/2019  | <b>Master's Degree of Pharmacy (Field: Pharmaceutical technology and Pharmaceutics)</b><br>University of Medicine and Pharmacy at Ho Chi Minh City<br>GPA: 8.39/10, Thesis: 9.95/10, Ranking: 1/30  |
| 11/2015-2/2018   | <b>Bachelor of Information Technology (Distance education)</b><br>Vietnam National University - Ho Chi Minh City, University of Information Technology (VNU-HCM, UIT)<br>GPA: 8.14/10, Certificate of Excellent awarded by Dean of VNU-HCM, UIT |
| 9/2010-9/2015    | <b>University of Medicine and Pharmacy at Ho Chi Minh City</b><br>Degree of Pharmacy, GPA: 7.36/10, Thesis: 10/10   |

## WORKING AND RESEARCH EXPERIENCES

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| 3/2016-1/2021  | <b>Researcher and Lecturer</b><br><i>Faculty of Pharmacy, University of Medicine and Pharmacy at Ho Chi Minh City</i> <ul style="list-style-type: none"><li>▪ <b>Teaching</b> Microbiology, Molecular biology, and Pharmaceutical biotechnology for pharmacy students. Designing 4 laboratory courses for exchange students from Japan (2019), Korea (2018 and 2019), and Thailand (2019). Participating development of 9 e-learning courses of Microbiology and Parasitology Department. Constructing "Research skill course" (in 3 days) for pharmacy students at UMP from 2016 to 2020 (~70 students every year)</li><li>▪ <b>Research:</b> doing research in <b>antimicrobial drug screening</b> from herbs, lichen, Actinobacteria, Myxobacteria, and <b>epidemiology of Gram-negative bacteria and fungal infection</b></li><li>▪ <b>Management</b> of Mycology Laboratory, Department of Microbiology and Parasitology</li><li>▪ <b>Supervising</b> pharmacy students to conduct diploma thesis and undergraduate summer projects in Microbiology and Parasitology Department, which obtained 3 prizes in student research competitions hold by the UMP's Youth Union and the Ho Chi Minh City Youth Union</li></ul> |
| 5/2019-12/2020 | <b>Academic Affairs Specialist (Concurrent position)</b><br><i>Faculty of Pharmacy, University of Medicine and Pharmacy at Ho Chi Minh City</i> <ul style="list-style-type: none"><li>▪ Administration of E-learning Platform</li><li>▪ Involving in Educational Innovation Team, Course Coordination for Continuing Pharmacy Education, and Quality Assurance Activity of the University</li></ul>   |
| 10/2015-1/2017 | <b>thongtinhuoc.com.vn – Vietnamese Drug Interactions Checker</b><br>Adminstrating the website, introduce and compile usage manual of the system for healthcare professional, review drug information related to antibiotics and probiotics   |

## COMMUNITY WORK

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Founder and coordinator of Seminar series: "PhD Talk", a scientific seminar for Vietnamese students in Austria. <https://phdtalk.github.io> (2021-present); Member of executive committee of Vietnamese Youth and Student Federation in Europe (2021-present); co-founder and president of Pharmacy Skill Club (2011-2014);

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mentor of Pharmacy Academic Club (2017-2021); the secretary of the Youth Union at the Faculty of Pharmacy, UMP; coordinate extracurricular activities of pharmacy students (2500 members; 2019-2021)

## HONORS AND AWARDS

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2021-2023 11/2019	<b>Ernst Mach Grant – ASEA-UNINET for a PhD programme in Austria</b> <b>Consolation prize in Eureka Scientific Competition 21<sup>st</sup></b> <i>The most reliable and biggest student scientific competition in Vietnam</i> Guided a team to conduct a research in extraction and antimicrobial assay of compounds from tropical lichen. Trained experimental design, scientific reading, writing, and presentation skill
1/2019	<b>“Damar batu” essential oil: In vitro antimicrobial activities and perspectives</b> This seed fund was awarded by Training and Research Academic Collaboration (TRAC) Sweden - Vietnam. The TRAC seed funds 2019 granted all students, clinicians and junior scientists to carry out pilot studies (collect and/or analyse data) in Vietnam
2015	<b>Homtamin Scholarship</b> Awarded by Korea United Pharm Company for outstanding students in academy and social activities
2014	<b>Daewoong Scholarship</b> Awarded by Daewoong Pharmaceutical Company for outstanding students in academy
2012	<b>Champion - Scientific Research Contest - Seeking Elixir 3<sup>rd</sup></b> Won the champion in the student scientific research titled “Investigating the situation of antibiotic use and appropriate antibiotic use solutions in Ho Chi Minh City”

## PUBLICATIONS

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1. **Trinh, Phan-Canh\***, et al. 2020. “DPPH-scavenging and antimicrobial activities of Asteraceae medicinal plants on uropathogenic bacteria.” *Evidence-Based Complementary and Alternative Medicine* 2020: 7807026. Citation: 11. (\*Corresponding author).
2. **Trinh Phan-Canh**, et al.. 2020. “Identification of *Acinetobacter baumannii* and detection of  $\beta$  - lactam antibiotic resistance genes in clinical samples by multiplex PCR.” *bioRxiv*.
3. **Trinh, Phan Canh** and Duong Thi Thanh Mai. 2019. “Damar Batu essential oil: *In vitro* antimicrobial activities and perspectives.” *Research Report to The Training and Research Academic Collaboration (TRAC) – Sweden-Vietnam*. <https://tinyurl.com/y3qjo3ar>.
4. **Trinh, Phan Canh**, et al. 2019. “*Dirinaria applanata*: morphology, chemical composition and antimicrobial activity.” *Ho Chi Minh City Journal of Medicine* 23 (2): 47–54. <https://tinyurl.com/y99zn9l7>.
5. Loc, Nguyen Xuan, et al. and **Trinh, Phan Canh\***. 2019. “Isolation and screening antimicrobial activity of soil Actinobacteria.” *Pharmaceutical Journal* 59 (524): 45–49. <https://tinyurl.com/ya66pr4z>. (\*Corresponding author).
6. Yen, Nguyen Thi Ngoc, **Trinh, Phan Canh**, et al. 2019. “*In vitro* susceptibility testing of Dermatophytes isolated from Hospital of Dermatovenereology in Ho Chi Minh City to ketoconazole and terbinafine.” *Ho Chi Minh City Journal of Medicine* 23 (3): 55–60. <http://tinyurl.com/rqxzg9m>. (PCT and NTNY designed research experiments and wrote the manuscript; PCT analysed data and gave discussion).
7. Thao, Vu Thanh, **Trinh, Phan Canh**, et al. 2018. “Study on fermentation conditions for *Bacillus subtilis* KP3 spores production.” *Ho Chi Minh City Journal of Medicine* 22 (1): 453–59. <https://tinyurl.com/y8uebyma>. (PCT and VTT designed research experiments and analysed data; PCT performed experiments).
8. Nguyen Huu Dai, Ly Nguyen Hai Du, **Trinh, Phan Canh**, et al. 2020. “Synthesis and Evaluation of Antibacterial and Antifungal Activities of Some Hydrazone Derivatives of Chalcones.” *Ho Chi Minh City Journal of Medicine* 24 (2): 207–11. <https://tinyurl.com/yctbfjuc>. (PCT designed and performed antimicrobial assay and wrote a part of the manuscript).
9. Tran Ngoc Chau, Phung Bich Tuyen, **Trinh, Phan Canh**, et al. 2021. Synthesis and Anti-Staphylococcus aureus activity of 2-pyrazoline and 2-isoxazoline derivatives *Ho Chi Minh City Journal of Medicine* 25 (2): 48 – 55. <https://tinyurl.com/4dmhcs48>. (PCT designed and performed antimicrobial assay).

## OTHER SKILLS

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Basic skill in Python; experimental visualization with Adobe Photoshop and Adobe Illustrator; data analysis and visualization with R; Graphpad Prism; excellent in Microsoft Office, Endnote, Window, MacOS

## REFERENCE

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**Karl Kuchler**, PhD, Professor in Molecular Biology, Medical University of Vienna  
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