THUA-PHONG LAM

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Website | GitHub | Google Scholar

EDUCATION

Transcripts

Uppsala University, Uppsala, Sweden **2023 - On-going**

- **Master** of Pharmaceutical Science | **Major:** Pharmaceutical modeling
- **Principal subjects/skills covered:**
  - Preclinical and clinical data analysis
  - Bioinformatics and cheminformatics
  - Image and sequence analysis
  - Computational medicinal chemistry

University of Medicine and Pharmacy at Ho Chi Minh City, Ho Chi Minh City, Vietnam **2017 - 2022**

- **Bachelor** of Pharmacy | **Major:** Medicinal chemistry | Computer-aided drug design
- **GPA**: 3.59/4.00 (rank 2/368) – **Thesis**: 9.9/10 (rank 1)
- **Principal subjects/skills covered:**
  - Medicinal chemistry
  - Computer-aided drug design
  - Pharmacokinetics - Pharmacology
  - Pharmaceutics and biopharmaceuticals
- **Thesis:** In silico virtual screening and binding affinity evaluation of potential interleukin-33 inhibitors.

Additional courses – Selected: Training certificates

- **Deep Learning Specialization (DeepLearning.AI):** certified by Coursera (2024)
- **Data Scientist with Python:** certified by Datacamp (2023)
- **Machine Learning Specialization (Stanford University & DeepLearning.AI):** certified by Coursera (2023)
- **VinUni-Illinois Smart Health Center Workshop:** a fully funded program for 40 students across Vietnam about the applications of AI/ML in healthcare devices in VinUniversity campus, Hanoi, Vietnam (2022).

WORK EXPERIENCE

University of Medicine and Pharmacy at Ho Chi Minh City, Ho Chi Minh City, Vietnam

Research Assistant, Department of Medicinal Chemistry **05/2019 – 12/2023**

Advisors: MPharm. Tan Thanh Mai | Prof. Dr. Khac-Minh Thai

IL-33/ST2 inhibitors project (Ongoing): The project objective is to focus on applying *in-silico* approaches and *in-vitro* methods to discover the small molecule inhibitors of the Interleukin-33 (IL-33) / ST2 axis.

- Conducted different virtual screening stages including homology modeling, 3D-pharmacophore, molecular docking, molecular dynamics simulation, and binding free energy calculation.
- Applied conventional machine learning methods (Linear Regression, SVM, RandomForest, XGBoost) and deep learning techniques (MLP, GNN) to build a classification model for ST2 inhibitors.
- Applied advanced dynamics simulation methods (MixMD) to find putative binding sites on IL-33 and ST2.
- Designed and applied the *in-vitro* evaluation protocol using fluorescent spectroscopy.

Flavonoids as anti-α-glucosidase and α-amylase dual-target inhibitors (2022-2023): The project aims to evaluate the inhibitory activity of synthetic and natural flavonoids against anti-diabetic targets.

- Led a research group of seven pharmacy students to conduct a systematic review.
- Organized three consecutive seminars about the stages of a systematic review.
- Analyzed data and wrote manuscripts for publications.

Computational antiviral projects (2021-2022): The projects' goals were to evaluate the inhibitory activity of in-house chalcones and commercial drugs against emerging viral pandemics such as COVID-19 and Monkeypox.

- Conducted different virtual screening methods to evaluate the binding affinity of small molecules.
- Analyzed data and wrote manuscripts for publications.

Research Assistant, Department of Clinical Pharmacy **08/2022 – 02/2023**

Prediction of antibiotic resistance in hospitalized patients using machine learning algorithms from medical record data: The study aims to develop machine learning models to predict the susceptibility of bacteria against a set of empirical antibiotics used in current treatment guidelines. My main responsibilities included developing machine learning models using different resampling methods to handle the imbalanced dataset.

HONOURS AND AWARDS

- **Graduate Student Merit Award for Top-ranking graduates (2022):** awarded by the Vice president of UMP.
- **Certificate of outstanding contribution to the faculty's extracurricular activities (2022):** certificated by the Secretary of UMP's Youth Union.
- **UMP Scholarship for excellent students (2017-2022):** full tuition fee scholarship for the top 10% of best students (based on academic performance and extracurricular activities) for continuously 9 semesters.
- **Third prize in Summer Research Scholarship (2020):** a student scientific research program for 5 outstanding students.
- **OPC Scholarship (2020):** full tuition fee scholarship for 10 excellent students in the academy, awarded by OPC
- **Homtamin scholarship (2019):** for outstanding students in the academy and social activities, awarded by Korea United Pharm Company

PUBLICATIONS Selected articles

Full list of publications and conference attendances

1. **Lam T-P**, Tran N-VN, Pham L-HD, ... & Tran TD. (2024). Flavonoids as dual-target inhibitors against α-glucosidase and α-amylase: a systematic review of in vitro studies. *Nat. prod. bioprospect*. 14(4). [Link]
2. Mai TT, Phan MH, Thao TT, **Lam TP**, ... & Tran TD. (2023). Discovery of novel flavonoid derivatives as potential dual inhibitors against α-glucosidase and α-amylase: virtual screening, synthesis, and biological evaluation. *Mol. Divs*. [Link]
3. **Lam TP**, Tran VH, Mai TT, Lai NVT, Dang BTN., Le MT, ... & Thai KM. (2022). Identification of Diosmin and Flavin Adenine Dinucleotide as Repurposing Treatments for Monkeypox Virus: A Computational Study. *Int. J. Mol. Sci.*, *23*(19). [Link]
4. **Lam TP**, Nguyen DN, Mai TT, Tran TD, Le MT,... & Thai KM. (2022). Exploration of chalcones as 3-chymotrypsin-like protease (3CLpro) inhibitors of SARS-CoV-2 using computational approaches. *Struct. Chem.*, *33*(5). [Link]

SKILLS

Languages: Vietnamese, English (IELTS 7.5)

Technical skills:

- Proficient in using programming languages for data analysis and visualization (R and Python), product communication (R Markdown and Latex), and version control (Git).
- Narrative and systematic review using Rayyan.
- Highly skilled in different operating systems: Unix (Mac OS, Linux), Windows
- Technical writing and reference organizing using Endnote and Zotero.
- Proficient in different molecular modeling techniques (pharmacophore, molecular docking, molecular dynamics simulation, homology modeling).
- QSPR/QSAR modeling using Rdkit, Sci-kit Learn, TensorFlow, and PyTorch.
- Analytical techniques (spectroscopy, titration), in-vitro experiments (enzyme-based assay)

Leadership skills:

- Good communication skills gained through five years of working in the faculty's academic club and two years working in the faculty's student association.
- Good organizational skills gained through organizing at least 14 research-oriented seminars and 6 student scientific research programs for young pharmacy students.
- Leadership (worked as the academic club president supervising 30 members for 2 years)
- Mentoring (mentored two junior research groups participating in student research programs in 2022)

SOCIAL ACTIVITIES

2023: Contributor of Sweden Mentor, an AI chatbot based on a large language model to provide information about life in Sweden for new students.

2019 – 2021: Member of the committee of the Faculty's Student Association

2017 - 2022: Member/President/Mentor of Pharmacy Academic Club

REFERENCES

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