Hoang LE-TAN, Dipl.-Ing. Dr.nat.techn.

Date of birth: 01/07/1992

Sex: Male

CONTACT

A2.1.07, NOI Techpark, Via Alessandro Volta, 13A, 39100 Bolzano BZ, Italy
39100 Bolzano, Italy **(Work)**

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WORK EXPERIENCE

01/05/2023 – CURRENT Bolzano, Italy

Researcher Free University of Bozen-Bolzano

Main activities and responsibilities:

- **Leading research projects** focused on bioactive compound extraction, particularly curcumin and turmeric phenols, using Supercritical Fluid Extraction (SFE) and other advanced techniques to enhance antioxidant stability and performance.
- **Spearheading interdisciplinary collaborations** with colleagues across various fields, applying cell disintegration techniques and emulsification processes to enhance bioavailability and application of plant-based antioxidants.
- **Designing and executing experiments** in the field of natural product discovery and bioactivity, specializing in nanoencapsulation, spray-drying, and advanced formulation techniques to stabilize oils and active ingredients for food and pharmaceutical applications.
- **Utilizing analytical techniques** such as High-Performance Liquid Chromatography-Mass Spectrometry (HPLC-MS) to quantify and analyze bioactive compounds, and Differential Scanning Calorimetry (DSC) to study the thermal properties of microencapsulated oils and active ingredients.
- **Publishing high-impact research** in peer-reviewed journals, with a focus on the synergistic effects of curcuminoids and phenolic compounds in oxidative stability and free radical scavenging activity.
- **Mentoring and supervising** graduate students, guiding them in the development of their theses and research projects, particularly in advanced extraction methods, bioactive compound stability testing, and product development in functional foods.
- **Engaging in advanced microscopy techniques** (SEM, TEM) to study plant structures and microencapsulated ingredients for potential industrial applications.
- **Contributing to interdisciplinary research projects** within the university and with external partners, exploring innovations in bioactive compound recovery, antioxidant activity assessment, and food-grade material development.

01/10/2019 – 30/08/2022 Vienna, Austria

PhD Student Institute of Food Technology, University of Natural Resources and Life Sciences, Vienna

- **Research Focus:** Investigated the impact of various cell disintegration techniques, such as Pulsed Electric Field (PEF), Ohmic Heating, Supercritical Fluid Extraction (SFE), High-Pressure Processing (HPP), enzymatic, and ultrasound pre-treatment to enhance curcuminoid recovery from *Curcuma longa*. Evaluated the efficiency of these methods in improving extraction yield and bioavailability of curcuminoids.
- **Methodology Development:** Developed and optimized extraction and formulation techniques to study the synergistic effects of plant-based components on curcuminoid emulsion stability, ensuring enhanced bioactive compound retention.
- **Publication Contributions:** Co-authored and published peer-reviewed articles in prominent journals, contributing novel findings on advanced extraction methods and curcuminoid stability under various pre-treatment conditions.
- **Analytical Techniques:** Employed advanced analytical tools, including Scanning Electron Microscopy (SEM) and High-Performance Liquid Chromatography (HPLC), to characterize the morphology of treated samples and quantify curcuminoid concentrations.
- **Presentation and Communication:** Presented research outcomes at international conferences and academic forums, actively contributing

to discussions on innovative extraction technologies and bioactive compound stabilization.
- **Supervision:** Mentored and supervised undergraduate and master's students in experimental design, laboratory techniques, and data interpretation, guiding them in the completion of their theses.

01/07/2017 – 30/09/2019 Ho Chi Minh City, Vietnam

Lecturer and researcher University of Technology and Education

- **Teaching:** Delivered lectures and practical sessions in Food Technology with a focus on food microencapsulation techniques, food chemistry, and biopolymer applications. Topics included spray-drying, emulsification, and protein-carbohydrate interactions.
- **Curriculum Development:** Developed advanced-level curriculum for Food Science and Technology courses, integrating practical applications of whey protein and carbohydrate in food microencapsulation, particularly for the preservation of sensitive oils such as pumpkin seed oil.
- **Supervision:** Supervised and mentored master's students on research projects related to food encapsulation, emulsions, and stability, including the optimization of protein-carbohydrate matrices for microencapsulation processes. Guided students on thesis projects that culminated in publications and conference presentations.
- **Research:** Conducted research on the application of spray-drying for microencapsulation, focusing on enhancing the stability of pumpkin seed oil through combinations of whey protein and carbohydrates. Also led projects on encapsulating oils with various protein sources like sodium caseinate and soy lecithin for improved oil retention and shelf stability.
- **Grant Writing:** Contributed to successful grant applications to fund research on food technology and product development, focusing on the practical applications of spray-drying and emulsification for food ingredient stability.

EDUCATION AND TRAINING

10/2019 – 30/08/2022 Vienna, Austria

Doctor of Science University of Natural Resources and Life Sciences, Vienna

01/05/2015 – 01/11/2016 Ho Chi Minh City, Vietnam

Master of Engineering HCMC University of Technology - Ho Chi Minh City

Address 700000, Ho Chi Minh City, Vietnam

01/10/2010 – 01/01/2015 Ho Chi Minh City, Vietnam

Bachelor of Engineering HCMC University of Technology - Ho Chi Minh City

Address 1 Vo Van Ngan, Linh Chieu, Thu Duc, 70000, Ho Chi Minh City, Vietnam

01/02/2019 – 01/06/2019 Bangkok, Thailand

Exchange Researcher King Mongkut's University of Technology Thonburi

01/01/2019 – 01/02/2019 Manila, Philippines

The International Training Course De La Salle University

01/06/2018 – 01/07/2019 Bangkok, Thailand

The International Training Course King Mongkut's University of Technology Thonburi

01/11/2017 – 01/12/2017 Arizona, United States

Master Teacher Training - BUILD-IT

LANGUAGE SKILLS

Other language(s):

English

Listening	C1
Spoken production	C1
Reading	C1
Spoken interaction	C1
Writing	C1

German

Listening	B1
Spoken production	A2
Reading	B1
Spoken interaction	A2
Writing	A2

Italian

Listening	A1
Spoken production	A1
Reading	A1
Spoken interaction	A1
Writing	A1

Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user