# Tuan-Dung NGO (29 years old)

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Nationality: Vietnamese

# PhD in Biochemistry and **Microbiology**

# **Competences**

# Techniques

- Biochemistry: Protein purification, SEC-MALLS, CD; HPLC and Mass spectrometry analysis; Protein-ligand interaction, ELISA, HTRF, Microscale thermophoresis (MST).
- Cellular biology and host-pathogen interaction: Cellular culture, Classic fluorescence microscopy and automated microscopy (high-content screening and analysis), Image analysis, Fluorimetry, LDH and MTT assays.
- Molecular biology: Cloning, quick change mutagenesis, transformation, PCR, sequencing

#### **Informatics**

- Basic: Windows, Microsoft office, Inkscape, GIMP, ImageJ, Image Lab and SnapGene
- Programing and data analysis: R, Rcpp and PHP
- Other: MySQL, HTML, CSS, WordPress, R Markdown and Git control version

**Language** Vietnamese: Native French and English: Advanced level (reading, writing and speaking)

# Working experiences

# 12/2019 - now (1 year)

#### Post-doc: CBO team, CERMAV laboratory (UPR 5301), St Martin d'Hères, France **Missions:**

- Definition of a potential method in glycoprotein synthesis for new therapeutic protein development **Used techniques:**
- Molecular biology, recombinant enzyme production, biochemical activity.
- Analytical chemistry: CCM, HPLC, Mass Spectrometry
- Data analysis: Excel and R language.

# 12/2015-02/2019

# PhD student: PBRC team (ERL 5261), BCI laboratory (UMR 1036), IRIG, Grenoble, France **Missions:**

# (39 months)

- Study the functioning of the Type III secretion system (T3SS) ATPase PscN in Pseudomona aeruginosa.
- Identify and characterize chemical compounds inhibiting the interaction of T3SS proteins.
- Test the efficacy of chemical compounds on the protection of eukaryotic cells against infection by P. aeruginosa.

#### **Used techniques:**

- Molecular biology, biochemistry and protein purification.
- Cellular biology, interaction of host-pathogen and automated fluorescence microscopy.
- Data analysis: Excel and R language.

#### 2015 (6 months)

# Engineer trainee: PBRC team, BCI lab, IRIG, Grenoble, France (Final internship) **Mission:**

• Study the role of the T3SS ATPase in *P. aeruginosa*.

#### **Used techniques:**

• Molecular biology, Protein expression and purification.

#### 2014 (3 months)

#### Engineer trainee: LGCIE lab, Insa de Lyon, France (Internship of 4 years engineer student) **Mission:**

• Evaluate the performance of the UV disinfection reactor / H<sub>2</sub>O<sub>2</sub> for the treatment of water.

#### **Used techniques:**

Bacterial viability assays, bacterial culture, fluorescence microscopy and HPLC

#### 2013 (3 months)

#### Trainee: Genetic engineering laboratory, Institute of Biotechnology, Hanoi, Vietnam **Mission:**

- Study glucosidase genes founded in the gut flora of termite
- Identify new enzyme for the degradation of agricultural residues

#### **Used techniques:**

DNA cloning, recombinant protein expression and purification

#### Education – Diplomas

2015 - 2018 PhD in microbiology graduated at Doctoral school of Chemistry and Life Sciences of Grenoble.

2010 - 2015

Engineer in Biochemistry and Biotechnology graduated at "Institut National de Science Appliquée (INSA)" in Lyon.

# Hobby et activities

Hobby

Sport: Football, Volley-ball, Tennis

Film et cinema

Activities

- Moderator (chairman) of young researcher meetings at IRIG institute at CEA-Grenoble
- Member de « Innovdoc », expertise of PhD student in the service of companies. https://www.innovdoc.org
- Personal website: https://qcjun2191.github.io/index.html.

# **Supplementary information**

#### **Publications**

Submitted 2020

Tuan-Dung Ngo., Caroline Perdu., Bakhos Jneid., Michel Ragno., Julia Novion Ducassou., Alexandra Kraut., Yohann Couté., Charles Stopford., Ina Attree., Arne Rietsch., and Eric Faudry. "The gate-keeper PopN complex acts on the ATPase PscN to regulate the T3SS secretion switch from early to middle substrates in Pseudomonas aeruginosa" doi.org/10.1101/2020.07.28.224923

Submitted 2020

Oriane Moyne., Florence Castelli., Dominique J. Bicout., Julien Boccard., Boubou Camara., Benoit Cournoyer., Eric Faudry., Samuel Terrier., Dalil Hannani., Sarah Huot-Marchand., Claire Léger., Max Maurin., Tuan-Dung Ngo., Caroline Plazy., Robert A. Quinn., François Fenaille., Bertrand Toussaint and Audrey Le Gouëllec. "Metabotypes of Pseudomonas aeruginosa correlate with antibiotic resistance, virulence and clinical outcome in Cystic Fibrosis chronic infections"

September 2019 Tuan-Dung Ngo., Sophie Plé., Aline Thomas., Caroline Barette., Antoine Fortuné., Younes Bouzidi., Marie-Odile Fauvarque., Rossimiriam Pereira de Freitas., Flaviane Francisco Hilário., Ina Attrée., Yung-Sing Wong., and Eric Faudry. (2019). "Chimeric protein-protein interface inhibitors allow efficient inhibition of Type III secretion machinery and Pseudomonas aeruginosa virulence". ACS Infect. Dis. DOI: 10.1021/acsinfecdis.9b00154

#### **Communications**

November **Oral communication** in the conference of SFM (Société Française Microbiologie), in Paris. 2018

**February** 2018 Poster communication in the 19th conference of VLM (Vaincre la Mucoviscidose) association, in Paris.

December 2017

Oral communication in the conference of G-RREMI (groupe Régional de Recherche en Microbiologie des Interactions), in Lyon.

**February** 2017

Oral communication and Poster communication in the « European Young Investigators Meeting 2017 on Cystic Fibrosis », in Paris.

**February** 2017 Poster communication in the 18<sup>th</sup> conference of VLM (Vaincre la Mucoviscidose) association, in Paris.

April 2016

**Poster communication** in the « Type III Secretion System Meeting 2016 », Tubingen, Germany.

February 2016

**Poster communication** in the 17<sup>th</sup> conference of VLM (Vaincre la Mucoviscidose) association, in Paris.

# Personal qualities

*Humanise* Rigorous, persevering, autonomous

**Skill** Spirit of analysis and synthesis

# References

CBO team, CERMAV laboratoire (UPR 5301), St Martin d'Hères

- Dr. Sébastien FORT. E-mail : <u>sebastien.fort@cermav.cnrs.fr</u>
- Dr. Sylvie ARMAND. E-mail: <u>sylvie.armand@cermav.cnrs.fr</u>

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- Dr. Eric FAUDRY. E-mail: <u>eric.faudry@cea.fr</u>
- Dr. Ina ATTREE-DELIC. E-mail: <u>ina.attree-delic@cea.fr</u>

« Département de Pharmaco-chimie moléculaire, UGA, Grenoble »

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