



## ERASMUS+ TRAINEESHIP FORM

Profile of the Host Department /Service at CUT:

**Environmental Engineering Laboratory at the Department of Environmental Science and Technology:**

**Department of Environmental Science and Technology:** Both the environment and science/technology have attracted attention in recent years as themes addressing major needs of the industry and the society as a whole. The goal of the undergraduate programme of the Department of Environmental Science and Technology is to educate students in a combination of life and environmental sciences and technology to meet the worldwide needs in this area. The main feature of the program, which is unique in Cyprus, is its educational structure in which the Department's faculty work together to teach a variety of topics in the field of Environmental Science and Technology. After complementing lectures with practical education, students are assigned to laboratories in diverse fields during their senior year while undertaking research for their degree. The establishment of an internationally recognised Department in the field of Environmental Science and Technology which provides high quality education and performs innovative basic and applied research and which is able to attract and retain outstanding students and faculty.

**Laboratory of Environmental Engineering** <https://www.cut.ac.cy/est/staff/ioannis.vyrides/?languageId=2> : Environmental Engineering laboratory (group leader Assistant Professor Ioannis Vyrides) focuses on anaerobic digestion process and the utilisation of the end products from anaerobic digestion such as biogas, sludge and anaerobic effluent.

More specifically his research focuses on the following:

**A) Anaerobic digestion process**

- Addition compatible solutes to AD for rapid adaptation to environmental stress
- Bioaugmentation of isolated strain in Submerged Anaerobic Membrane Bioreactor and UASB
- The effect of Direct interspecies electron transfer (DIET) via conductive materials in anaerobic digestion
- *Hydrogenotrophic methanogens* in anaerobic digestion for high methane composition
- Anaerobic treatment of recalcitrant wastewater (e.g. bilge wastewater)
- Potential of biogas production and high value added product recovery from agriculture waste and domestic waste (e.g. pig waste, seaweed, coffee waste)

**B) Extraction of high value added products (metals) from anaerobic digester sludge**

Microbial Phosphorous extraction and recovery from sludge

**C) Conversion of biogas and/ or natural gas to liquid fuels or high added value products using *methanotrophs*.**

**D) Treatment and recovery of nutrients from anaerobic effluent**

The Laboratory of Environmental Engineering owns a culture collection that it contains isolated microbial strains from environmental samples that they can be used at various biological processes

**Main Responsibilities**

Please provide a short Description of the main responsibilities of the trainee:

The trainee will be collaborate with Dr Vyrides and his group in one of the following laboratory research projects:

Addition of compatible solutes for rapid adaptation to environmental stress

The effect of Direct interspecies electron transfer (DIET) via conductive materials in anaerobic digestion

Anaerobic treatment of recalcitrant wastewater (e.g. bilge wastewater)

Potential of biogas production and high value added product recovery from agriculture waste and domestic waste (e.g. pig waste, seaweed, coffee waste)

Isolation of extremophiles methanogens and bioaugmentation of these to bioreactors

Extraction of high value added products (metals) from anaerobic digester sludge

Microbial Phosphorous extraction and recovery from sludge

Conversion of biogas and/ or natural gas to liquid fuels or high added value products using methanotrophs.

Potential of biogas production and high value added product recovery from agriculture waste and domestic waste (e.g. dairy, pig, seaweed, coffee waste)

Oil biodesulfurization using isolated microorganisms

The trainee need to send a weekly report regarding its laboratory progress – also every 3-4 weeks will present its progress/results during the laboratory group meeting

**Knowledge, skills and competences to be acquired by the trainee at the end of the traineeship**

Please provide a short Description:

The following Knowledge, skills will be acquired by the trainee at the end of the traineeship:

Laboratory experience in anaerobic digestion process and/or methanotrophs process

Laboratory experience in environmental analytical techniques

Laboratory experience in isolation and identification of methanogens and anaerobic bacteria

Presentation skills

Report writing

Critical evaluation of laboratory results

**Responsible Contact Person/Mentor throughout the Traineeship Period:**

Please provide the name and email address of the responsible contact person mentor/ throughout the traineeship period:

Assistant Professor Ioannis Vyrides

Email: [ioannis.vyrides@cut.ac.cy](mailto:ioannis.vyrides@cut.ac.cy)

<https://www.cut.ac.cy/est/staff/ioannis.vyrides?languageId=2>

Tel: 00357-25002218

**Working Hours**

38 hours/week- 5 days a week

**Provisional Start date and End date ( dates are subject to approval by the Sending Institution)**

Start Date: Anytime

End Date: No limits

**Required Qualifications**

**Desired Level of Studies** (Please choose-multiple choices are possible)

Undergraduate     Post-graduate     Doctoral     Recent Graduate     No preference

2 students can be accepted at Environmental Engineering laboratory - preference at least one to be a post graduate student

**Linguistic Skills** (Please refer to the desired linguistic skills, e.g. Fluency in English both oral and written and/or other languages)

*Good knowledge of English both oral and written*

**Academic and Other Qualifications** *(Please refer to the desired academic qualifications)*

*Example follows:*

***Educated to at least undergraduate level at Engineering degree or Biology or Chemistry***

***Strong attention to detail***

***Ability to meet deadlines***

***Ability to multitask and change priorities with minimum supervision;***

***High level of communication and interpersonal skills and the ability to adopt to a multicultural /multinational environment;***

***High level of organizational, analytical and problem-solving skills.***

**Application Procedure and Deadline**

If all of the above sounds exactly like you then send us your CV and a brief cover note explaining:

1. Why you would like to have an Erasmus+ traineeship period at CUT.
2. Why you feel you would be ideal for the role.

Email us at [incoming@cut.ac.cy](mailto:incoming@cut.ac.cy) with Subject Title: ERASMUS+ traineeship@CUT

Deadline: ( to be filled by the Erasmus Office)