



The EU Aquaponics Hub is a four year networking Action that unites a heterogeneous group of scientists, researchers and SMEs from across the EU and around the globe to better understand the state of knowledge in aquaponics in Europe and around the world and to facilitate innovation and education in this field of sustainable fish and vegetal food production.

Training School 3

Commercial Aquaponics: How to develop a business opportunity

9 – 12 September 2015
University of Iceland

Background

Aquaponics is an emerging method of local food production in the EU and worldwide, using closed integrated production systems to grow vegetables and fish at large and small scales of production and in urban contexts. The EU Aquaponics Hub aims to lead the research agenda through the creation of a networking group of expert researchers, industry scientists, engineers, economists, aquaculturists and horticulturalists, and contribute to the training of young aquaponic scientists. Despite the recent growth and interest in aquaponics, considerable efforts are still required in order to understand and optimise the science of combining aquaponic fish production with vegetal production. However, several European SMEs are already aiming for commercial aquaponics based on their experience and test results so far.

This training school will consist of a number of lectures and practical classes on the principles of business models for aquaponics. Participants will be introduced to the current state-of-the-art in aquaponics, commercial systems in the USA and commercial systems being established in Europe. Topics will include basics in economics and economic models and methodologies to develop business plans for aquaponics based on different assumptions. Aquaponics business challenges will be introduced and the class will work on their own business cases, either in groups or individually. Moreover, sustainability aspects will be discussed as well as how a circular economy can be applied in business cases. Large vs small-scale aquaponic systems and high tech vs low tech aquaponics will be compared, and the concept urban aquaponics will be introduced.

All trainees will be asked to present potential aquaponics business cases to be discussed in the group. These cases will form the basis for the development of business plans. Round table discussions will facilitate dialogue on a number of key topics and will provide a platform for the exchange of information pertinent to the trainees' research interests. These debates will generate a series of key points that will help to define issues and topics for future innovation.

The training school will be delivered by Dr. Ragnheidur Thorarinsdottir, Adjunct Associate Professor at the University of Iceland (www.hi.is) and Manager of Svinna-verkfraedi Ltd (www.svinna.is), Dr. Paul Kledal, Manager of the Institute of Global Food and Farming in Denmark (www.igff.dk), Dr. Mitja Kopina, Project Manager at Gnezdo d.o.o. and Ponika in Slovenia (www.ponnod.com), and Dr. Kristin Vala Ragnarsdottir, Professor at the University of Iceland.

The lectures and practical classes will be mainly conducted at the ecovillage of Solheimar, located in South Iceland close to the aquaponics pilot unit at Akur in Laugaras (www.aquaponics.is) developed and built by Svinna in collaboration with the University of Iceland. The programme also includes visits to greenhouses and an introduction to renewable energy (hydro power and geothermal).

Provisional programme

Tuesday 8 September

Trainees arrive in Iceland. Transport to Solheimar (www.solheimar.is) in South Iceland. The bus will depart from the bus terminal BSI, Vatnsmyrarvegí 10 in Reykjavík at 19:00.

Wednesday 9 September

- 08:00-09:00 Breakfast
- 09:00-09:30 Registration
- 09:30-10:30 Welcome and introduction to the training programme. Dr. Ragnheidur Thorarinsdottir, Adjunct Associate Professor, Local Organizer
The trainers and trainees will present themselves, their background and their research interests
- 10:30-10:45 Coffee break
- 10:45-12:00 Presentation of potential aquaponics business cases by trainees – 5 minutes each
- 12:00-13:00 Lunch
- 13:00-14:00 Lecture: Methodologies – how the cases will be used for development of business plans. Dr. Paul Kledal and Dr. Mitja Kopina
- 14:00-15:00 Lecture: Review of current state-of-the-art in aquaponics, commercial systems in the USA and commercial systems being established in Europe. Dr. Ragnheidur Thorarinsdottir
- 15:00-15:30 Coffee break
- 15:30-16:30 Welcome and introduction to the ecovillage by the Director of Solheimar
- 16:30-18:30 Work group discussions – selection of groups and business cases
- 19:00 Dinner

Thursday 10 September

- 08:00-09:00 Breakfast
- 09:00-13:00 Visit to the Svinna aquaponics pilot unit at Akur. Karolina Gunnarsdottir and Thordur G. Halldorsson will welcome the group. Introduction to future development plans – Lunch at Akur
- 13:00-14:00 Lecture: Aquaponics business challenges and possibilities. Dr. Ragnheidur Thorarinsdottir and Dr. Paul Kledal
- 14:00-15:00 Lecture: Business models and techniques. Dr. Mitja Kopina
- 15:00-17:00 Work group – using models / techniques for developing business cases
- 17:00-18:00 Summary of the day – added value opportunities
- 19:00 Dinner

Friday 11 September

08:00-09:00	Breakfast
09:00-13:00	Field trip to Gullfoss and Geysir – local solutions for renewable energy (hydro power and geothermal energy) – Visit to Fridheimar (www.fridheimar.is) and lunch
13:00-14.30	Lecture: Sustainability and the circular economy. Prof. Kristin Vala Ragnarsdottir
14:30-15:00	Coffee break
15:00-16:30	Lecture: Economics – contracts. Dr. Mitja Kopina and Dr. Paul Kledal
16:30-18:30	Working groups: Wrapping up business cases
19:00	Dinner

Saturday 12 September

08:00-09:00	Breakfast
09:00-12:00	Presentation of business cases – feedback and discussions
12:00-13:00	Lunch
13:00-14:00	Review of the Training School
14:00-18:00	Field trip to the Agricultural University, a geothermal site, Reykjavik Energy and a swimming pool – REMEMBER TO BRING YOUR SWIMSUITS!
18:00	Arrival in Reykjavik

Saturday 12 September/Sunday 13 September

Trainees depart

Eligibility

Applicants must be resident in a COST country: Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Latvia, Lithuania, Luxembourg, Malta, The Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom and the former Yugoslav Republic of Macedonia. The nationality of the applicant is not a bar to eligibility. Preference will be given to postgraduate students and postdoctoral researchers.

Financial support

COST Action FA1305 is offering 15 places on the training school on a competitive basis. Successful applicants will be offered a maximum grant of €1120 as a contribution towards the costs of travel, accommodation and meals. The exact award offered will depend on the cost of travel as this differs considerably across eligible countries. Please note that the grant will be paid by bank-to-bank transfer **after** the course has been completed.

Logistics

Trainees will be responsible for making their own travel arrangements and for providing adequate insurance cover (personal, travel and medical) for the whole duration of the training course and travel period. Bus transport to Solheimar will cost around €40 (return ticket).

Accommodation has been booked at the Solheimar ecovillage at a cost of €120 per night full board (breakfast, lunch and dinner) for four nights (September 8, 9, 10 and 11). Trainees must pay for their own rooms upon arrival. Trainees are also responsible for arranging their own accommodation in Reykjavik.

How to apply

Send a letter of application stating your reasons for wanting to take part in this Training School to Ragnheidur Thorarinsdottir (rith@hi.is) and Sarah Milliken (S.Milliken@greenwich.ac.uk) by **Wednesday 12 August 2015**. The letter should be accompanied by a 1-2 page CV which should include your personal details, education background, current university address (if applicable), training/work experience, publications (if applicable), email address and Skype name.