AGRICULTURAL UNIVERSITY OF ATHENS

COST-Action Urban Agriculture Europe

EUROPEAN COOPERATION IN SCIENCE AND TECHNOLOGY

# COST-Action Urban Agriculture Europe

## Attica Training School

### 3-6 November 2015

### Agricultural University of Athens

## *Scientific Report – Short Version and Photos*

ΓΕΩΠΟΝΙΚΟ ΠΑΝΕΠΙΣΤΗΜΙΟ ΑΘΗΝΩΝ
AGRICULTURAL UNIVERSITY OF ATHENS

**Report**

The Attica Training School was held at the Agricultural University of Athens (AUA), from 3rd to 6th of November 2015. It was organized by Professor Gerassimos Arapis, Director of the Laboratory of Ecology and Environmental Science.

**1. The Agricultural University of Athens (photo by Attila Toth)**

The main subjects of the Training School were:
a. Enhancing Biodiversity
b. Control Climate Change (by efficient energy use)
c. Increase Green Infrastructure

The call was open for researchers, students and practioners from inside and outside COST Action Urban Agriculture Europe. Twenty three trainees, six trainers outside Agriculture University of Athens (two outside Greece) and ten trainers from AUA, representing eight European countries participated in the Training School.
It is worth to say that the participants came from different scientific backgrounds, giving to the organization pluralism and the advantage of exchange views and experiences.

## List of Invited Trainers (outside AUA)

1. **Thomas Nehls**
   *Soil Science – Urban Green, Dept. of Soil Conservation, Berlin Technical University, Germany*
   (Thematic Area II: Promoting Urban Agriculture as a climate change regulator)
2. **Matjaz Glavan**
   *Biotechnical faculty, Dept. of Agronomy, University of Ljubljana, Slovenia*
   (Thematic Area III: Agriculture as a green and social infrastructure)
3. **Maria Partalidou**
   *Dept. of Agricultural Economics, Faculty of Agriculture, Aristotle University of Thessaloniki- Greece*
   (Thematic Area III: Urban Agriculture as a green and social infrastructure)
4. **Kostas Tsiambaos**
   *National Technical University of Athens, Faculty of Architectural Engineering – Greece*
   (Thematic Area III: Urban Agriculture as a green and social infrastructure)
5. **Sofia Nikolaidou**
   *Panteion University of Social and Political Sciences, Athens, Greece*
   (Thematic Area III: Urban Agriculture as a green and social infrastructure)
6. **Evi Stathopoulou**
   *Independent Agro-Environmental Consultant, Athens, Greece*
   (Thematic Area I: Urban agriculture promoting biodiversity and ecosystem services)

## List of Internal Trainers from the Agricultural University of Athens

1. **Gerassimos Arapis**
   *Laboratory of Ecology and Environmental Sciences, Faculty of Crop Science*
   (Thematic Area I: Urban agriculture promoting biodiversity and ecosystem services)
2. **Penelope Bebeli**
   *Laboratory of Plant Breeding and Biometry, Faculty of Crop Science*
   (Thematic Area I: Urban agriculture promoting biodiversity and ecosystem services)

**3. Roikos Thanopoulos**

*Laboratory of Plant Breeding and Biometry, Faculty of Crop Science*

(Thematic Area I: Urban agriculture promoting biodiversity and ecosystem services)

**4. Garifalia Economou**

*Laboratory of Agronomy, Faculty of Crop Science*

(Thematic Area I: Urban agriculture promoting biodiversity and ecosystem services)

**5. Stavros Vemmos**

*Laboratory of Pomology, Faculty of Crop Science*

(Thematic Area I: Urban agriculture promoting biodiversity and ecosystem services)

**6. Maria Papafotiou**

*Laboratory of Floriculture & Landscape Architecture, Faculty of Crop Science*

(Thematic Area I: Urban agriculture promoting biodiversity and ecosystem services)

**7. Spyros Fountas**

*Laboratory of Agricultural Machinery, Department of Natural Resources' & Agricultural Engineering*

(Thematic Area II: Promoting Urban Agriculture as a climate change regulator)

**8. Pashalis Harizanis**

*Laboratory of Sericulture and Apiculture, Faculty of Crop Science*

(Thematic Area I: Urban agriculture promoting biodiversity and ecosystem services)

**9. Dimitris Savvas**

*Laboratory of Vegetable Production, Faculty of Crop Science*

(Thematic Area II: Promoting Urban Agriculture as a climate change regulator)

**10. George Papadakis**

*Laboratory of Agricultural Machinery, Department of Natural Resources' & Agricultural Engineering*

(Thematic Area II: Promoting Urban Agriculture as a climate change regulator)

**<u>List of Trainees</u>**

**1. Theodora Fetsi**

*Agronomist, Athens,* ***Greece***

**2. Jiahong Li**

*Architecture Department, RWTH, Aachen,* ***Germany***

**3. Denise Kemper**

*Conception of Emscher Landscape Park Geographer, Regionalverband Ruhr, Essen,* ***Germany***

**4. Dona Pickard**

*Institute for the study of societies and knowledge, Bulgarian Academy of Science, Sofia,* ***Bulgaria***

**5. Attila Toth**

*Landscape architect, Assistant Professor (PhD), Department of Garden & Landscape Architecture, Slovak University of Agriculture, Nitra,* ***Slovakia***

**6. Dionysios Touliatos**

*Lancaster Environment Center, Lancaster University,* ***UK***

**7. Zoe Heuschkel**

*M.Sc. Agricultural Science and Resource Management in Tropics and Subtropics, University of Applied Sciences, Osnabruck,* ***Germany***

**8. Snezhina Shukina**

*Master Student, Faculty of Architecture, RWTH Aachen,* ***Germany***

**9. Jan Richtr**

*Prague Institute of Planning and Development, Public Space Office,* ***Czech Republic***

**10. Ross Young**

*PhD student – Urban Agriculture, Scotland,* ***UK***

**11. Lusy Rose Wright**

*PhD student in Human Geography, Department of Geography, Environment and Earth Sciences, University of Hull,* ***U.K****.*

**12. Elena Rigas**

*Polytechnic of Turin – Architecture construction and city,* ***Italy***

**13. Barbora Duzi**

*Department of Environmental Geography, Institute of Geonics, Academy of Sciences, Brno –* ***Czech Republic***

**14. Nikola Bonchev**

*Urban farming Sofia group - initiator & manager, Sofia,* ***Bulgaria***

**15. Sofie Brincker**

*Research Assistant, IGN, University of Copenhagen,* ***Denmark***

**16. Luke Beesley**

*Researcher in Soil Science, James Hutton Institute, Aberdeen,* ***U.K****.*

**17. Francesco Orsini**

*Agricultural Sciences Department, University of Bologna,* ***Italy***

**18. Moreen Heiner**

*Master student Urban Ecosystem Science, Berlin Technical University,* ***Germany***

**19. Giuseppina Pennisi**

*Agricultural Sciences Department, University of Bologna,* ***Italy***

**20. Maya Miteva**

*Civil Engineering and Geodesy, University of Architecture, Sofia,* ***Bulgaria***

**21. Christos Mellios**

*Student -Architecture Department, Aristotle University of Thessaloniki,* ***Greece***

**22. Evi Stathopoulou**

*Independent Agro-Environmental Consultant, Athens,* ***Greece***

**23. Chara Fostieri**

*Biologist, University of Athens,* ***Greece***

**Training School Programme**

The topics of the Training School were divided into three thematic areas:
1. Urban agriculture promoting biodiversity and ecosystem services
2. Promoting urban agriculture as a climate change regulator
3. Urban agriculture as a green and social infrastructure.

**Day 1 – Tuesday 3rd of November 2015**

During the first day, after registration, lectures related to the fist thematic area were administered by the trainers.

**Programme of Day 1:**

| |
|---|
| *12:00- 14:00*<br>*Registration- welcome*<br>*Lunch break* |

***14:00- 14:10: Welcome from AUA Deputy Rector, Prof. E.Paplomatas***

**Part I: Urban agriculture promoting biodiversity and ecosystem services**

| | | | |
|---|---|---|---|
| **1st session: Biodiversity's role in urban ecosystems** | *14:10- 14:50* | The role of ecosystem services in urban agriculture | RegineBerges, Leibniz Centre for Agricultural Landscape Research (ZALF e.V.), Germany |
| | *15:00- 15:40* | Biodiversity and Ecological Risk Assessment: Key issues for Environmental quality | Gerassimos Arapis Agricultural University of Athens, Faculty of Crop sciences, Greece |
| **2nd session: Biodiversity enhancing schemes in urban settings** | *15:50- 16:20* | Green infrastructure supporting urban biodiversity | Evi Stathopoulou, Sustainable Rural Development Expert, Greece |
| | *16:30- 17:10* | The role of local varieties | Penelope Bebeli & Roikos Thanopoulos, Agricultural University of Athens, Faculty of Crop sciences,Greece |

| | | | |
|---|---|---|---|
| | *17:20-18:00* | Arboriculture and Medicinal & Aromatic Plants: examples of urban implementation | Stavros Vemmos & Falia Economou Agricultural University of Athens, Faculty of Crop sciences, Greece |

**Day 2- Wednesday 4th of November 2015**

The second day began with the visit of the Laboratory of Sericulture and Apiculture, where the group tasted several varieties of honey. In addition, the group visited the old machinery of silk production. Following, lectures related to the second and third thematic area were administered by the trainers.

**Programme of day 2:**

| | | | |
|---|---|---|---|
| Part I-Continuation 2nd session-: Biodiversity enhancing schemes in urban settings | *9:00-10:00* | Apiculture as a good example of peri-urban and urban implementation | Pashalis Harizanis, Agricultural University of Athens, Faculty of Crop sciences, Greece |

**Part II: Promoting Urban Agriculture as a climate change regulator**

| | | | |
|---|---|---|---|
| **1st session: Renewable energy and energy saving concepts in Urban Agriculture.** | *10:10-10:50* | Hydroponics: Urban applications | Dimitris Savvas, Agricultural University of Athens, Faculty of Crop sciences, Greece |
| | *11:00-11:40* | Green Buildings and Urban Microclimate | Thomas Nehls, Berlin Technical University- Dept. of Soil Conservation Germany |
| **2nd session: Precision agriculture to enhance environmental quality** | *11:50-12:30* | Basics on Precision Agriculture and applications in Urban farming | Spyros Fountas, Agricultural University of Athens, Dept. of Natural Resources and Agricultural Engineering, Greece |

| | | | |
|---|---|---|---|
| | *12:40-13:20* | Renewable energy and energy saving | George Papadakis Agricultural University of Athens, Dept. of Natural Resources and Agricultural Engineering, Greece |
| *13:30- 14:30*<br>*Lunch break* | | | |

**Part III: Urban Agriculture as a green and social infrastructure**

| | | | |
|---|---|---|---|
| **1st session: Green space planning and Urban Agriculture.** | *14:30-15:10* | Productive vegetation in Athens: Changing the perceptions | Kostas Tsiambaos, National Technical University of Athens, Faculty of Architectural Engineering, Greece |
| | *15:20-16:00* | Urban agriculture initiatives in Athens: planning aspects of food-growing spaces and sustainability of urban environment | Sofia Nikolaidou, Panteion University of Social and Political Sciences, Athens, Greece |
| **2nd session: Socioeconomic, institutional and public participation aspects** | *16:10-16:50* | Socioeconomic aspects of Urban Gardening | MatjazGlavan, University of Ljubljana-Biotechnical faculty, Dept. of Agronomy, Slovenia |
| | *17:00-17:40* | Sustainable green roofs for arid/semi-arid urban areas | Maria Papafotiou Agricultural University of Athens, Faculty of Crop sciences, Greece |
| | *17:50-18:15* | New forms of governance between the Rural and Urban | Maria Partalidou, Aristotle University of Thessaloniki-Faculty of Agriculture, Dept. of Agricultural |

| | | | |
|---|---|---|---|
| | | | Economics, Greece |

**Photos of the lectures**


2. Lecture (photo by Dimitris Arapis)


3. Lecture (photo by Dimitris Arapis)


4. Lecture (Photo by Dimitris Arapis)


5. Lecture (Photo by Dimitris Arapis)


**6. Lecture (Photo by Dimitris Arapis)**


**7. Lecture (photo by Dimitris Arapis)**

8. Apiculture (photo by Attila Toht)


9. Honey Tasting (photo by Attila Toht)

**10. Old silk production machine (photo by Attila Toht)**

**Day 3 – Thursday 5th of November 2015**

During the third day, the trainees and the trainers, along with the organizers, visited three selected destinations in Attica. The destinations were three original organic farms, where the trainees had the opportunity to meet some Greek pioneers in terms of organic agriculture and observe both the positive and negative aspects. The three farms visited were the following according to the programme:

| | | | |
|---|---|---|---|
| **Field trip – typical case studies Visit to selected destinations in Attica** | *08:30-18:30* ***Meeting point: AUA*** | GIORGAS' FAMILY farm (9:15-11:00) | Spata, Attica |
| | | FRAGKOS farm (11:15-13:00) | Rafina, Attica |
| | | ARVANITIS farm (14:00-15:15 Lunch, 15:30-17:30 Visit) | Krioneri, Attica |

**1. GEORGA'S FAMILY FARM (http://geowines.gr) – Spata & Rafina, Attica**

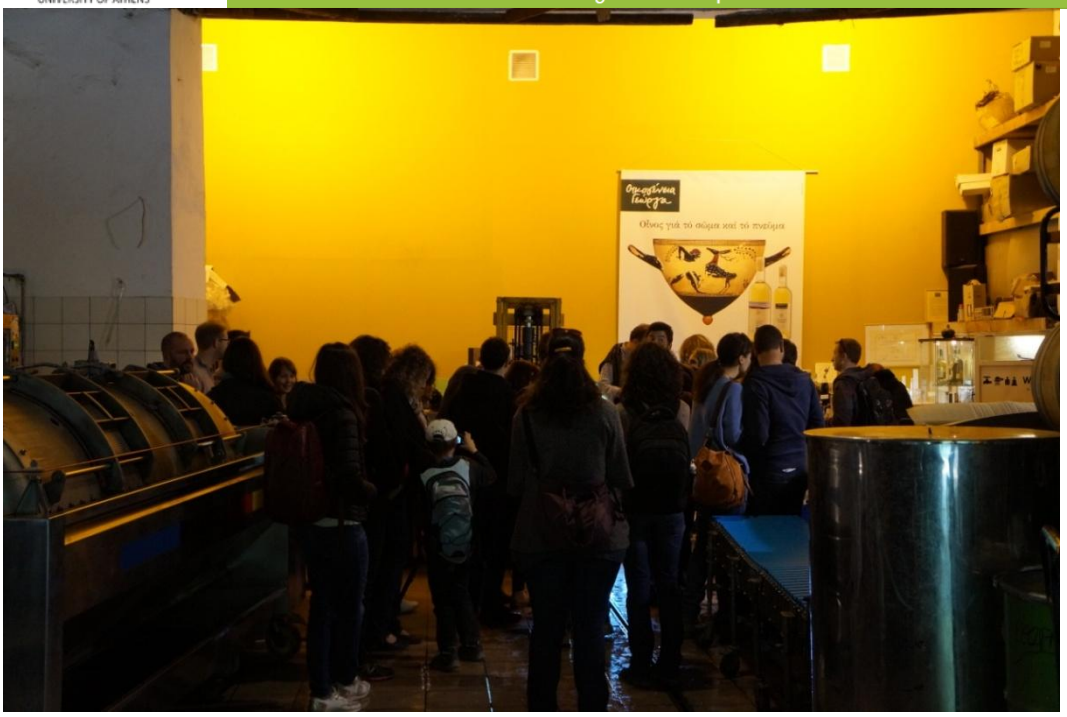
Georgas Family is a small artisan wine producer, who makes fine wine using natural farming techniques (including organic and biodynamic practices) with low-intervention vinification processes. It is the fourth generation of family viticulturists /

winemakers, much aware on the protection of the environment throughout the product life cycle, with respect to the end consumer. A less treated - raw whole grape products and wines, from local Mediterranean grape, using no or as less additives possible, from their own vineyards in Attica are produced.
Their commitments are:

- Respect of the vineyard local ecosystem - terroir
- Use of omeodynamic / biodynamic preparation since 2000
- Follow of the international organic winemaking standards since 1998
- No oenological additives (except pure gas SO2 at low levels - usually less that 1/2 of the organic standards)
- No yests
- No chemical stabilization and preservation wine practices
- Vegan products (no animal products, albumen, casein, gelatin, fish glue, etc)
- Wines with low free sulfite content, less than 20 ppm (which means no or very low SO2 additions), considerably less than national or organic standards)
- Whole products, mild treatment in order to save sensitive grape nutrients.
- Long barelagged natural wines (zero sulfur additions)
- Rich grape's natural color dyes gets deep gold with light in white wines.
- Sediment may appear at the bottom of the bottle as a result of no/mild filtering
- Grape juice products are not filtered / homognized.

**Photos of the visit to Georga's Family Farm**

**11. Inside the winery (Photo by Dimitris Arapis)**



12. Inside the winery (Photo by Dimitris Arapis)


13. Products of Georga's Family Farm (Photo by Attila Toht)

14. Dimitris Georgas (Photo by Attila Toht)

15. Vineyards (Photo by Dimitris Arapis)

16. Vineyards (Photo by Attila Toht)

**2. FRAGKOS FARM – Rafina, Attica**

Fragkos farm is a family agricultural business, based on greenhouse and open field horticulture. The farm is located close to Georga's family farm. The establishment is in an area of 6 ha and it provides products to many open markets in Attica.
The philosophy of the farm Is to promote organic farming and respect the quality of the environment.

**Photos of the visit to Georga's Family Farm**

17. Outside of the greenhouse (Photo by Dimitris Arapis)

18. Greenhouse (Photo by Attila Toht)

19. Nursery in the greenhouse (photo by Dimitris Arapis)

**3. ARVANITIS FARM (https://oikosxoleio.wordpress.com/) – Kryoneri Attica**

Arvanitis farm offers a wide range of educational programmes available to groups of all ages, schoolchildren and adults as well. The establishments of the farm include agricultural land, livestock production,greenhouses and educational facilities.

On site, the farm organizes practical seminars in a wide range of topics such as:

- Agricultural policy (CAP)
- Soil
- Vegetable production
- Arboriculture
- Agrotourism
- Propagation techniques
- Greenhouses
- Composting
- Agricultural practices
- Agricultural economy

**20. Theodoros Arvanitis (Photo by Dimitris Arapis)**

21. Greenhouse in Arvanitis' farm (Photo by Dimitris Arapis)

22. Arvanitis' Farm (Photo by Snezhina Shukina)

23. Arvanitis' Farm (Photo by Snezhina Shukina)

**Day 4 – Friday 6th of November 2015**

During the fourth day, the group started by visiting the facilities of the Agricultural University of Athens. More specifically, visits to the following laboratories experimental fields took place and the participants had the opportunity to learn about scientific progress in the field of primary production:

- Laboratory of Agronomy
- Laboratory of Vegetable Production (more specifically the hydroponic installation)
- Laboratory of Pomology (more specifically cultivation of olive trees and pomegranate trees)
- Laboratory of Floriculture and Landscape Architecture (more specifically terrace gardens at the restaurant and the library of the campus)
- Laboratory of Agricultural Machinery (Photovoltaic Unit)

In addition, the group visited the commercial unit of Floriculture and Arboriculture. It is important to notice that the incomes of this unit are used for the field training and excursions of AUA students.

After the visits, the following three working groups sessions started.

**Programme of Day 4:**

| | | | |
|---|---|---|---|
| **Trainers' deliverables** | *09:00-13:30* | Separate Working groups: AUA visit, formation and assignments | Working group I: Biodiversity<br><br>Working group II: Renewable energy and precision agriculture<br><br>Working group III: Green and social infrastructure |
| *13:30- 14:30 Lunch break* | | | |
| **Trainers' deliverables** | *14:30-16:00* | Plenary: Working groups' synthesis and results | Coordinator: GerassimosArapis |
| **Evaluation** | *16:00-17:00* | Training school evaluation | By all trainees |

**Photos of Working Groups**

**24. Working group III: Green and social infrastructure (photo by Dimitris Arapis)**

25. Working Group II: Renewable energy and precision agriculture (photo by Dimitris Arapis)

26. Working group I: Biodiversity (photo by Dimitris Arapis)

27. Working Groups (photo by Dimitris Arapis)

**Photos of visits in the experimental field of the Agricultural University of Athens**

28. Experimental Field of Laboratory of Agronomy (photo by Dimitris Arapis)

29. Terrace garden at the library (photo by Dimitris Arapis)

30. Terrace garden at the restaurant (photo by Attila Toht)

31. Olive trees (photo by Dimitris Arapis)

32. Pomegranate trees (photo by Dimitris Arapis)

33. Hydroponic crop production (photo by Dimitris Arapis)

34. Hydroponic crop production (photo by Dimitris Arapis)

35. Commercial Production Unit (photo by Dimitris Arapis)

36. Commercial Exhibition Unit (photo by Dmitris Arapis)

**37. Most of the trainees…. (photo by Dimitris Arapis)**

**Evaluation of the training school**

At the end of the Training School, the trainees filled the following evaluation report:

## ATTICA TRAINING SCHOOL EVALUATION

*Please, tick on a scale from 1 to 5. (5 being the highest score (excellent)).*

1) How much did the training school meet your expectations as participants?

1☐ 2☐ 3☐ 4☐ 5☐

2) How much did the training school contribute to your general knowledge about the subject?

1☐ 2☐ 3☐ 4☐ 5☐

3) Which were the most interesting subjects for you?

.....
……..……
……..

4) How useful was the working group in which you participated?

1☐ 2☐ 3☐ 4☐ 5☐

5) How much did you appreciate the structure and schedule of the training school?1☐ 2☐ 3☐ 4☐ 5☐

6) How much did you appreciate the content and quality of the lectures that were given?

1☐ 2☐ 3☐ 4☐ 5☐

7) How much did you appreciate the field trip and the AUA visit?

1☐ 2☐ 3☐ 4☐ 5☐

8) What do you think about the general organisation of this training school (information sent before your arrival, help desk during the training school etc.)

1☐ 2☐ 3☐ 4☐ 5☐

9) Which was the least useful part of the training school?

……
……
……

10) Please, add any suggestions for improvement of future organisations:

……
……
……
……
……
……..

In the following diagram, the main results of the evaluation are shown (not including trainees comments – Question 3, 9, 10):