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Erasmus + KA2 AGreenSmart

Intensive Program 2023 – Planning and recordings – Lille (France)

(Click on icon to access to the videos)

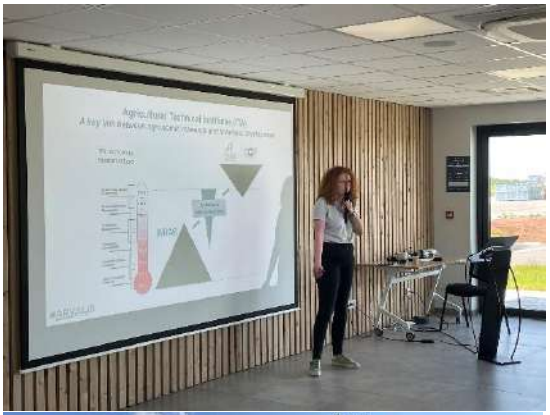
June 05th, 2023

1. **Introduction to the intensive program (Herinaina Andriamandroso)**
2. **Precision Agriculture**

Contributors:
Athanasios Gertsis (Perrotis College, Greece)
Avraam Mavridis (Perrotis College, Greece)
Bo Stenberg (SLU, Sweden)
José Tadeu Marques Aranha (UTAD, Portugal)
José Martinho Lourenço (UTAD, Portugal)
Laura Alakukku (UHelsinki, Finland)

2.1. Introduction: precision agriculture – within field yield variation (Bo Stenberg)
2.2. Why precision agriculture is important – Finnish examples (Laura Alakukku)
2.3. Precision Nutrient Management (Bo Stenberg)
Part 1
Part 2
2.4. Weather data for irrigation management (Athanasios Gertsis)

PM: Visit of ARVALIS Digistation of Villers-Saint-Christophe (Aisne, 02), about use of technologies in Hauts-de-France agriculture

June 06th, 2023

Students' preparatory project – Junia (France)

2. Precision Agriculture

2.5. Geographical Information Systems (GIS)

2.5.1. Precision agriculture, remote sensing and GIS: controlling grape moth in Douro Valley vineyards (José Aranha/José Martinho)

2.5.2. GIS and agroecology (Avraam Mavridis)

PM: Conference in collaboration with Euratechnologies Agrotech at Willems (Nord, 59) [1]

OUR PLANNING

02.30 – 03.15
Introduction
M. Thierry Rolland, Willems mayor
M. Matthieu Barlet, program director Euratechnologies
AGreenSmart (H. Andriamandroso)
Euratechnologies (L. De Gusseme)

03.15 – 03.30
Let's discover the projects incubated in Euratechnologies Agrotech
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03.30 – 04.00
Coffee break

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04.00 – 05.30
7 start-ups and companies for 7 services for agriculture and food sector
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05.30 – 06.15
Round table « What is the future of digital in agriculture and food, in the context of climate change in Europe » and « How the technologies including artificial intelligence influence agriculture and food »
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[1] Due to technical issue, only parts of the conference starting from 04.00 PM were recorded

June 07th, 2023

Students' preparatory project – Perrotis College (Greece)

3. Animal husbandry

Contributors:
Hélène Leruste (Junia, France)
Herinaina Andriamandroso (Junia, France)
Jérôme Bindelle (ULiège Gembloux Agro-Bio Tech, Belgium)
Katarina Arvidsson Segerkvist (SLU, Sweden)
Valérie Jacquerie (Junia, France)

3.1. Precision livestock farming (PLF) – introduction, definition and instructions for the tools' analysis (Valérie Jacquerie / Katarina Arvidsson)

3.2. Examples of commercialized tools for PLF

Hencol

NoFence

Lely

3.3. Tools' analysis by the students

3.3.1. Instructions (Valérie Jacquerie)

3.3.2. Analysis of Hencol

Group 1

Group 2

Group 3

3.3.3. Analysis of NoFence

Group 4

Group 5

Group 6

3.3.4. Analysis of Lely

Group 7

Group 8

Group 9

3.4. Wooclap small quizzes with students

3.4.1. What is PLF (Valérie Jacquerie)

3.4.2. Which PLF tools are used in farms (Valérie Jacquerie)

3.5. PLF tools used in farms (Valérie Jacquerie / Katarina Arvidsson)

3.6. Modelling grasslands

3.6.1. Introduction to modelling (Jérôme Bindelle)

3.6.2. List of pasture models and the main processes (Jérôme Bindelle)

June 08th, 2023

Students' preparatory project – Gembloux Agro-Bio Tech (Belgium)

3. Animal husbandry

3.7. *Grasslands modelling guided works (step-by-step PDF instructions, no video recording, needs of R software)*

4. Big data, artificial intelligence and robotics

Contributors:
Antti Lajunen (Helsingin Yliopisto, Finland)
Benoît Mercatoris (ULiège Gembloux Agro-Bio Tech, Belgium)
Hélène Soyeurt (ULiège Gembloux Agro-Bio Tech, Belgium)
Lars Grimstad (NMBU, Norway)
Mikkel Einvik Stryker (NMBU, Norway)
Animesh Kumar (Helsingin Yliopisto, Finland)

4.1. Introduction to the chapter (Lars Grimstad)
4.2. Big data and artificial intelligence for milk data analysis (Hélène Soyeurt)
4.2.1. Introduction of Hélène Soyeurt
4.2.2. Introduction to big data and artificial intelligence in animal husbandry
4.2.3. Guided works in R
4.2.3.1. Data exploration and pre-processing
4.2.3.2. Artificial neural network
Part 1
Part 2

June 09th, 2023

Students' preparatory project – NMBU (Norway)

4.3. Control strategy (Benoît Mercatoris / Antti Lajunen)
4.3.1. Introduction of Benoit Mercatoris
4.3.2. Control theory - Part 1
4.3.3. Control theory - Part 2
4.4. Robotics (Lars Grimstad / Mikkel Einvik Stryker)
4.5. Robotics students' projects (no recordings)

June 10th, 2023

Cultural visit of Lille city center and Dunkerque (free time)

June 12th, 2023

Students' preparatory project – Helsingin Yliopisto (Finland)

5. Mitigation and adaptation to climate change

Contributors:
Benjamin Dumont (ULiège Gembloux Agro-Bio Tech, Belgium)
Gilles Colinet (ULiège Gembloux Agro-Bio Tech, Belgium)
João Carlos Andrade Dos Santos (UTAD, Portugal)

5.1. Climatology (João Carlos Andrade Dos Santos)

Part 1

Part 2

5.2. Soil carbon modelling (Gilles Colinet)

5.2.1. Introduction

Part 1

Part 2

5.2.2. Soil carbon stocking priming effect on agricultural practices

5.2.3. Soil carbon modelling exercise

June 13th, 2023

5. Mitigation and adaptation to climate change

5.3. Soil crop modelling (Benjamin Dumont)

5.3.1. Introduction

5.3.2. Bean time lapse explanation

5.3.3. Exercises with STICS and Mini-STICS

Part 1

Part 2

Part 3

5.3.4. Exercises instructions (step-by-step pdf and data)

Afternoon: Visit of ULiège Gembloux Agro-Bio Tech (Gembloux, Belgium) experimental fields





June 14th, 2023

Students' preparatory project – SLU (Sweden)

6. Sustainable agriculture and agroecology

Contributors:
Christos Vasilikiotis (Perrotis College, Greece)
Hélène Desmyttère (Junia, France)
Timo Sipiläinen (Helsingin Yliopisto, Finland)

6.1. Introduction to agroecology and sustainable agriculture (Hélène Desmyttère)
6.2. Agroecological practices in Europe
- Finland
- Greece
- France
- Belgium
- Norway
- Portugal
- Sweden

6.3. Economics and sustainability (Timo Sipiläinen)
6.4. Organizing and facilitating a debate (Hélène Desmyttère)

June 15th, 2023

Students' preparatory project – UTAD (Portugal)

6. Sustainable agriculture and agroecology

6.5. Debates sessions
- 6.5.1. Debate 1: do smart-farming technologies offer an opportunity or an obstacle to agroecological transion?
- 6.5.2. Debate 2: Are livestock and crop integration systems sustainable?
- 6.5.3. Debate 3: Is it feasible to increase land under organic farming to 25% throughout Europe
- 6.5.4. Debriefing

6.6. Play agroecology with SEGAE platform (Hélène Desmyttère)
- 6.6.1. Introduction and instructions
- 6.6.2. Presentation of the platform

June 16th, 2023

Closing session

Future of farming collective intelligence activity

Part 1: Climate fresk made by the students

Part 2: Imagine the farm of the future.

Group 1

Group 2

Group 3

Group 4

Group 5

Group 6

The AGREENSMART cohort 2023