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Erasmus + KA2 AGreenSmart

Intensive Program 2021 – course plan and recordings

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June 14th, 2021

1. Students preparatory projects

2. Precision Agriculture

Contributors:
Athanasios Gertsis (Perrotis College, Greece)
Avraam Mavridis (Perrotis College, Greece)
Bo Stenberg (SLU, Sweden)
Johanna Wetterlind (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. Case-study: Variable liming (Johanna Wetterlind)
2.3. Case-study: Near infrared spectroscopy for variable liming (Bo Stenberg)
2.4. Case-study: Variable liming, use of national map of texture of Sweden (Johanna Wetterlind)
2.5. Case-study: Variable nitrogen application (Bo Stenberg)
2.6. Case-study: Variable nitrogen fertilization (Johanna Wetterlind)

June 15th, 2021

2. Precision Agriculture

2.7. Why precision agriculture is important – Finnish examples (Laura Alakukku)
Part 1
Part 2
2.8. Precision Agriculture under mediterranean conditions – Greek examples
Part 1
Part 2
2.9. Douro demarcated region – virtual field trip
Part 1
Part 2
2.10. Surveying vineyards with QGIS

June 16th, 2021

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. Researches and case-study in precision livestock farming (A. L. Herinaina Andriamandroso)
3.2. Modelling grasslands (Jérôme Bindelle)
Part 1
Part 2

June 17th, 2021

3. Animal husbandry

3.3. *Modelling grasslands (Jérôme Bindelle) – part 3*

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)
Szabolcs Galambosi (Helsingin Yliopisto, Finland)

4.1. Introduction to big data – exercise for milk analysis (Hélène Soyeurt)

June 18th, 2021

4.2. Control theory, feed forward and feeback control, and controller design (Benoît Mercatoris / Antti Lajunen)
4.3. Robotics (Lars Grimstad / Mikkel Einvik Stryker)
4.4. Robotics projects

June 21st, 2021

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. Illustrative procedures to produce agroclimatic maps for climate change impact assessment (João Carlos Andrade Dos Santos)
5.2. Soil carbon modelling (Gilles Colinet)
5.2.1. Introduction
5.2.2. Exercises in R (Gilles Colinet)
5.2.2.1. Investigating Solresidus and Solcouvert datasets
5.2.2.2. Soil carbon under changing climate

June 22nd, 2021

5. Mitigation and adaptation to climate change

5.3. Crop modelling (Benjamin Dumont)
5.3.1. Introduction
Part 1
Part 2
5.3.2. Crop growth vs modelling (Benjamin Dumont)
5.3.3. STICS model and mini-STICS (Benjamin Dumont)
5.3.4. Exercises in R (Benjamin Dumont) :
5.3.4.1. Mini-STICS
5.3.4.2. Setting up STICS for climate change – introduction
5.3.4.3. Exercise in R: Setting up STICS for climate change
Part 1
Part 2

Precision Livestock Farming conference

Virtual fencing – the future fence (Silje Eftang, Nofence)
Hencol (Fredrik Helgodt, Hencol)
Lely (Marion Cavret, Lely)
End of conference
Students' analysis of tools

June 23rd, 2021

6. Sustainable agriculture and agroecology

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

6.1. Introduction of WP6 teachers
6.2. E-learning review of sustainable agriculture and agroecology (Christos Vasilikiotis)
6.3. Sustainable agriculture
6.4. Agroecology and ecological practices in Europe:
- 6.4.1. Agroecology (Christos Vasilikiotis)
- 6.4.2. Ecological agriculture practices (Christos Vasilikiotis)
- 6.4.3. Brainstorming about agroecological practices in Europe

6.5. EU Green Deal and new common agricultural policy (Christos Vasilikiotis)
6.6. Organizing and facilitating a debate (Hélène Desmyttère)
6.7. Climate change mitigation and carbon sequestration (Christos Vasilikiotis)
6.8. The cool farm tool (Timo Sipiläinen)

June 24th, 2021

6. Sustainable agriculture and agroecology

6.9. Debates sessions
- 6.9.1. Debate 1: smart technologies and their relation to farm size
- 6.9.2. Debate 2: is it feasible to increase land under organic farming to 25% throughout Europe? What practices and/or technologies would be required to maintain sustainable agricultural production?

6.10. Serious game for agroecology learning
- 6.10.1. Introduction to SEGAE (Hélène Desmyttère)
- 6.10.2. Activity in SEGAE: instructions (Hélène Desmyttère)
- 6.10.3. Activity in SEGAE: students' presentations

June 25th, 2021

Closing session

Future of farming collective intelligence activity:

- Future of farming – group 1
- Future of farming – group 2
- Future of farming – group 3

Closing conference

Replay of the conference

CLOSING CONFERENCE OF THE FIRST INTENSIVE PROGRAM OF AGREENSMART

Friday June 25th, 2021 - from 03.00 PM to 04.30 PM CET

Program:

03.00 PM CET: "LIFE Maronesa - Climate Governance and Information project. Extensive livestock - a sustainable model that contributes to climate change mitigation" - Juliana Salvação (Aguiar Florestas)
03.30 PM CET: "Sustainable and productive agriculture" - João Coimbra (Qt. da Choldra)

04.00 PM CET: "Tools for precision viticulture: case study's in Douro Wine Region" - Fernando Alves (Symington)

Information about the presenters

Juliana Leal Salvação
Graduated in Forestry Engineering and Master in Geographic Information Systems.

Specialized in photogrammetric processing of digital images and 3D data generation using RPAS (Metashape software - Agisoft).
Technical training in LIDAR data processing with application to forest inventory.
Practice in conducting drone flights in agro-forestry environments, namely in hillside viticulture and forest stands in mountainous areas.
Photointerpretation of aerial images and elaboration of thematic cartography (ArcGIS and QGIS software).

João Coimbra
Degree in Agronomic Engineering from the Escola Superior Agrária de Santarém.

Director of family businesses engaged in agriculture, forestry and renewable energy production
Director of the Agricultural Cooperative Agromais and the National Association of Corn and Sorghum Producers (Anpromis)

Fernando Alves
Agricultural Engineering (BSc) graduate and holder of a post-graduate diploma in Plant Science-Viticulture, both from the University of Trás-os-Montes and Alto Douro - Vila Real.

Worked at ADVID between 1987 and 2013, serving in several positions including Technical Director of Viticulture and Executive Director of the association with responsibility for the Douro Wine Cluster's candidature to the Collective Efficiency Strategies.

Since 2013, R&D Senior Manager for viticulture at Symington Vinhos SA. Main areas of interest and research include climate change, crop protection, grapevine physiology, water stress, efficiency of grape production in mountain viticulture, and sustainable viticulture. Also cooperates with the OIV as a Scientific Delegate at the Enviro Group.
Participates in several national and European projects, with several public presentations and publications as author and co-author.