EURAGRI workshop

Big data in agriculture: consequences for research and research organizations

Date: 9th March 2016.

Location:
INRA, Room 115, 147, rue de l'Université, Paris

Rationale:
Big data in agriculture is now a reality. Massive amounts of data are produced by digital and connected objects such as farm equipment, sensors in the fields or biochips in animals. Robots are becoming more and more popular, as it is well illustrated in dairy production. Alongside with the continuous monitoring that is producing well-structured data, other sources of data are produced and used. Interconnections of information systems and inter-operability through API[1] or other technics are increasingly important. The ownership of data and the legal aspects are also key issues to be considered.

This is leading to new management modes of agricultural production, new services offered, new organisations in agriculture and different relationships along the supply chains with regard to data sharing, and possibly new agricultures. Big data and associated technologies will make it possible to embrace the numerous uncertainties inherent to the future.

There will be major consequences on research and research organisations. It can be anticipated that this will raise new research questions, and new methods and approaches to perform research in agriculture. Research facilities and infrastructures will be revisited. New partnerships among academic institutions and with private companies will emerge. This will possibly lead to the involvement of scientists from areas of science and technology which have up to now little or no contact with the agri-food sector, to boost the innovation process in the sector.

This EURAGRI workshop is organised in order to promote exchanges of ideas and propose initiatives for performing research in this changing context.

Workshop schedule (10.00 am – 4.45 pm)

Introduction: Pascal Bergeret, IAM Montpellier, President of Euragri

Session 1: New era of research induced by Big Data

Introductive talk by Pascal Neveu, INRA (*to be confirmed*), addressing the research issues related to big data in agriculture.

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[1] Application programming interface (API): tool to exchange information and instruction between softwares

These data are characterised by some key features: heterogeneity, diversity, combination of biological, physical, technical and socio-economic variates, production by an increasing numbers of digital sensors in both plant and animal production, data production and use by full liner manufacturers.

Session 2: Implementation in the strategic agenda of research institutes

Introductive talk by G. Boyle, Teagasc, illustrating the strategy of the national Irish research institute.

Teagasc carried out a Technology Foresight project. Big data is featuring prominently in this foresight exercice. This foresight, involving more than 200 leading experts, is to be completed in March 2016 and will be a strong input into the workshop.
The primary aim of the Foresight Project is to identify the key technologies that have the potential over the next 20 years or so to underpin competitiveness, sustainability and growth in the Irish agri-food and bioeconomy sector. A secondary aim is to provide a comprehensive and well-researched source of evidence for policy decisions relating to future science and technology programmes.

Session 3: Towards an e-infrastructure in agriculture?

1- Introductive talk by Carlos Morais-Pires (European Commission, DG Connect) (*to be confirmed*) on the policy of the Commission regarding e-infrastructures and their links to the societal challenges addressed by the EU policy and EU research policy.

2- Introductive talk by Donatella Castelli (CNR-ISTI), leading e-infrastructure project in marine research

E-infrastructure refers to a combination of digital technologies (hardware and software), resources (data, services, digital libraries), communications (protocols, access rights and networks), and the people and organisational structures needed to manage them.
They are keys in future development of research infrastructures, as activities go increasingly "online" and produce vast amounts of data and are at the heart of the Digital Agenda of the European Commission to support Open Science and the link between researchers, citizens or private companies.
The marine domain has examples of e-infrastructures such as Imarine http://www.i-marine.eu/ or bluebridge http://www.bluebridge-vres.eu/ that could be of great value for agriculture. After a description, the talk will analyze their strength and weakness and stress some lessons that could be useful for our domain.

Conclusions: Pascal Bergeret, IAMM, President of EURAGRI

To register on line: https://workshop.inra.fr/euragri