
COST Action CA16107
EuroXanth: integrating science on *Xanthomonadaceae*
for integrated plant disease management in Europe

Minutes of the Extended Core Group Meeting

Catania (Sicily), Italy, 25-27 February 2019

Minutes of the WG1 Meeting written by J. Boch, J. Costa, V. Catara, R. Koebnik, T. Kovács and J. F. Pothier, and reviewed by all participants

Attending:

Jens BOCH	DE	EuroXanth WG3 Leader
Eran BOSIS	IL	EuroXanth WG2 Vice Leader
Claude BRAGARD	BE	Chair of EFSA Panel on Plant Health
Paola CARUSO	IT	Coordinator ORPRAMed
Vittoria CATARA	IT	EuroXanth Vice Chair
Gabriella CIRVILLERI	IT	EuroXanth MC Substitute
Joana COSTA	PT	EuroXanth WG1 Leader
Tanja DREO	SI	Member of EPPO Panel on Diagnostics in Bacteriology
Maroun EL MOUJABBER	IT	Coordinator Cure-XF
Maria C. HOLEVA	GR	Member of Cure-XF Panel
Marie-Agnès JACQUES	FR	EuroXanth Internal & Financial Monitoring Reporter
Monika KAŁUŻNA	PL	EuroXanth STSM Coordinator
Ralf KOEBNIK	FR	EuroXanth Chair
Tamas KOVÁCS	HU	EuroXanth WG4 Vice Leader
Katherine LESTER	UK	Coordinator Euphresco " <i>Xylella fastidiosa</i> and its insect vectors"
Massimiliano MORELLI	IT	EuroXanth ECI
Aleksa OBRADOVIĆ	RS	Member of POnTE Panel
Eliška PEŇÁZOVÁ	CZ	EuroXanth ECI
Joël F. POTHIER	CH	EuroXanth WG2 Leader
Maria SAPONARI	IT	Coordinator XF-Actors
Joana VICENTE	UK	EuroXanth Science Communication Manager

In order to plan the second half of the EuroXanth COST Action, a three-days Extended Core Group Meeting was organised in Catania (Sicily), Italy, from February 25 to 27, 2019. In addition to members of the Core Group, key persons from other multi-national initiatives in our field were invited, thus fostering our links to them, generating synergistic effects and achieving sustainable outputs:

- **EPPO** (https://www.eppo.int/ABOUT_EPPO/panel_composition/pm_diag_bacterio),
- **EFSA** (<https://www.efsa.europa.eu/en/panels/plh>),
- **XF-ACTORS** (<http://www.xfactorsproject.eu>),
- **Cure-XF** (<http://www.cure-xf.eu>),
- **POnTE** (<https://www.ponteproject.eu>).

Moreover, we also invited the coordinator of **ORPRAMed** (<http://www.orpramed-arimnet2.eu>) and representatives of the **Euphresco** projects with relevance to our COST Action:

- *Xylella fastidiosa* and its insect vectors (2016-F-221),
- Harmonized protocol for monitoring and detection of *Xylella fastidiosa* in its host plants and its vectors (PROMODE) (2015-F-146).

This meeting was planned to improve the research coordination and capacity building activities of the COST Action, as stated in the Memorandum of Understanding.

Because of the feedback from COST to our initial progress report, in which we have been asked to specifically encourage **Early Career Investigators (ECIs)** to take leading positions in our activities and in taking responsibilities, two ECIs were invited to the meeting. With this additional spirit of young people we aimed at discussing opportunities to specifically engage ECIs in taking responsibility, for instance, in the organisation of the programme of the **Annual Conference in Lednice**.

DAY 1 - Monday, February 25

Since most people already arrived the evening before, the majority of attendees joined for a convivial dinner in a nice Sicilian pizzeria. Aside from being a very good icebreaker opportunity this allowed to prepare the meeting and also to discuss different aspects of the Action. The next morning was used to learn more about the changeful history of Catania in a guided city tour at the edge of the impressive Mount Etna volcano.

At the first day of the meeting, after a welcoming and quick opening by the EuroXanth Vice Chair and head of the Local Organizing Committee, Vittoria Catara, the Action Chair, Ralf Koebnik, presented a slideshow with COST rules and Action Goals. This introduction was more relevant for non-MC Members and participants that are not familiar with COST Action functioning. Afterwards all attendees were asked to introduce themselves briefly.

The first part of **Working Session I** was conducted by the Core Group and updated the status of the major EuroXanth COST Action activities. **Joël F. Pothier** (WG2 Leader) gave an update on **COST Training Schools**, first introducing to the audience of non-COST people the aim of this tool according to guidelines and rules. To date only one Training School was organised in the budget year 1. Entitled "Prognosis & Advanced Diagnosis of *Xanthomonadaceae*", the 1st Training School was held in Heraklion / Crete, Greece, from February 12 to 16, 2018. The local organiser was Prof. F. Ververidis from TEIC Crete. The Training School brought together 17 Trainees from 10 participating COST Countries (Bulgaria, Croatia, Czech Republic, France, Italy, The Netherlands, Portugal, Serbia, Spain and Turkey), and a few local Trainees. J. F. Pothier then announced the 2nd EuroXanth Training School (budget year 3), which he is organising. This Training School is entitled "Molecular typing of *Xanthomonadaceae* – from epidemiological surveillance to outbreak investigation" and will take place in Wädenswil, Switzerland, from July 15 to 19, 2019. The Training School is aimed to address tools and technologies used for molecular typing of bacteria of the *Xanthomonadaceae* family at different taxonomic levels with a strong focus on DNA-based approaches to study genetic diversity and population structure, from the genus to the strain level. The Training School will introduce databases and software tools to analyse data from 16S rRNA gene, MALDI-TOF MS, genome-wide ANI/SNP, MLST/MLSA, VNTR/MLVA, and CRISPR analyses. The Training School will explain concepts and methods and will give ample room for hands-on tutorials on different datasets, accompanied by a few seminars and demonstrations. The deadline for application is the 31th of March.

The 3rd EuroXanth Training School was also announced. It will be organised in budget year 3 by Alice Boulanger (Université Toulouse 3, Castanet-Tolosan, France). The Training School will deal with “*In planta* analyses to follow *Xanthomonadaceae*-plant interactions during the infection process” and will probably take place in February 2020.

Joana Vicente, Science Communication Manager, updated us on EuroXanth Dissemination activities. In particular, deliverables reached by the date of the meeting were the setup of the EuroXanth Website (<https://euroxanth.eu/>) and the Newsletter, both curated by R. Koebnik, the Twitter account (@EuroXanth) and the Scoop.it! page devoted to the publications on *Xanthomonadaceae* plant diseases, both curated by J. Vicente. J. Vicente presented some ideas for future activities to be discussed during the meeting according to the program.

Monika Kałużna, Short-Term Scientific Mission Coordinator, answered to the questions ‘STSM: What is it? Who can and did profit from it? Past & Future, Application process & Grantees’ to illustrate and give visibility to this important instrument. The EuroXanth COST Action had already 4 STSM calls and 26 out of the 36 applications were approved by the STSM Committee (57% female, 61% ECI, 38% ITC). Topics of the STSMs covered different *Xanthomonas* spp. (65%) and *Xylella fastidiosa*. M. Kałużna also informed about some news on the STSM management: the amount of the grant will be established by the Grant Holder and no longer the STSM Coordinator. The Grant Holder will have more flexibility in the organization and management of STSMs (modification of date and location of STSM; uploading of documents; track and manage ITC STSMs pre-payments).

Ralf Koebnik, Chair, gave an overview about previous meetings and workshops, before he explained some details of ITC Conference Grants: eligibility, evaluation, financial support, and problems. Until now, only three grants were given and all of them went to Serbia. Beside of not being known that well (because this is a rather young COST tool), it appears problematic that it takes a long time from payment of (early-bird) registration fees and travel expenses by the grantee until reimbursement weeks after acceptance of the scientific report, which is certainly a constraint for ECIs from ITCs.

In the second part of Working Session I, **Tanja Dreo**, member of the EPPO Panel on Diagnostics in Bacteriology and **Claude Bragard**, Chair of the EFSA Panel on Plant Health, gave an overview about the two institutions and their roles and pointed out their activities on *Xanthomonadaceae*. T. Dreo talked about the panel tasks and her experience with the preparation or revision of diagnostic protocols. Some other useful informations were shared, such as the list of validation data for different diagnostic data and the specific requirements for laboratories preparing accreditation for a plant pest diagnostic activity (PM 7/98 [3]). T. Drea informed about the recent participation of WG1 Leader Joana Costa in the panel meeting where she discussed the role of EuroXanth in updating EPPO diagnostic protocols.

Working Session II dealt with presentations of coordinators and representative of other EU initiatives and consortia with relevance to the EuroXanth COST Action.

XF-ACTORS (<http://www.xfactorsproject.eu>) was presented by the Coordinator Maria Saponari (CNR, Bari, Italy). XF-ACTORS is a research project to improve prevention, early detection and control of *Xylella fastidiosa* through the establishment of a multidisciplinary research program. XF-ACTORS is a four-year project, started on November 1, 2016, and funded by the European Union within the Horizon 2020 program.

CURE-XF (<http://www.cure-xf.eu>) was presented by the Coordinator Maroun El Moujabber (IAM, Bari, Italy). It is funded by H2020 (Marie Skłodowska-Curie Actions [MSCA] Research and Innovation Staff Exchange [RISE] Call: H2020-MSCA-RISE-2016). The project duration is from September 2017 to August 2021. CURE-XF involves 18 partners from the following countries: Italy, France, Greece, Spain, Belgium, UK, Egypt, Morocco, Tunisia, Lebanon, Palestine and Iran. In this project, different aspects of *Xylella fastidiosa* assessment and management (pathogen-host interaction, characterisation, diagnosis, epidemiology, monitoring, etc) are tackled.

POnTE (<https://www.ponteproject.eu>) was presented by the project representative Aleksa Obradović. This H2020-funded project focuses to minimize the risk of introduction/impact of emerging pests threatening the EU agriculture and forestry. The targets are: 1) *Xylella fastidiosa* and its vectors in olive, grapevine, citrus, stone fruit, ornamentals and landscape trees of high socio-economic importance; 2) 'Candidatus *Liberibacter solanacearum*' and its vectors affecting a number of strategic crops such as potato, tomato and carrot; and 3) *Hymenoscyphus fraxineus* (anamorph. *Chalara fraxinea*) and *Phytophthora* spp. seriously affecting broadleaf and conifer species in forest ecosystems.

ORPRAMed (<http://www.orpramed-arimnet2.eu>) was presented by the Coordinator Paola Caruso. ORPRAMed is a transnational research project selected within the ERA-NET ARIMNet2 2015 Call. It aims to assess the risk of the introduction of *Xanthomonas citri* pv. *citri* in the Mediterranean region by means of ornamental citrus relatives, generating and improving our understanding of the interactions between *Xanthomonas citri* pv. *citri* and ornamental citrus and related genera.

Euphresco projects with relevance to our COST Action: “*Xylella fastidiosa* and its insect vectors” (2016-F-221, 01/2018-12/2019) and “Harmonised protocol for monitoring and detection of *Xylella fastidiosa* in its host plants and its vectors (PROMODE)” (2015-F-146, 09/2016-08/2018) were presented by the Coordinators Katherine Lester and Maria Saponari, respectively.

DAY 2 - Tuesday, February 26

In **Working Session III**, the WG Leaders/Vice Leaders Joana Costa (WG1), Joël F. Pothier (WG2), Jens Boch (WG3) and Tamas Kovács (WG4) gave brief presentations on the composition, goals and deliverables of the WGs and describing past, ongoing and future activities, such as WG Meetings, Training Schools and Workshops.

To have clear concepts how to achieve the WG's Objectives and Deliverables in due time, four parallel **Workshops** were organized, one for each WG. The participants were split into four task forces that circulated between the workshops where fruitful discussions happened. The WG Leaders/Vice Leaders, Chair and Vice Chair met to gather all the feedback, ideas and potential synergies. The working day ended with a wrap-up in **Working Session IV**, where the Action Plan to achieve the WG's Objectives and Deliverables in due time was presented. The main outputs were:

1. Special Issue on *Xanthomonadaceae* in *Frontiers in Plant Sciences*, edited by the WG Leaders and Helvecio Della Coletta-Filho as a guest editor (Fall 2019). Several tentative chapters were proposed and a candidate leader/co-leader for most of them have been assigned with the mission to stimulate and collect the contributions from other EuroXanth members. Namely:
 - a. “Detection methods and new tools for strain/lineage identification based on genome sequences” by Tanja Dreo and Joël F. Pothier;
 - b. “Taxonomy of *Xanthomonadaceae*” by Marie-Agnés Jacques and Bart Cottyn;
 - c. “Genetic diversity and population structure” by Joana Costa and Olivier Pruvost;
 - d. “Virulence factors: Effectors and beyond” by Ralf Koebnik and Eran Bosis;
 - e. “Breeding for resistance against infection by *Xanthomonadaceae*: from QTLs to genome editing” by Jens Boch and Roland Kölliker;
 - f. “(Bio)control of *Xanthomonadaceae*” by Emilio Stefani and Aleksa Obradović.
2. Updates on BSPP Pathogen Profilings will be considered:
 - a. *Xanthomonas phaseoli* by Marie-Agnés Jacques;
 - b. *Xanthomonas arboricola* pv. *pruni* by Jaime Cubero;
 - c. *Xanthomonas arboricola* pv. *corylina* by Monica Kałużna;
 - d. *Xanthomonas translucens* by Claude Bragard, Ralf Koebnik and Roland Kölliker;

- e. *Xanthomonas fragariae* by Joël F. Pothier;
 - f. *Xanthomonas oryzae* by Boris Szurek;
 - g. To be examined further: Non-quarantine profiling;
 - h. To be examined further: *Xanthomonas campestris* by Joana Vicente.
3. Book edition on *Xanthomonadaceae* - from host to disease was considered as the ultimate output for EuroXanth. The idea will be developed in the next meetings.

The second day ended with an exquisite **Gala Dinner** in a nice restaurant where typical Sicilian food and drinks were served and enjoyed by the meeting's participants. Again, this convivial moment served to tighten the links within the EuroXanth community and with the other European consortia.

DAY 3 - Wednesday, February 27

In the morning **Working Session**, three major topics from discussions of the day before were addressed:

(1) How to improve the active involvement of **ECIs** in the COST Action and how to encourage them to take leading positions, as pointed out in the feedback to the First Progress Report. Ideas proposed included:

- Charing sessions during the Annual Conferences;
- Planning specific ECI session(s);
- Offering a poster and/or talk prize for the best presentations, with ECIs in the evaluation board;
- Organising dinner where ECIs will meet invited keynote speakers ("Meet the expert");
- Match-making / speed-dating with experts in the field.

(2) The opportunity of organising a distinct **Career Development Training School**, as defined as a Capacity Building Objective was discussed. It was pointed out that there are better opportunities to inform and mentor ECIs in their career development, such as national and institutional programmes. It was concluded that it is more efficient to help ECIs developing their career by giving them the chance to participate in international conferences (e.g. via ITC Conference Grants) or Training Schools and/or to visit foreign laboratories (e.g. via STSM Grants). The idea of a distinct Training School focussing only on career development, where one would inform about grant writing, project management, publication strategies, peer review and the use of social media did not find much support within the Core group.

(3) The Science Communications Manager Joana Vicente moderated the discussion about **Dissemination & Communication**, which later resulted in the EuroXanth Newsletters 19 (April 16) and 20 (May 3).

(i) Communication strategy

Who we are trying to reach? Currently we are mostly communicating with researchers, but we can try to reach a wider audience at appropriate times.

What messages do we have? What are we trying to achieve? *Xanthomonas* and *Xylella* cause important diseases and lead to significant crop losses worldwide. We should be able to choose some relevant examples and disseminate some information.

How can we communicate? In addition to what we are doing, we can try press releases, videos, and more Tweets!

When should we communicate? When we have a Meeting, a Workshop, a Training School, a Short Term Scientific Mission, a publication, or any other appropriate moment (e.g. linked to outbreaks of diseases, associated with a special day). Press releases can have more attention in the summer when there are fewer news to report.

Why do we want to communicate? Disseminate new knowledge and awareness. Publicise our research and attract new funding.

(ii) Publications

- Please never forget acknowledging the EuroXanth COST Action (the appropriate phrase is available at the website under “Good to know”).
- If the authors include three members of EuroXanth from three different countries, publications might be funded by COST (if planned in the budget).
- If members from two EuroXanth countries are authors, publications can still be included in the Action’s report.

(iii) Press Releases

J. Vicente encouraged to have some Press Releases linked to EuroXanth. For this, members of each country would need to think of times when it might be appropriate to send out a Press Release. Examples could include:

- When a meeting or a conference takes place;
- When a publication comes out;
- When something is happening in the world that is relevant for our Action (e.g. some news on *Xylella* outbreaks in one of the countries; special days, like Fascination of Plants).

If somebody has an idea for a Press Release, J. Vicente can help, and there are people at COST who can assist as well. It might also be good to contact the press officers of our institutions as they will be able to help and send out the press release. It is not possible to do one press release for all countries, but one might at least do them for some countries.

It is important to decide in advance who we want to reach – one could consider growers, agronomists and even the general public.

(iv) Videos

J. Vicente also suggested to have some Videos done – would it be possible for each Working Group to record a short video (2 min max.) when they get together? One could interview the Working Group Leaders to have short videos describing what is being done? One can prepare a video at a conference. Or a video about a Short Term Scientific Mission (STSM) or a Training School? These were just some suggestions given at the Core Group Meeting, which need to be followed up in the second half of the EuroXanth COST Action.

(v) COST support and guidance

The COST Association provides some support and guidance on scientific communication. For instance, the Communication Managers have access to courses and J. Vicente has attended two so far (one on Storytelling and one on Interviews).

Relevant link: <https://www.cost.eu/visual-identity/>. This page includes links to guidelines for communications. Another relevant link for guidance for communication is this one: https://www.cost.eu/wp-content/uploads/2018/08/Communicating_your_COST_Action_a_how_to_guide.pdf.

In the last **Working Session**, R. Koebnik first informed about the upcoming **24-month Progress Report** and his coaching at the COST Headquarter in Brussels on April 2, after which the Core Group members will be asked for specific contributions.

As the Chair he then presented the previous budgets, how much was planned and actually spent, and the **Work and Budget Plan** for the third grant period (May 2019 to April 2020). This plan allocates by far most of the money to two meetings (Annual Conference in Lednice with associated MC Meeting and WG Meetings, 68700 €; WG4 Meeting in Viterbo back-to-back with the **BIOCONTROL** conference, 9000 €) and two Training Schools (WG1 in Wädenswil, 26000 €; WG2&3 in Toulouse, 23320 €). For

STSM, only 8500 € are planned but the expected underspendings from the Annual Conference, typically at 15%, will be largely re-allocated for more STSM grants. For ITC Conference Grants, a tool that has until now received little attraction, only 2800 € are planned. Candidate conferences for these grants are the 4th International Symposium on Biological Control of Bacterial Plant Diseases, the 18th International Congress on Molecular Plant-Microbe Interactions, and the Second European conference on *Xylella fastidiosa*.

There was positive feedback from the two invited ECIs, Massimiliano Morelli and Eliška Peňázová, that the specific wishes and expectations of ECIs were properly addressed in the Extended Core Group Meeting. Both of them volunteered to play an active role when preparing the Third Annual EuroXanth Conference and implementing activities promoting ECIs.

In summary, the three-day meeting was characterized by lively discussions and a strong cohesive effect among the 21 COST and non-COST participants could be clearly perceived. This result can certainly be attributed to several previous encounters fostered by COST CA16107, which contributed highly to the “small family/network feeling” and can thus be considered as a very positive and valuable output of this COST CA16107 Extended Core Group Meeting.



Participants of the Extended Core Group Meeting in front of the meeting location in Catania. From left to right: Aleksa Obradović, Tanja Dreo, Claude Bragard, Maria C. Holeva, Massimiliano Morelli, Gabriella Cirvilleri, Eliška Peňázová, Tamás Kovács, Maria Saponari, Paola Caruso, Ralf Koebnik, Katherine Lester, Jens Boch, Vittoria Catara, Joël F. Pothier, Marie-Agnès Jacques, Monika Kažužna, Joana Costa, and Eran Bosis.