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Pharm-ERA

1st consortium meeting opened sessions

November 25-26th, 2024 - Lyon

INRAE

Pharm-ERA First Consortium Meeting Open sessions

		Monday 25/11/2024	Tuesday 26/11/2024	Wednesday 27/11/2024
9:00	9:30		PhD 1 to 4	
9:30	10:00			
10:00	10:30			
10:30	11:00		Break	Sabine Duquesne Benoit Ferrari
11:00	11:30		PhD 5 to 7	
11:30	11:45			
11:45	12:00			
12:00	12:30		Break	
12:30	13:00			
13:00	13:30			
13:30	14:00		PhD 8 to 10	
14:00	14:30	Edward Topp		
14:30	14:45			
14:45	15:00	Pharm-ERA Welcome & pre-sentation		
15:00	15:30			
15:30	16:00			
16:00	16:30		Full consortium session	Research Integrity and open science Daniel Pizzolato
16:30	17:00	Break	Keynote lecture	
17:00	17:30	ARISTO PlasticUnderground QTOX	Master class	
17:30	18:00			
18:00	18:30			

MONDAY NOVEMBER 25TH

12:00 - 14:00	Welcome Lunch *Entrance hall, ground floor*	
14:00 - 14:45	**Introductive Keynote, Edward TOPP , Distinguished Chair on AMR, and Director of research INRAE** *Rhône meeting room, ground floor*	*All* 30'+15'

Fate and impacts of antibiotics in terrestrial ecosystems: environmental and health issues in the one-health context.

Antibiotics are pharmaceuticals that prevent or treat bacterial infections in people or animals. They primarily enter the environment through human and animal waste streams, direct addition to aquaculture or crop production systems, and effluents from manufacturing factories. Unfortunately, bacterial pathogens of human and animal health concern are developing resistance to multiple classes of antibiotics. This is happening at a pace that is causing serious concern that the efficacy of these crucially important medicines will be lost with dire concern for public health. The environment has a crucially important role to play in the development and transmission of antibiotic resistance, and is integral to what has been coined the One Health continuum, through which bacteria readily circulate. This presentation will review aspects of the fate and impacts of selected antibiotics on terrestrial communities of bacteria, highlighting some recent findings and current knowledge gaps with respect to ERAs with endpoints that are of human health concern. Individuals with a particular interest on this topic are encouraged to read a recent report from the United Nations Environment Programme.

14:45 - 16:30	Pharm-ERA welcome & presentation **S. PESCE, Network coordinator, WPs leaders, & E. EGEA Project manager, INRAE** *Rhône meeting room, ground floor*	*All*

- INRAE welcome introduction by **Mohamed NAAIM** - head of aquatic sciences INRAE department, **Pascal BOISTARD** – INRAE Lyon-Grenoble center President, and **Nicolas LAMOUROUX**, head of Hydrosystems functioning RiverLy Research Unit. — 5'
- Pharm-ERA MSCA Doctoral Network presentation by **Stéphane PESCE**, network coordinator, INRAE — 15'
- MSCA DN financing rules, by **Emilie EGEA**, project manager, INRAE — 10'
- WP 3,4,5,6 presentations by WP leaders – introduction by **Chloé BONNINEAU**, network scientific manager, INRAE:
  - WP3 : **Cécile MIÈGE**, INRAE — 10'
  - WP4 : **Natàlia CORCOLL**, UGOT — 10'
  - WP 5 : **Dimitrios KARPOUZAS**, UTH — 10'
  - WP 6 : **Lorenzo PROIA**, BETA — 10'
- PhD fellows training actions by WP 2 leader : **Delphine DELAUNAY**, Training and Human Resources Manager, Fondation evertéa — 10'
- Dissemination & communication actions : **Fabrice MARTIN-LAURENT**, Intellectual Property, Dissemination and Outreach Manager, INRAE — 10'

16:30 - 17:00	Coffee break *Entrance hall, ground floor*	
17:00 - 18:30	**MSCA Doctoral Network feedback & networking, round table animated by Chloé BONNINEAU, Network scientific manager, INRAE** *Rhône meeting room, ground floor*	*All*

ARISTO (2020-2024) - https://aristo.bio.uth.gr/

By Prof. Dimitrios KARPOUZAS, Network coordinator, Head of the Department of Biochemistry and Biotechnology, University of Thessaly, Greece

ARISTO brings together the expertise of industry and academia to train the next generation of soil ecotoxicologists in order to develop tools, methods and procedures to assess in the most comprehensive and robust way the toxicity of pesticides on soil microorganisms. ARISTO will bring research breakthroughs and at the same time will have a major impact in the future regulatory framework regarding the Environmental Risk Assessment of Pesticides. ARISTO (2020-2024) is funded by the European Commission under the MSCA - ITN - EID - H2020 funding scheme.

PlasticUnderground (2022-2026)- www.plasticunderground.org

By Prof. Stefan KRAUSE, Network coordinator, School of Geography, Earth, and Environmental Sciences, University of Birmingham, United Kingdom

PlasticUnderground Doctoral Network is a multi-partner, inter-sectoral joint doctoral research training network with the aim to train an international cohort of Early-Stage Researchers to develop solutions to the emerging underground plastic pollution crisis in soils and groundwater aquifers. Increasing accumulation of micro- and nanoplastics (MnP) in soils and groundwater raise severe concerns by agricultural and water industries, food manufacturers, regulators, environmental interest groups and citizens. PlasticUnderground's mission is to deliver international scientific excellence through research and training on solutions to the emerging crisis of MnP pollution in subsurface ecosystems in soils and groundwater.

QTOX (2023-2027)- www.qtox.eu

By Prof. Gudrun De Boeck, Member of the QTOX Coordinating Team & WP4 leader, Head of the ECOSPHERE research group, University of Antwerp, Belgium

The overall aim of QTOX is the development of quantitative extrapolation tools based on mechanistic knowledge of the underlying processes in the chain from exposure to effects, across all levels of biological organisation, with a close connection to regulatory endpoints, and under environmentally realistic conditions, i.e., including the dynamics of chronic exposures to mixtures of chemicals. The aim is to develop predictive models for describing the adverse effects of chemicals under realistic long-term exposure scenarios based on systematic knowledge acquired under laboratory and semi-field conditions.

QTOX will focus on mesocosm studies and test the predictive capability of models on all levels of chemical and biological organisation within a biological community context: the wealth of chemical and biological data from mesocosm experiments provides mechanistic information for the development, evaluation and validation of model predictions.

TUESDAY NOVEMBER 26TH

09:00 - 10:30	**PhD topic & fellows presentations** *Rhône meeting room, ground floor*	*All*
	PhD 1: Venetios MICHELIOUDAKIS, AEIFORIA, Assessing and predicting the fate of model PhACs and their TPs in soils and towards the aquatic systems.	*15'+5'*
	PhD 2: Gillian PAGANUS, UTH, Influence of PhAC exposure on microbial functions, diversity and AMR development and dissemination in soil.	*15'+5'*
	PhD 3: Ioanna GKONI, INRAE, Incidence of PhACs and microbial coalescence on sediment microbial communities and the occurrence of bacterial pathogens disseminating antimicrobial resistances (AMR).	*15'+5'*
	PhD 4: Ana Luisa MEJÍA CAMACHO, UGOT, Context-dependency on the fate and ecotoxicological effects of antibiotics and antimicrobial resistance on river sediment.	*15'+5'*
10:30 - 11:00	Coffee break *Entrance hall, ground floor*	
11:00 - 12:00	**PhD 5: Sofia AGOSTI,** BETA, Dissemination routes of AMR and pathogens among terrestrial and freshwater ecosystems in agri-urban catchments.	*15'+5'*
	PhD 6: David CALVO MORA, CEAB, Influence of colonizing substrata on the dynamics of AMR and pathogens in fluvial ecosystems.	*15'+5'*
	PhD 7: Louis SUSSET, UFZ, Molecular and phenotypic thresholds of antibiotics to protect aquatic microbial community structure and functioning.	*15'+5'*
12:00 - 13:30	Lunch time *Entrance hall, ground floor*	
13:30 - 14:30	**PhD 8: Zahrasadat ALAVIKAKHKI,** INRAE, Kinetic of metabolomic fingerprints of periphyton exposed to PhACs: towards the discovery of early molecular biomarkers.	*15'+5'*
	PhD 9: Galib ASADULLA HIL, IDAEA, Effect Directed Analysis on microbial communities as indicators of chemical and ecotoxicological quality status of the aquatic environment.	*15'+5'*
	PhD 10: Alejandra PÉREZ VÁZQUEZ, KRÉATIS, Assessment and prediction of the toxicity of PhACs on surface water and sediment model organisms.	*15'+5'*

WEDNESDAY NOVEMBER 27TH

10:30 - 11:15 **Keynotes, Sabine DUQUESNE, Environmental Risk assessor, German Governmental Agency** *All* 30'+15'

Rhône meeting room, ground floor

Overview of the European regulations for the Environmental Risk assessment of chemicals, special focus on pesticides.

The registration and risk assessment of chemicals on the European market is currently separated between different legal frameworks, dependent on the chemical's use. There are five main European chemical registration frameworks and risk assessment procedures that are covering 1) medicines for human use, 2) veterinary medicines, 3) pesticides, 4) biocides and 5) industrial chemicals. Overall, the function of the current frameworks is similar. Indeed the Environmental regulation of chemicals in the EU was implemented to protect the environment against potential adverse effects in water, sediment, soil and air caused by their use. But differences exist between the frameworks' environmental protection goals and environmental risk assessment (ERA). In this presentation, an overview of the different regulations is presented with a special focus on pesticides and especially on aquatic ecosystems, in order to illustrate diverse aspects of ERA.

11:15 - 12:00 **Keynotes, Benoit FERRARI, Swiss Centre for Applied Ecotoxicology** *All*

Rhône meeting room, ground floor 30'+15'

Ecotoxicity of Soil, Sediment and Water: tools, gaps and challenges.

Chemical analysis alone is insufficient for fully assessing the impact of chemicals on species and ecosystems. This is largely due to the growing number of (often unknown) chemical stressors and the complex mixture effects they create. Furthermore, ecological indices have limited capacity to pinpoint the specific stressors responsible for negative ecological outcomes. As a result, additional methods are required to directly address the biological effects of chemical exposure. Ecotoxicity tests fulfill this role and have been developed for use in soil, sediment, and water. In this presentation will give an overview of existing methods and deliver some thoughts on gaps and challenges for assessing the environmental risk in soil, sediment and water.

16:00 - 18:00 **Master class, Daniel Pizzolato, European Network of Research Ethics Committees (EUREC), Bonn, Germany**

Mandatory for all PhD students - All consortium members are strongly invited to participate

Rhône meeting room, ground floor

Research integrity and open science in practice

All researchers must adhere to the highest standards, with proper scientific conduct being the norm. In this context, fostering a positive mindset towards reflection, vigilance, and awareness of responsible research practices is crucial. The masterclass aims to equip PhD researchers with a clear understanding of what constitutes acceptable and unacceptable behavior, helping them avoid mistakes that could negatively impact others, science, and their own careers.
