

**XII ISEE Programme – Welcome ceremony  
(Location: Institut Agro Rennes-Angers)**

**Sunday 10 July 2022**

17:00-18:30	<p><b>Registration</b> In parallel for those who are interested, a visit of the library will be made (small groups)</p>
18:30-19:30	<p><b>Welcome speeches</b> After introductory speeches by</p> <ul style="list-style-type: none"> <li>- Alessia Lefebure (Head of Institut Agro Rennes-Angers),</li> <li>- Thierry Caquet (Scientific Director of INRAE)</li> <li>- Eric Hitti (Vice-president of University of Rennes 1),</li> </ul> <p>we will start this ISEE 12 with talks from:</p> <ul style="list-style-type: none"> <li>- Marcel Bouché “The contributions of geodrilology inadmissible in science, why?”</li> <li>- Patrick Lavelle “Earthworms in music and theater for environmental education”</li> <li>- Daniel Cluzeau “How to take advantage of the knowledge accumulated by the forefathers for the research of today and tomorrow”</li> </ul>
19:30-21:30	<p><b>Cocktail</b></p>



Sponsors



**XII ISEE Programme – Conferences**  
(Location: University Rennes 1, Beaulieu Campus)

**Monday 11 July 2022**

8:30-9:00	<b>Registration</b> – welcome coffee
9:00-9:10	<b>Opening session</b> National Organising committee
9:10-9:30	<i>(Visio)</i> Introducing conference: <b>The international network on soil biodiversity (NETSOB), under the auspices of the Global Soil Partnership (GSP) of the World Food Organization (FAO) invites you all to join in.</b> Mr Peter de Ruiter
<b>Session 1: Earthworms, from soil functions to climate change. Chairpersons: Ms Isabelle Barois &amp; Ms Onja Ratsiatosika</b>	
9:30-10:00	Key note: <b>Soil fauna diversity, greenhouse gas emissions and plant productivity: the Microbial Route or the Soil Structure Route?</b> Ms Ingrid Lubbers
10:00-10:30	1. Mr Yvan Capowiez: Seeking for there holy grail: definition of 6 new functional groups of earthworms according to their effect on macroporosity, bioturbation, water infiltration and litter consumption 2. Mr Kevin Hoeffner: Two distinct ecological behaviours within anecic earthworm species in temperate climates
10:30-11:00	Refreshment break
11:00-12:00	<i>(Visio)</i> 3. Mr Nicolas Puche: Modelling the dynamics of particulate organic matter occluded in earthworms casts during ageing under field conditions 4. Ms Elma Lahive: The quantification of bioturbation in soils using nanoparticles as tracers 5. Ms Katell Quenea: Distinct patterns of change of organic matter in bulk soil or in earthworm casts during ageing 6. Mr Quang Pham Van: Relationships between functional traits, burrowing activity and water infiltration of earthworm species found in northern Vietnam
12:00-12:30	Ms Isabelle Barois & Ms Onja Ratsiatosika - Session 1 (part 1) – Synthesis - Global questions and discussions.
12:30-14:30	Lunch and Poster presentation (sessions 1, 2 & 3)
<b>Session 1: Earthworms, from soil functions to climate change. Chairperson: Mr Manuel Blouin &amp; Mr Jan Willem van Groenigen</b>	
14:30-15:30	7. Ms Maria Camila Buitrago: Earthworms enhance C storage in tropical soils submitted to the FBO technology 8. Mr Roberto Carrera-Martínez: Not just fishing baits! Influence of native earthworms ( <i>Oligochaeta</i> : Sparganophilidae) on decomposition of riparian leaf litter 9. Ms Laura Ferron: Sustainable phosphorus uptake: can a combination of earthworm communities and struvite be a solution? 10. Mr Mark Hodson: Earthworm-plant-microbiota interactions
15:30-16:00	Refreshment break and Poster presentation (sessions 1, 2 & 3)
16:00-17:00	11. Mr Jan Frouz: Earthworm invasion in meting permafrost chance or disaster – results of laboratory experiment <i>(visio)</i> 12. Mr Zl Yacouba: Potential respiration, (de)nitrifier and abundance in casts of Lumbricidae and Megascolecidae earthworm species are poorly linked to the three main ecological categories. 13. Mr Sylvain Gérard: 50 years climate change imprints on earthworm communities in mainland France
17:00-18:00	Session 1 (part 2) global question and discussion - Mr Manuel Blouin & Mr Jan Willem van Groenigen <b>Round table:</b> earthworms and climate change; actor? indicator? a complex story
18:00-19:30	Relaxing time and Poster presentation (sessions 1, 2 & 3)

Tuesday 12 July

<b>Session 2: Community ecology and ecological networks - <i>Earthworm together and with the others.</i> Chairpersons: Ms Marie Bartz &amp; Mr Bart Muys</b>	
9:00-9:30	Key note: <b>How network analysis can help us understanding the processes of community assembly and the functional role of earthworms and soil organisms.</b> Mr Jérôme Mathieu
9:30-10:30	<ol style="list-style-type: none"> <li>1. Ms Linlin Zhong: Earthworm diet shifts in response to root-derived resources in species-specific ways – Insights from bulk and compound-specific isotope analyses</li> <li>2. Mr Manuel Blouin: A core microbiota of the plant-earthworm interaction conserved across soils</li> <li>3. Ms Ambre Sacco--Martret de Préville: Earthworm contribution to pest control in cereal fields.</li> <li>4. Mr Juan J. Jiménez: Earthworm communities and biotic associations with other soil taxa across an altitudinal gradient</li> </ol>
10:30-11:00	Refreshment break and Poster presentation (sessions 1, 2 & 3)
11:00-12:15	<ol style="list-style-type: none"> <li>5. (<i>visio</i>) Mr Zhen-Jun Sun: The protecting effects of earthworm on Fusarium wilt of strawberry</li> <li>6. Ms Isabelle Barois: Positive correlation between soil phytohormone-like molecules and growth of two Coffea species influenced by Pontoscolex corethrurus</li> <li>7. Mr Jiri Schlaghamersky: Annelids of spring fens and adjacent grasslands along a mineral-richness and pH gradient in the Western Carpathians</li> <li>8. Mr Olaf Schmidt: Interactions of the invasive plant species Gunnera tinctoria with earthworms</li> <li>9. Mr Maxim Shashkov: Stage-Based Matrix Population Model of Endogeic Earthworm <i>Aporrectodea caliginosa</i> (Savigny, 1826)</li> </ol>
12:15-12:45	Session 2 Synthesis- global discussion. Ms Marie Bartz & Mr. Bart Muys
12:45-14:30	Lunch and Poster presentation (sessions 1, 2 & 3)
<b>Session 3: Earthworms facing environmental pollutants: effects, responses and retroactions. Chairpersons: Ms Sophie Reinecke &amp; Mr Sylvain Bart</b>	
14:30-15:00	Key note: <b>Revealing mechanisms that underlie differential sensitivity of earthworm species to pesticides: towards predictive toxicology.</b> Mr. Stephen Short
15:00-16:00	<ol style="list-style-type: none"> <li>1. Mr Mark Maboeta: The effects of different gold mine tailings on growth, reproduction and avoidance-behaviour of earthworms</li> <li>2. Ms Jeannette Kister: Effects of silver nanoparticles on the endogeic earthworm species <i>Aporrectodea caliginosa</i></li> <li>3. Ms Davorka Hackenberger: The effect of coal ash and slag with enhanced content of naturally occurring radionuclides on <i>Eisenia fetida</i></li> <li>4. Mr Ke Meng: Exploring the potential use of earthworms to mitigate microplastic pollution in the soil</li> </ol>
16:00-16:30	Refreshment break and Poster presentation (sessions 4 & 5)
16:30-17:45	<ol style="list-style-type: none"> <li>5. (<i>visio</i>) Mr Yinsheng Li: Earthworms facilitate the biotransformation of roxarsone and reduce its adverse effects on soil properties.</li> <li>6. Ms Gabriella Jorge-Escudero: commercial fungicide toxic effect on terrestrial fauna might be underestimated when based solely on active ingredient toxicity and standard earthworm tests</li> <li>7. Ms Emily Eagles: Assessing the bioaccumulation of engineered nanomaterials (TiO<sub>2</sub>) in oligochaetes – can <i>Eisenia fetida</i> and <i>Enchytraeus crypticus</i> be used interchangeably</li> <li>8. Ms Natasha Tilikj: Terrestrial Zen master: transcriptomics in long term aestivation of earthworms and its termination</li> </ol>
17:45-18:15	Session 3 Synthesis- global discussion. <b>Ms Sophie Reinecke &amp; Mr. Sylvain Bart</b>
18:15-19:30	Relaxing time and Poster presentation (sessions 4 & 5)

Wednesday 13 July

<b>Session 4: Agroecology, Sustainable ecosystem and earthworm engineering. Chairpersons: Ms Maria Briones &amp; Ms Ilka Engell</b>	
9:00-9:30	Key note: <b>Earthworms as a catalyst for better nutrient stewardship in sustainable agroecosystems</b> Ms Joann Whalen
9:30-10:30	1. Mr Jan Willem van Groenigen: Through which pathways can earthworms increase soil phosphorus availability? 2. Ms Hasinahary Onja Ratsiatosika: Potential of earthworms ( <i>Pontoscolex corethrurus</i> ) to enhance upland rice growth and nutrition in nutrient depleted Ferralsols. Examples from Madagascar. 3. Ms Föster Alena: A Pan-European comparison of earthworm communities from annual and perennial wheat cropping systems 4. Ms Qun Liu: Management intensity in croplands and grasslands affect earthworm biomass differently under ambient and future climatic scenario
10:30-11:00	Refreshment break and Poster presentation (sessions 4 & 5)
11:00-12:15	( <i>visio</i> ) 5. Ms Emma Sherlock: Making earthworm surveys in agricultural environments easier: Keys to the common agricultural earthworms of Europe 6. Ms Pia Euteneuer: Earthworm Enhancement can make a difference - A field investigation of <i>Lumbricus terrestris</i> on crop production in three soil tillage systems 7. Ms Guénola Pérès: Do reduced tillage practices applied under organic farming represent realistic approach to maintain soil biological, physical and chemical quality and the linked ecosystem services? 8. Ms. Esperanza Huerta Lwanga. Earthworm abundance and diversity in EU agricultural systems, along a gradient of pesticides use. H2020-Sprint project
12:15-12:45	Session 4 (part 1) Synthesis- global discussion. Ms Maria Briones & Ms Ilka Engell
12:45-14:30	Lunch and Poster presentation (sessions 4 & 5)
<b>Session 4: Agroecology, Sustainable ecosystem and earthworm engineering. Chairpersons: Ms Astrid Taylor &amp; Mr Umesh Shagoti</b>	
14:30-15:30	9. Mr Martin Potthoff: The economy of earthworms; values and incentives beyond ecology 10. Mr Bart Muys: Do vibrations from wind turbines and highways affect earthworm communities in agricultural landscapes? 11. Ms Jeanne Maréchal: Characterisation of a brown infrastructure for earthworm preservation in fragmented urban areas 12. Ms Silvia Maribel Contreras Ramos. Bioremediation of hydrocarbons in a pilot system with the combination of bioaugmentation, phytoremediation, and vermiremediation
15:30-16:00	Refreshment break and Poster presentation (sessions 4 & 5)
16:00-16:45	( <i>visio</i> ) 13. Mr Cevin Tibihenda: Effect of different earthworm species on lead (Pb) bioaccumulation in <i>Brassica campestris</i> and their relationship with microbial characteristics. 14. Mr Jorge Domínguez: Vermicomposting as ecological engineering to promote sustainability and circular econom 15. Ms Rhonda Sherman: Vermicomposting Development throughout the World
16:45-17:30	<b>Synthesys and Round table.</b> Earthworms and Farmers, a long and love story. G. Pérès, F.Thomas (farmer) & V. Frichot (farmer advisor)
19:00-01:00	Gala dinner (Couvent des Jacobins)

Friday 15 July

<b>Session 5: Earthworm biodiversity and evolution: patterns and mechanisms – citizen sciences. Chairpersons: Mr Samuel James &amp; Ms Joann Whalen</b>	
9:00-9:30	Key note: <b>Rebuilding the systematics of European earthworms (Lumbricoidea, Crassiclitellata) through molecular phylogenetics as a foundation for evolutionary and ecological research.</b> Mr Daniel Fernández Marchán
9:30-10:30	<ol style="list-style-type: none"> <li>1. Mr Quentin Gabriac: Is there an ecological niche overlap between native and exotic earthworm species in Martinique?</li> <li>2. Mr Frank Ashwood: Earthworm distribution and habitat associations in the British Isles</li> <li>3. Ms Irene de Sosa: European phylogeography of Eiseniella tetraedra</li> <li>4. Mr Roberto Carrera-Martínez: How many worms burrow in the stream edge? The overlooked biodiversity of the semi-aquatic Spaganophilus earthworms</li> </ol>
10:30-11:00	Refreshment break
11:00-12:15	<p><i>(visio)</i></p> <ol style="list-style-type: none"> <li>5. Ms Qing Jin: Population genetic structure and diversity of Metaphire remanens (Oligochaeta: Megascolecidae) based on mitochondrial DNA analysis</li> <li>6. Mr David W.G. Stanton, Mr Samuel James: Endless forms below the surface: Extreme genetic diversity in South American earthworms</li> <li>7. Ms Marie Bartz: Earthworm species of Mozambique, Africa</li> <li>8. Mr Arnaud Goulpeau: Hundreds of earthworm species in French Guiana revealed by DNA barcoding of a comprehensive sample set</li> <li>9. Ms Lise Dupont. Biodiversity inventory of earthworms of Martinique through the use of DNA barcoding unveiled both native and introduced species</li> </ol>
12:15-12:45	Session 5 (part 1) Synthesis- global discussion. Mr Samuel James & Ms Joann Whalen
12:45-13:45	Lunch
<b>Session 5: Earthworm biodiversity and evolution: patterns and mechanisms – citizen sciences. Chairpersons: Mr Patrick Lavelle &amp; Mr Daniel Cluzeau</b>	
13:45-14:15	<ol style="list-style-type: none"> <li>10. Ms Victoria Burton: Earthworm Watch: citizen science with matched pairs for modelling the functional diversity of UK earthworms</li> <li>11. Ms Sarah Guillocheau: A French collaborative platform on earthworms, from citizen science to the monitoring and assessment of the soil biological state</li> </ol>
14:15-15:00	<b>Synthesis and Round table.</b> Earthworms, evolution, conservation and citizens, a passionate story. Mr Patrick Lavelle
15:00-16:00	<b>GENERAL CONCLUSION – What have we learned? What is the future? Chairpersons: national organising committee</b>