



22nd World Congress of Soil Science

Congress Programme

KEY INFORMATION

In person and online poster presentations will be held at the following times:

- Poster Session 1: 1 August - 13:00 - 15:00
- Poster Session 1: 2 August - 11:00 - 13:00
- Poster Session 2: 3 August - 12:30 - 14:30
- Poster Session 2: 4 August - 11:30 - 13:00

The Opening and Closing ceremonies, Plenary and Interdivisional sessions will be live streamed from the Congress.

All streaming and sessions will take place in British Summer Time (BST).

OVERVIEW

Plenary sessions

| Title | Speaker | Date | Time | Room |
|--|-------------------------|-------------|---------------|------------------|
| Soils and Sustainable Food Production | Prof Ismahane Elouafi | 01/08/22 | 09:00 – 10:00 | Clyde Auditorium |
| How transforming land use change could change our future | Dr Debra Roberts | 02/08/22 | 18:00 – 19:00 | Clyde Auditorium |
| Rock dust - a reverse weathering mechanism for tropical soils: physical and economic aspects | Prof Suzi Huff Theodoro | 03/08/22 | 17:00-18:00 | Clyde Auditorium |
| Empowering Soil Scientists with Data-Driven Techniques | Dr Ranveer Chandra | 04/08/22 | 08:00 – 09:00 | Clyde Auditorium |



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Interdivisional Sessions

| Session Title | Date | Time | Room | Poster Session |
|---|-------------|---------------|-------------------|-----------------------|
| Interdivisional 1: Spatial decision making and mapping for implementing polices for sustainable soil management | 01/08/22 | 11:00 – 13:00 | Lomond Auditorium | Poster Session 1 |
| Interdivisional 2 – Soil carbon: from particle to planet | 01/08/22 | 11:00 – 13:00 | Clyde Auditorium | Poster Session 1 |
| Interdivisional 1: Spatial decision making and mapping for implementing polices for sustainable soil management | 01/08/22 | 15:00 – 17:00 | Lomond Auditorium | Poster Session 1 |
| Interdivisional 2 – Soil carbon: from particle to planet | 01/08/22 | 15:00 – 17:00 | Clyde Auditorium | Poster Session 1 |
| Interdivisional 3 – Interdisciplinary soil science for impact | 01/08/22 | 15:00 – 17:00 | M1 | Poster Session 1 |
| Interdivisional 3 – Interdisciplinary soil science for impact | 01/08/22 | 17:30-19:30 | M1 | Poster Session 1 |
| Interdivisional 4: Plant soil interactions and their roles in soil formation and sustainable crop production | 02/08/22 | 09:00-11:00 | M1 | Poster Session 1 |
| Interdivisional 9: Novel methods and techniques | 02/08/22 | 09:00-11:00 | Lomond Auditorium | Poster Session 1 |
| Interdivisional 4: Plant soil interactions and their roles in soil formation and sustainable crop production | 02/08/22 | 13:00 – 15:00 | M1 | Poster Session 1 |
| Interdivisional 9: Novel methods and techniques | 02/08/22 | 13:00 – 15:00 | Lomond Auditorium | Poster Session 1 |
| Interdivisional 6: Dynamics of soil erosion and land loss under present and future environments | 02/08/22 | 15:30 – 17:30 | Lomond Auditorium | Poster Session 1 |
| Interdivisional 7: Soil securing humanity Humanity securing soil | 03/08/22 | 08:00 – 10:00 | Lomond Auditorium | Poster Session 2 |
| Interdivisional 8: Sustainable land use | 03/08/22 | 08:00 – 10:00 | M1 | Poster Session 2 |
| Interdivisional 7: Soil securing humanity Humanity securing soil | 03/08/22 | 10:30 – 12:30 | Lomond Auditorium | Poster Session 2 |
| Interdivisional 8: Sustainable land use | 03/08/22 | 10:30 – 12:30 | M1 | Poster Session 2 |
| Interdivisional 5: Soil science and the emerging philosophy of regenerative agriculture | 03/08/22 | 14:30 – 16:30 | Lomond Auditorium | Poster Session 2 |
| Interdivisional 10: Land contamination and degradation, including Urban Land | 04/08/22 | 09:30 – 11:30 | Lomond Auditorium | Poster Session 2 |
| Interdivisional 10: Land contamination and degradation, including Urban Land | 04/08/22 | 13:00 – 15:00 | Lomond Auditorium | Poster Session 2 |



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Divisional Sessions

| Session Title | Date | Time | Room | Poster Session |
|---|-------------|---------------|-------------------|-----------------------|
| 16 Division 2: Nitrogen cycling and soil health | 01/08/22 | 11:00 – 13:00 | Forth | Poster Session 1 |
| 16 Division 2: Nitrogen cycling and soil health | 01/08/22 | 15:00 – 17:00 | Forth | Poster Session 1 |
| 14 Division 1 Commission 1.2: Soil geography: basic science and new technologies: | 01/08/22 | 17:30 – 19:30 | Lomond Auditorium | Poster Session 1 |
| 24 Division 4 Commission 4.5: History, philosophy and sociology of soil science: | 01/08/22 | 17:30 – 19:30 | Forth | Poster Session 1 |
| 12 Division: 1 Commission 1.4, Commission 1.6 – Soil classification and palaeopedology | 02/08/22 | 09:00 – 11:00 | Boisdale 1 | Poster Session 1 |
| 12 Division: 1 Commission 1.4, Commission 1.6 – Soil classification and palaeopedology | 02/08/22 | 13:00 – 15:00 | Boisdale 1 | Poster Session 1 |
| 19 Division 2 Commission 2.3: Soil microorganisms under changing environment | 02/08/22 | 13:00 – 15:00 | Forth | Poster Session 1 |
| 11 Soil Genesis | 02/08/22 | 15:30 – 17:30 | M1 | Poster Session 1 |
| 19 Division 2 Commission 2.3: Soil microorganisms under changing environment | 02/08/22 | 15:30 – 17:30 | Forth | Poster Session 1 |
| 17 Division 2: Sustainable use of legacy soil phosphorus | 03/08/22 | 08:00 – 10:00 | Gala | Poster Session 2 |
| 22 Division 3 Commission 3.1 – Soil evaluation and land use planning | 03/08/22 | 08:00 – 10:00 | Forth | Poster Session 2 |
| 28 WG1.2 – Digital soil mapping: advances towards Digital Soil Assessment | 03/08/22 | 08:00 – 10:00 | Alsh 1 | Poster Session 2 |
| 17 Division 2: Sustainable use of legacy soil phosphorus | 03/08/22 | 10:30 – 12:30 | Gala | Poster Session 2 |
| 21 Division 3, Commission 3.2 - Soil water, pollutant and gas movement in the context of a changing climate | 03/08/22 | 10:30 – 12:30 | Forth | Poster Session 2 |
| 13 Division 1 Commission 1.5: How Pedometrics can cross boundaries and change society | 03/08/22 | 14:30 – 16:30 | M1 | Poster Session 2 |
| 21 Division 3, Commission 3.2 – Soil water, pollutant and gas movement in the context of a changing climate | 03/08/22 | 14:30 – 16:30 | Forth | Poster Session 2 |
| 20 Division 2 Commission 2.3- Soil biology in transition: from descriptive to mechanistical understanding | 04/08/22 | 09:30 – 11:30 | M1 | Poster Session 2 |
| 25 Division 4 Commission 4.4: Soil education – in School, university, and In-Service training | 04/08/22 | 09:30 – 11:30 | Forth | Poster Session 2 |



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| 15 Divisions 1 and 2 Commission 1.1, Commission 2.1– Soil structure - Observation, resilience and its role in ecosystem functioning | 04/08/22 | 13:00 – 15:00 | M1 | Poster Session 2 |
| 18 Division 2 Commission 2.2 – Biogeochemical cycles in the soil - processes linking the abiotic and biotic realms | 04/08/22 | 13:00 – 15:00 | Forth | Poster Session 2 |
| IUSS Gender Balance Meeting including Divisional session 26 | 04/08/22 | 13:00 – 15:00 | Dochart 2 | N/A |
| 15 Divisions 1 and 2 Commission 1.1, Commission 2.1– Soil structure: Observation, resilience and its role in ecosystem functioning | 04/08/22 | 15:30 – 17:30 | M1 | Poster Session 2 |
| 18 Division 2 Commission 2.2 – Biogeochemical cycles in the soil - processes linking the abiotic and biotic realms | 04/08/22 | 15:30 – 17:30 | Forth | Poster Session 2 |
| 23 Division 3 Commission 3.3 – Effects and processes of biochar and soil organic matter on plant nutrition | 04/08/22 | 15:30 – 17:30 | Lomond Auditorium | Poster Session 2 |

Working Group Sessions

| Session Title | Date | Time | Room | Poster Session |
|---|-------------|---------------|-------------|-----------------------|
| 36 WG2.1: The Legacy of Henry Lin and the future of Hydropedology | 01/08/22 | 11:00 – 13:00 | Alsh 1 | Poster Session 1 |
| 39 WG3.1: General Meeting of the acid sulfate soils working group | 01/08/22 | 11:00 – 13:00 | Alsh 2 | Poster Session 1 |
| 30 WG1.04: Global soil map; main advances and ways forward | 01/08/22 | 15:00 – 17:00 | Alsh 2 | Poster Session 1 |
| 35 WG1.9 – Advances in understanding soils as reflected by the 4th edition of the WRB | 01/08/22 | 17:30 – 19:30 | Alsh 1 | Poster Session 1 |
| 41 WG3.2: Advances in innovative technologies and methods for quantifying biogeochemical cycles of carbon and nutrients in forest soils | 02/08/22 | 09:00 – 11:00 | Alsh 1 | Poster Session 1 |
| 44 WG3.4: Mitigation and adaptation strategies for climate change in rice-based systems | 02/08/22 | 09:00 – 11:00 | Alsh 2 | Poster Session 1 |
| 43 WG 3.4: Recent advances in nutritional, biological and physical processes in paddy soils | 02/08/22 | 13:00 – 15:00 | Alsh 1 | Poster Session 1 |
| 34 WG1.8 – Advances in universal soil classification | 02/08/22 | 15:30 – 17:30 | Alsh 2 | Poster Session 1 |



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| 40 WG3.2: Carbon and nutrient cycles under intensifying climate change and land management | 02/08/22 | 15:30 – 17:30 | Alsh 1 | Poster Session 1 |
| 45 WG4.1 - The application of Soil Science in the Criminal Justice System | 03/08/22 | 08:00 – 10:00 | Alsh 2 | Poster Session 2 |
| 29 WG1.3 – Progress in Digital Soil Morphometrics - deeper and more precise soil observations | 03/08/22 | 10:30 – 12:30 | Alsh 2 | Poster Session 2 |
| 37 WG2.2 – Modelling soil processes from ped to global scale | 03/08/22 | 10:30 – 12:30 | Alsh 1 | Poster Session 2 |
| 31 WG1.5: Sensing soil chemical, physical and biological properties - advances and emerging techniques | 03/08/22 | 14:30 – 16:30 | Alsh 1 | Poster Session 2 |
| 46 WG4.2: Culture and Soil. Outlook and insights from around the world | 03/08/22 | 14:30 – 16:30 | Alsh 2 | Poster Session 2 |
| 32 WG1.6: Soil information standards and systems - current initiatives and advances | 04/08/22 | 09:30 – 11:30 | Alsh 1 | Poster Session 2 |
| 38 WG3.1: Acid sulfate soils, sulfidic materials and wetland soils | 04/08/22 | 09:30 – 11:30 | Alsh 2 | Poster Session 2 |
| 33 WG1.7 – Advances in soil monitoring | 04/08/22 | 13:00 – 15:00 | Alsh 1 | Poster Session 2 |
| 42 WG 3.3 – SUITMA: Soils of Urban, Industrial, Traffic, Mining and Military Areas | 04/08/22 | 15:30 – 17:30 | Alsh 1 | Poster Session 2 |

Fringe meetings

| Session Title | Date | Time | Room |
|--|----------|---------------|-----------|
| Global Soil Health Programme | 01/08/22 | 13:00 – 19:30 | Carron 1 |
| Reaching higher ground: the next generation of soil science through collaborative postgraduate training and learning” everywhere it appears? | 02/08/22 | 09:00 – 13:00 | Dochart 1 |
| Soil Benchmark | 03/08/22 | 09:00 – 13:00 | Dochart 1 |
| Cranfield Session | 03/08/22 | 12:30-14:30 | Dochart 2 |
| Global Soil Health Session 2 | 04/08/22 | 09:30 – 13:00 | Carron 1 |
| Ecological Continuity Trust (ECT) | 04/08/22 | 09:30 – 17:30 | Dochart 1 |
| Sustainability and the World Congress of Soil Science 2022 | 04/08/22 | 15:30 – 16:30 | Carron 2 |

FULL PROGRAMME

Day 1 Programme Sunday 31 July 2022



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| 10:00 - 14:45 | IUSS Executive Committee Meeting – <i>closed meeting</i> | Fyne |
| 15:00 – 16:30 | BSSS Board Meeting – <i>closed meeting</i> | Fyne |
| 17:15 – 18:00 | Press Conference – <i>Invited members of the press only</i> | M3 |

Opening Ceremony

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| 18:30 – 19:30 | Opening Ceremony | Clyde Auditorium |
| 20:00 – 21:00 | Civic Reception | Glasgow Science Centre |



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Day 2 Programme
Monday 1 August 2022

| Plenary Session | | |
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| 09:00 – 10:00 | Soils and Sustainable Food Production Professor Ismahane Elouafi, Chief Scientist, FAO Rome, Italy | Clyde Auditorium |
| 10:00 – 10:40 | Russell Review paper: Are plant roots only 'in' soil or are they 'of' it? Roots, soil formation and function: Professor Peter Gregory | Clyde Auditorium |

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| 10:30 – 11:00 | Refreshment Break, Exhibition & Networking | Hall 4 |
| 10:00 – 19:30 | Division 3 Business Meeting – <i>closed meeting</i> | Boisdale 1 |
| 10:00 – 19:30 | Division 4 Business Meeting – <i>closed meeting</i> | Boisdale 2 |
| 10:00-11:00 | Division 1 Meeting – <i>closed meeting</i> | Gala |
| 10:00-11:00 | Division 2 Meeting – <i>closed meeting</i> | Dochart 2 |

| 11:00 – 13:00 | Parallel Session 1 | |
|------------------|--|-------------------|
| | Interdivisional 1: Spatial decision making and mapping for implementing policies for sustainable soil management: Chairperson: Prof. Fabio Terribile & Dr Jack Hannam | Lomond Auditorium |
| | <ol style="list-style-type: none"> 1. Dr Giuliano Langella: Geospatial decision support systems embedding digital soil mapping engines 2. Dr Rachel Opitz: The ipaast-czo Project: Exploring the Interoperability of Precision Agricultural and Archaeological Remote and Near-Surface Sensing Methods and Data 3. Elisa Bruni: Reaching the 4 per 1000 target in Europe: feasibility and additional carbon input required 4. Mr Caleb Niemeyer: Digital Soil Mapping predicts spatial patterns in economic yield response to foliar fungicide in maize 5. Prof Rosa M Poch: Strengthen global and national capacities on soil information, soil mapping to support Sustainable Soil Management (SSM) decision planning 6. Dr Stewart Wilson: Soils and Catastrophic Wildfire: Predictive Mapping of Soil Burn Severity 7. Dr Brian Needelman: Digital Soil Mapping to predict and enable cover crop adoption and performance with multi-scale decision support systems 8. Dr Nicolas P.A. Saby: National evaluation of an agricultural soil quality index based on the organic matter to clay ratio | |



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| Interdivisional 2 – Soil Carbon: from particle to planet | | Clyde Auditorium |
| Chairperson: Curtis Monger | | |
| | <ol style="list-style-type: none"> 1. Keynote Speaker - Dr Ronald Amundson: Soil Science in the Age of Carbon Sequestration 2. Prof. Ellen Kandeler: Microbial Carbon Transfer between Microhabitats 3. Mr. Lucas Lesaint: Carbon storage in soils of hedge agroforestry systems: new insights on the drivers controlling storage potential 4. Prof Budiman Minasny: Mapping and monitoring changes in soil organic carbon stocks of the world 5. Alba Otero-Fariña: CARBON IN SOILS: AGGREGATION AND STABILITY 6. Dr José Padarian: Soil organic carbon storage potential in global croplands 7. Dr Nikola Patzel: Humus as a problem of civilisation hopes of climate politicians, business expectations of certificate traders, conflicts between conservationists and farmers | |
| 16 Division 2: Nitrogen cycling and soil health: | | Forth |
| Chairperson: Prof. Liz Baggs | | |
| | <ol style="list-style-type: none"> 1. Keynote speaker - Prof Keishi Senoo: Unveiling microbial drivers of nitrogen transformation in agricultural soils: towards novel and practical soil management for soil health 2. Dr Conor Bracken: Nitrogen cycling differences associated with grassland sward composition reveal promising N loss mitigation strategies at key times of the year 3. Ms Rosie O'Neill: The interaction between key soil nutrients; carbon, nitrogen and phosphorus on N-cycling, productivity and N₂O emissions 4. Withdrawn 5. Dr Michaela Reay: Elucidating the effects of land management and role of soil microbes in nitrogen transfer in a clover-ryegrass pasture 6. Dr Aoife M. Duff: Assessing the long-term impact of urease and nitrification inhibitor use on microbial community composition, diversity and function in grassland soil | |
| 36 WG2.1: The Legacy of Henry Lin and the future of Hydropedology | | Alsh 1 |
| Chairperson: Prof. Hans- jörg Vogel & Dr Johan van Tol | | |
| | <ol style="list-style-type: none"> 1. Dr Antonello Bonfante: Soil types and modelling as carriers of dynamic soil degradation information. 2. Prof Johan van Tol: Hydropedological interpretation of soil information to serve the hydrological community 3. Dr George van Zijl: Soil Mapping for hydropedological assessments 4. Dr Hans-jörg Vogel: Current challenges in Hydropedology | |
| 39 WG3.1: General Meeting of the acid sulfate soils working group | | Alsh 2 |

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| 13:00 – 15:00 | Lunch, Exhibition & Poster Presentations | Hall 4 |
| 13:00 – 15:00 | Meet the Journal Editors, hosted by Soil Use and Management, British Society of Soil Science | Gala |
| 13:15 – 14:45 | Early Careers Professionals' Networking Event | Carron 2 |
| 13:00 – 15:00 | IUSS Council Meeting – <i>invited IUSS representatives only</i> | Dochart 1 |



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| 13:45 – 14:30 | <p>UKRI Symposia</p> <p>The Future of UK Soil Science Session Speakers: Dr Laura Cardenas: Atmospheric Chemist (Net Zero and Resilient Farming), Rothamsted Research Matt Fry, Environmental Informatics Manager, UK Centre for Ecology and Hydrology Professor Paul Hallett, Chair in Soil Physics, University of Aberdeen</p> | Lomond Auditorium |
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| 15:00 – 17:00 | Parallel Session 2 | |
| Interdivisional 1: Spatial decision making and mapping for implementing polices for sustainable soil management: Chairperson: Dr Jack Hannam & Prof Erika Micheli | | Lomond Auditorium |
| | <ol style="list-style-type: none"> 1. Prof Dr Hermann F. Jungkunst: Matter of scale: merging process understanding and decision-making in soil-carbon-climate predictions 2. Miss Naila Hina: Using Spatially Explicit Soil Mapping and Modelling to Understand and Mitigate Nitrate Leaching in an Agricultural Catchment 3. Dr Yash Dang: ConstraintID: web-based tool for spatial diagnosis of soil constraints 4. Dr Antonello Bonfante: A geospatial dss for soil health: a regional scale case study 5. Prof Fabio Terribile: A web-based open-access Spatial Decision Support tool to monitor soil sealing and support decision making in urban planning 6. Dr Clementine Chirol: Semi-quantitative evaluation and mapping of bundles of soil ecosystem services in agricultural and forested lands at the regional scale 7. Prof Jess Davies: Future of UK soil carbon and nutrient cycles - modelling climate and land use and management scenarios 8. Dan Yaalon young scientist Division 1 award (with Commission 1.6) | |
| Interdivisional 2 – Soil Carbon: from particle to planet Chairperson: Curtis Monger | | Clyde Auditorium |
| | <ol style="list-style-type: none"> 1. Dr Alexandra Sandhage-Hofmann: Wildlife conservation accumulates carbon and lignin in soils 2. Dr A. Peyton Smith: Pedogenesis in the Phyllosphere: Do arboreal histosols increase soil carbon capture in the tropics? 3. Dr Soh Sugihara: Low OC stabilization capacity of mineral-associated organic matter in tropical-alkaline soils of southern India 4. Miss Lucy Weidner: Catastrophic Carbon Movement: Tracing Changes to Icelandic Carbon Cycling due to Increasing Erosion over the past Millennium 5. Dr Han Weng: Soil carbon research from past, present, and future using synchrotron-based techniques | |



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| | <ol style="list-style-type: none"> 6. Dr Martin Wiesmeier: Soil carbon credits for climate mitigation: opportunities and challenges 7. Prof. Martin Gerzabek: Soil organic carbon and fine particle stocks change along a volcanic chrono- and elevation-sequence on the Galápagos archipelago 8. Noella Garcia Franco: Changes in SOC stocks and aggregates in alpine and pre-alpine grassland soils in a changing climate | |
| Inter-divisional 3 – Interdisciplinary soil science for impact Chairperson Professor Phil Haygarth | | M1 |
| | <ol style="list-style-type: none"> 1. Keynote speaker: Prof Yves Coquet: Soil science skills for the future: a European perspective 2. Prof William Blake: Integrating land-water-people connectivity concepts across disciplines for co-design of soil erosion solutions: the Jali Ardhi [Care for the Land] project 3. Dr Winfried E.H. Blum: Linking the soil microbiome with human health 4. Dr Patricia Bruneau: Lessons learn from the development and use of Scotland's soils website - https://soils.environment.gov.scot/ 5. Dr Charlotte Chivers: Using social science approaches to integrate local knowledge when modelling the impact of natural flood management measures 6. Dr Sarah Duddigan: Understanding the adoption of zero budget natural farming in Andhra Pradesh, India 7. Ms Nerea Ferrando Jorge: Participation in citizen science is a promising avenue for fostering environmental stewardship | |
| 16 Division 2: Nitrogen cycling and soil health: Chairperson: Prof. Liz Baggs | | Forth |
| | <ol style="list-style-type: none"> 1. Keynote Speaker: Prof Sophie Zechmeister-Boltenstern: N2O emissions from cropland and grassland – key drivers and mitigation options 2. Keynote Speaker: Dr Jonathan Holland: Long-term N fertilization effects on soil N dynamics, plant N use efficiency and ecosystem N balance 3. Dr Yunru Chloe Lai: Simulating nitrogen loss due to ammonia volatilisation after urea fertiliser application in APSIM 4. Dr Kairsty Topp: Characterising the variation in UK background emissions of nitrous oxide 5. Mr Carlos Bonini Pires: On-farm strategies for improving soil health: Building a network in Kansas – USA 6. Dr Nikolaos-Christos Vavlas: Remote sensing of cover crop legacies on soil health and main crop N-uptake dynamics | |
| 30 WG1.04: Global soil map; main advances and ways forward Chairperson: Dr Dominique Arrouay | | Alsh 2 |
| | <ol style="list-style-type: none"> 1. Dr Colby Brungard: Multi-scale soil property mapping with conventional soil survey data for the continental U.S. 2. Dr S Dharumarajan: IndianSoilGrids project- Advances, Challenges, and way forward 3. Dr László Pásztor: Recent steps in the DSM related development of the Hungarian Soil Spatial Data Infrastructure 4. Dr Laura Poggio: Global mapping of complex soil properties 5. Dr Natalia Rodriguez Eugenio: The Global Maps of the Global Soil Partnership: from bottom to top | |
| 17:00 – 17:30 | Refreshment Break, Exhibition & Networking | Hall 4 |



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| 17:30 – 19:30 | Parallel Session 3 | |
| Inter-divisional 3 – Interdisciplinary soil science for impact Chairperson Professor Phil Haygarth | | M1 |
| | <ol style="list-style-type: none"> 1. Keynote Speaker: Dr. Dan Richter: Towards a Science of City-Soil Pedogenesis 2. Dr Samantha Grover: Finding common ground; developing a shared understanding of tropical peat swamp forest fires and restoration across disciplines and cultures 3. Dr Christian Adler Phares: Farmers characteristics, indigenous knowledge and soil management practices influenced carbon stock and emissions in contrasting agroecological zones of Ghana 4. Dr Taru Sandén: Using data mining techniques to model citizen scientist collected data on litter decomposition in Austrian urban school soils 5. Ms Antonia Taddei: Metaphors about soil. An interdisciplinary investigation to reveal biases and foster action for soil preservation 6. Mr Matthew Tarnowski: Transdisciplinary research: assemblages of disciplines meet assemblages of microorganisms | |
| 14 Division 1 Commission 1.2: Soil geography: basic science and new technologies: Chairperson: Professor Thomas Scholten | | Lomond Auditorium |
| | <ol style="list-style-type: none"> 1. Dr Dylan Beaudette: Quantitative uses of soil color for the development and presentation of soil survey data in the United States 2. Alexander Bonhage: Large scale survey of anthropogenic soil landscapes in New England, USA, using state-of-the-art machine learning techniques (Yolov4) 3. Dr S Dharumarajan: Comparison of global versus soil-order models for soil properties estimation from Vis-NIR Laboratory spectral data of Northern Karnataka (India) 4. Prof Thomas Scholten: Multi-scale terrain feature construction and machine learning for the spatial interpretation of soil organic carbon stocks in West Greenland 5. Ms Paulina Grigusova: Effect of animal bioturbation on chemical and physical soil properties and sediment redistribution across climate gradients 6. Prof Daniela Sauer: Soils as a key factor for recovery of forest patches after disturbance in the central Mongolian forest-steppe 7. Dr Christoph Weihrauch: Bridging the gap with SNAp? Combining localized soil sampling with network analysis to tackle elemental migration through the soilscape 8. Ms Hayfa Zayani: Predicting changes over time of local soil organic carbon contents using a regional spectral library | |
| 24 Division 4 Commission 4.5: History, philosophy and sociology of soil science: Chairperson: | | Forth |
| | <ol style="list-style-type: none"> 1. Prof Lorna Dawson: Ethics and law in forensic soil science and forensic geology: developing a global White Paper 2. Prof Sabine Grunwald: Feminine Psycho-Spiritual-Social Constructs of Nature, Land, Earth, and Soil 3. Prof Margaret Oliver: The history of soil and human health 4. Dr Nikola Patzel: Outer and Inner Soil 5. TBC | |



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| | 6. Dr Said Al-Ismaily: PEDO: Citizen Assisted Science-Based Digital Android Application for Omani soils 7. Prof Alex R. Toland: Soilkin: Relational exercises with soil and stones | |
| 35 WG1.9 – Advances in understanding soils as reflected by the 4th edition of the WRB | | Alsh 1 |
| | 1. Dr Peter Schad: The 4th edition of the WRB (2022) 2. Vincent Bunes: A Field Guide as an annex of the WRB 2022 3. Dr Einar Eberhardt: WRB and Soil Information Systems - steps to harmonized world soil information 4. Dr Stefaan Dondeyne: How to identify soil diagnostic horizons? A key to the diagnostic features of the World Reference Base for soil resources 5. Prof Erika Micheli: Taxonomic distance studies of the units of the modernized Hungarian Soil Classification with WRB RSGs. 6. Prof. Cezary Kabala: War and peace - complementary factors of urban soil formation in Central Europe 7. Stephan Mantel: Improving accuracy assessment of global WRB predictions using taxonomic distance 8. Stephan Mantel: Semi-detailed survey and mapping of WRB soil resources in Ethiopia using different pathways to optimise between accuracy and precision | |
| 20:00 – 21:30 | British Society of Soil Science Council Meeting – <i>closed meeting</i> | Offsite |

Fringe Events

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| 13:00 – 19:30 | Global Soil Health Programme | Carron 1 |
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Day 3 Programme Tuesday 2 August 2022

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| 08:00-09:00 | Division 3 Meeting – <i>closed meeting</i> | Forth |
| 08:00-09:00 | Division 1 Meeting – <i>closed meeting</i> | Gala |
| 08:00-09:00 | Division 2 Meeting – <i>closed meeting</i> | Boisdale 2 |
| 08:00-09:00 | Division 4 Meeting – <i>closed meeting</i> | Carron 2 |

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| 09:00 – 11:00 | Parallel Session 1 | |
| Interdivisional 4: Plant soil interactions and their roles in soil formation and sustainable crop production: Chairperson: Professor Peter Gregory | | M1 |
| | <ol style="list-style-type: none"> 1. Keynote Speaker: Dr Philippe Hinsinger: Root foraging and mining strategies shape ecosystem services – a focus on biogeochemical cycling and soil formation in low-input agroecosystems 2. Prof Paul Hallett: Impact of root hairs on microscale soil physical properties in the field 3. Prof Doris Vetterlein: Hairs matter at field scale for shoot growth and nutrient uptake, but root trait plasticity is primarily triggered by texture 4. Dr Frederic Rees: Modelling the spatial and temporal evolution of rhizodeposition as a function of plant's carbon balance and soil properties 5. Dr Siul Ruiz: A pore scale characterisation of extracellular polymeric substances to describe biofilms and plant exudates - integrating imaging, NMR, and modelling 6. Prof Richard Dick: Shrub-crop microbiome and mycorrhizal hyphal interactions: a novel rhizosphere alliance to mitigate in-season drought in the Sahel 7. Mr José Rocha Araujo: Organic matter modulates the influence of different earthworms species on plant-soil interactions | |
| Interdivisional 9: Novel methods and techniques Chairperson: Alfred Hartemink | | Lomond Auditorium |
| | <ol style="list-style-type: none"> 1. Dr Alain Brauman: Biofunctool: An in-field package to assess soil quality based on soil functioning 2. Mr Vincent Geoffroy: Inner organization of soil crusts: new insights from two-dimensional X-ray microdiffraction 3. Miss Munisath Khandoker: Can smartphone applications revolutionise how we measure aggregate stability? 4. Dr Alastair Marsh: Novel insights into Fe and Al co-ordination in soils from STEM-EELS and laboratory-based ST-XAS 5. Miss Wartini Ng: Calibration transfer: a case study using LDSF spectral library 6. Prof Dr. Chris Oostenbrink: Vienna Soil Organic Matter Modeler 2 (VSOMM2) –computational microscope for SOM systems 7. Miss Jill Pitcher Farrell: X-ray CT analysis of forest root growth on high-pH peaty soils: it's not all black and white 8. Dr A H Jean Robertson: FTIR-ATR: A method giving unique insights into the composition of soil | |



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| 12 Division: 1 Commission 1.4, Commission 1.6 – Soil classification and palaeopedology: Chairpersons: Elizabeth Solleiro-Rebolledo and Curtis Monger | | Boisdale 1 |
| | <ol style="list-style-type: none"> 1. Keynote Speaker: Prof Cezary Kabala: Classification of paleosols: needs, concepts, and doubts 2. Mr Andrew Brown: Open-source Tools for U.S. Soil Taxonomy Applications 3. Dr Einar Eberhardt: The revised German Soil System - improved structure, new soil types and an alternative diagnostic horizon approach 4. Prof Fabio Scarciglia: Paleoclimate, land use and geomorphic changes recorded in archaeological and natural Holocene soils and paleosols of Italy 5. Dr Darrell Schulze: Visualizing soil landscapes by mining soil survey taxonomic data 6. Prof Tibor Tóth: Practical evaluation of Soil Taxonomy, Hungarian classification and WRB in terms of NDVI and elevation, inside a salt-affected alluvial plot | |
| 41 WG3.2: Advances in innovative technologies and methods for quantifying biogeochemical cycles of carbon and nutrients in forest soils Chairperson: Professor Zhihong Xu | | Alsh 1 |
| | <ol style="list-style-type: none"> 1. Keynote Speaker: Prof Chris Johnson: Long-term trends in calcium and soil acidity in forest soils after whole-watershed application of calcium silicate 2. Dr Felipe Aburto Guerrero: Soil forest C N P dynamics and pools altered after deciduous native forest conversion to pine plantations 3. Dr Wanderson de Sousa Mendes: Peatlands spectral data influence in global spectral modelling of soil organic carbon and total nitrogen using diffuse reflectance spectroscopy 4. Ms Mary Hodgson: Savanna Soil Carbon: interactive impacts of fire, grazing and climate on soil resilience 5. Dr Steffen Seitz: Soil properties as predictors of biodiversity in forests: Is there a Critical Soil Depth? 6. Dr Carlos Tornquist: Soil carbon stocks as affected by land use changes in the pampas of southern Brazil 7. Professor Sami Ullah: Stimulation of soil nitrogen cycling processes after three years of Free Air CO₂ Enrichment of mature temperate forests at BIFoR-FACE | |
| 44 WG3.4: Mitigation and adaptation strategies for climate change in rice-based systems: Chairperson: TBC | | Alsh 2 |
| | <ol style="list-style-type: none"> 1. Dr Yan He: Residual chlorinated organic pollutants in paddy soil may induce methane release as revealed by coupling between methanogenesis and reductive dichlorination 2. Mr Frank Linam: Rice husk/biochar amendment increases soil carbon and alters greenhouse gas emissions in an Ultisol paddy soil 3. Hyeon-ji Song: Soil saturation degree in rice paddy: the key factor to determine biomass application rate for minimizing global warming impact 4. Hyeon-ji Song: Under global warming: More organic amendment is essential to compensate soil carbon loss | |
| 09:30 – 11:00 | Kiss the Ground: Screening of the Netflix documentary | Boisdale 2 |
| 11:00 – 12:00 | British Society of Soil Science Annual General Meeting and 75th Birthday Reception | Gala |



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| 11:00 – 13:00 | Lunch, Exhibition & Poster Presentations | Hall 4 |
| 11:00 – 13:00 | Wiley Workshop and Networking Session: Unearthing Open Access for Soil Science Researchers | Carron 2 |
| 13:00 – 15:00 | Kiss the Ground: Screening of the Netflix documentary | Boisdale 2 |

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| 13:00 – 15:00 | Parallel Session 2 | |
| | Interdivisional 4: Plant soil interactions and their roles in soil formation and sustainable crop production: Chairperson: Phillipe Hinsinger | M1 |
| | <ol style="list-style-type: none"> 1. Prof Liz Baggs: Root traits for soil organic matter mineralization: The route to breeding for sustainability 2. Mx Imelda Uwase: Crop diversity decreases soil organic matter decomposition in the rhizosphere 3. Ms Franziska Steiner: Drought alters the influence of functional rhizosphere traits on soil aggregation and soil organic carbon dynamics under different maize cultivars 4. Mr Frank Linam: Rice root Fe plaque formation in North American paddy soils 5. Dr David Boldrin: Modifying soil hydraulic and mechanical properties with contrasting herbaceous plants 6. Dr Csilla Hudek: Using roots to bio-engineer soil: The multi-functional role of cover crop roots to mitigate soil degradation 7. Miss Ayesha Alam: Evaluation of Arabian Desert ornamental native plant species for long-term impact on soil properties, water use efficiency and mycorrhizal association 8. Yutaro Takahashi: Response of root development of leaf vegetables to soil heterogeneous fertilization by combined application of phosphorus and water-soluble organic matter | |
| | Interdivisional 9: Novel methods and techniques Chairperson: Stephen Hiller | Lomond Auditorium |
| | <ol style="list-style-type: none"> 1. Mr Lieven Waeyenberge: Nematode amplicon sequencing is useful to reveal inter- and intraregional (functional) biodiversity differences in conventional and organic farming systems 2. Dr Han Weng: Probing the nature of soil organic matter: a theory-driven review 3. Mr Richard York: Molecular-level characterisation of damaged and restored peat soils using molecular tagging and advanced NMR spectroscopy 4. Dr Mario Fajardo: Space-Time selection of soil samples for local calibration of spectral models 5. Dr Frédéric Vanwindekens: The "QuantiSlakeTest", a low-tech technique for assessing structural stability of soils in farming systems 6. Dr Scott Buckley: Simulating root exudation processes using microdialysis – examining short-term C supply and N availability in near real-time. 7. Dr Julien Guigue: Mapping molecular composition heterogeneity of particulate organic matter during the decomposition of organic fertilizer at different depths | |



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| 12 Division: 1 Commission 1.4, Commission 1.6 – Soil classification and palaeopedology: Chairpersons: Curtis Monger and Elizabeth Solleiro-Rebolledo | Boisdale 1 |
| | <ol style="list-style-type: none"> 1. Dr Mark Stolt: Fundamental Changes in Soil Taxonomy 2. Dr Atsushi Nakao: K-Ar dating and oxygen isotopic analysis for tracing Asian dust inclusion in aeolian depositions during the last glacier period 3. Dr Thomas Raab: Relict Charcoal Hearth (RCH) soils – properties and classification 4. Mr Marco Pfeiffer: Paleoenvironmental signification of Late Pleistocene Palustrine calcretes in the Maipo basin, Central Chile 5. Dr Elizabeth Solleiro-Rebolledo: Could Vertisols record geomorphic history in volcanic landscapes of Mexico? 6. Dr Erika Di Iorio: The paleo-environmental reconstruction of a central-southern Apennine peat bog and the implications in the climate changes 7. Mr Danny Itkin: Soil formation paths in West-Mediterranean calcareous stone-wall bench terraces |
| 19 Division 2 Commission 2.3: Soil microorganisms under changing environment: Chairperson: Magdalena Frac | Forth |
| | <ol style="list-style-type: none"> 1. Dr Christian Adler Phares: Biochar and co-inoculated plant growth promoting bacteria enhanced Inorganic NPK fertilizer uptake and use efficiency by maize 2. Louis J.P. Dufour: Energetic return on investment determines overall soil microbial activity 3. Miss Katy Faulkner: High rainfall disturbs soil microbial structure and function in a mature temperate forest under elevated carbon dioxide 4. Mr Matias Fernandez: Molecular approaches to examine microbial diversity (long-term experimental sites) 5. Dr Paul George: Bioprospection and sentinel organisms as monitoring tools for assessing the impact of climate warming on soils in the Canadian North 6. Dr Lukas Kohl: Microbial inputs at the litter layer translate climate into altered organic matter properties 7. Mr Kristian Koefoed Brandt: Impacts of soil properties and farming practice on prokaryotic microbiomes across nine European pedoclimatic regions 8. Dr Jane Lucas: Anthropogenic and climatic stressors interact to disrupt soil communities and nutrient cycling |
| 43 WG 3.4: Recent advances in nutritional, biological and physical processes in paddy soils: Chairperson: TBC | Alsh 1 |
| | <ol style="list-style-type: none"> 1. Dr Jehangir Bhadha: Cultivating flooded rice as a treatment technology to mitigate nutrient loads and improve soil quality from agricultural watersheds 2. Mr Weichen Huan: Is rice field a nitrogen source or sink for the environment? 3. Mr Md Dhin Islam: Exploration of soil macropores in a compacted plough pan by rice genotypes 4. Dr Ram Prakash Tata: Changes in soil properties and soil quality in long-term rice-based cropping system under conservation agriculture. 5. Prof Junta Yanai: Long-term changes in paddy soil fertility in tropical Asia under the Green Revolution from 1960s to 2010s 6. Prof Bob Rees: Green manuring can reduce Chinese dependence on fertilizer nitrogen by 40% in rice production system |



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| 15:30 – 17:30 | Parallel Session 3 | |
| Interdivisional 6: Dynamics of soil erosion and land loss under present and future environments: Chairperson: Professor Artemi Cerda | | Lomond Auditorium |
| | <ol style="list-style-type: none"> 1. Dr Olivier Cerdan: "Off-site economic costs induced by soil erosion in the northwestern European loess belt for the last two decades (Normandy, France)" 2. Ms Corinna Gall: On the effect of pioneer biocrust communities on soil erosion after disturbances in a European temperate forest ecosystem 3. Mr Francis Matthews: A crop phenology-based approach to quantify the C-factor at the field-parcel scale in Europe 4. Mr Ariel Nahalieli: Piping formation and distribution in a semi-arid environment: A new conceptual model 5. Dr Hari Ram Upadhayay: Disentangling prolonged rainfall and land use change interactions on catchment sediment source dynamics from multi-biotracers isotope composition 6. Dr Xihua Yang: Predicting nutrient loss due to water and wind erosion across New South Wales, Australia 7. Prof Vincent Logah: Integrating biochar into cropping systems reduces soil loss and run-off characteristics in Ghana 8. Ms Estela Nadal-Romero: The legacy of the historic land use/land cover changes after cropland abandonment: effects on soil properties, nutrients, and redistribution processes | |
| 11 Soil Genesis: Chairperson: Endre Dobos | | M1 |
| | <ol style="list-style-type: none"> 1. Prof Alfred Hartemink: The importance of soil horizons in pedology 2. Dr Kate Schofield: Reconstructing soils from waste: barriers and opportunities 3. Mr Marco Pfeiffer: High mountain soils in the Andes of Central Chile 4. Dr Zoltán Szalai: Accelerated soil development due to seasonal water-saturation under hydric conditions 5. Dr Tetsuhiro Watanabe: Disentangling the pedogenic factors controlling active Al and Fe concentrations in soils of the Cameroon volcanic line 6. Prof. Cezary Kabala: Age and polygenetic origin of Planosols in postglacial areas of Central Europe 7. Dr. Janis Boettinger: Toposequence of soils formed in Pleistocene Lake Bonneville deposits, Utah, USA 8. M.Eng. Magdalena Tarnawczyk: Soil-forming factors controlling properties of Technosols developed on historical mining and metallurgical sites in the Tatra Mountains, southern Poland | |
| 19 Division 2 Commission 2.3: Soil microorganisms under changing environment: Chairperson: Magdalena Frac | | Forth |
| | <ol style="list-style-type: none"> 1. Leidiane Dos Santos Lucas: Arbuscular Mycorrhizal Fungi in Buriti, Cerrado Cashew and Peki in Cerrado soil 2. Dr Ashish Malik: Soil microbiome-mediated carbon sequestration: understanding the mechanisms across different ecosystem 3. Dr Vanessa Pino: Moody microbes! Cycles of soil temperature and pedogenic variations disentangle soil microbiome predictions in Australian soils 4. Dr Flavia Pinzari: Effects of a fungal invasion on soil bacteria | |



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| | <ol style="list-style-type: none"> 5. Dr Juliana Silva Rodrigues Cabral: An antique association between fungi and plants that can save the future of agricultural production in the face climate change 6. Dr Rodica Pena: Soil fungal interactions change from negative to positive under lower fertility 7. Prof Yongguan Zhu: Understanding antimicrobial resistance in soil-plant system for One Health 8. Dr Miriam Muñoz-Rojas: Emerging soil microbial-based strategies for restoring biodiversity and enhancing climate resilience of degraded ecosystems | |
| 34 WG1.8 – Advances in universal soil classification: Chairperson: Budiman Minasny & Alex McBratney | | Alsh 2 |
| | <ol style="list-style-type: none"> 1. Dr Yuri Gelsleichter: Evaluation of centroid units from Brazilian to Universal Soil Classification System 2. Prof Alex McBratney: CSCS2.0: A comprehensive soil classification system for quantitatively identifying soils across the world: Brief update report | |
| 40 WG3.2: Carbon and nutrient cycles under intensifying climate change and land management: Chairperson: Prof Zhihong Xu & Prof Chris Johnson | | Alsh 1 |
| | <ol style="list-style-type: none"> 1. TBC 2. Dr Sunendra Joshi: The effect of salinity on dissolved organic C and nutrients in non-saline soils 3. Ms Rika Ratna Sari: Soil protection or nutrient supply? Dual role of litter layer in cacao agroforestry systems 4. Dr Marcelo Valadares Galdos: Modelling soil carbon dynamics under different tillage, crop rotation and climate scenarios in Southeastern Brazil 5. Mr Laudelino Vieira da Mota Neto: Soil Carbon affected by N rates in tropical maize intercropped with forages 6. Dr Han Weng: Shining a light on in situ distribution of soil carbon functional groups in an 8-year Free-Air Carbon Dioxide Enrichment study 7. Dr Chunhao Gu: The impacts of sea level rise on phosphorus cycling in coastal soils 8. Prof Masahiko Kato: CO₂ retention on wood ashes from different raw materials and CO₂ release after soil mixing | |
| 17:30 – 18:00 | Refreshment Break, Exhibition & Networking | Hall 4 |

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| 15:30 – 17:30 | Kiss the Ground: Screening of the Netflix documentary | Boisdale 2 |
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| Plenary Session | | |
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| 18:00 – 19:00 | How transforming land use change could change our future Dr Debra Roberts, Co-Chair of Working Group II of the IPCC Durban, South Africa | Clyde Auditorium |



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| 20:00 – 21:30 | British Society of Soil Science: Publications Committee Meeting – <i>closed meeting</i> | Offsite |
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Fringe Events

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| 09:00 – 13:00 | Reaching higher ground: the next generation of soil science through collaborative postgraduate training and learning” everywhere it appears? | Dochart 1 |
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Policy Programme

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| 10: 00 – 17:30 | Further details available - https://22wcoss.org/programme/policy-programme/ | Carron 1 |
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Day 4 Programme Wednesday 3 August 2022

Division Meetings

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| 08:00 – 12:00 | Division 1 Business Meeting – <i>closed meeting</i> | Boisdale 1 |
| 15:00 – 17:00 | Division 1 Business Meeting – <i>closed meeting</i> | Boisdale 1 |

08:00 – 10:00 Parallel Session 1

Interdivisional 7: Soil securing humanity | Humanity securing soil: Chairperson: Professor Damien Field

Lomond Auditorium

1. The Honourable Penelope Wensley: Australia's National Soils Advocate
2. Isabelle Verbeke: connecting soils with people: initiatives of the Global Soil Partnership
3. Prof Damien Field: Securing soil through its connectivity
4. Dr Karen Vancampenhout: The Green Green Sand of Home: immersive experiences for creating soil awareness
5. Miss Prapa Taranet: Soil doctors program: a smart farmer approach for sustainable soil management and food security in Lancang-Mekong Countries
6. Prof Cristine Muggler: Agroecology and healthy soils to ensure food security and sovereignty
7. Dr Liesl Wiese-Rozanov: Assessing countries’ commitments for soil organic carbon protection and sequestration under the three Rio Conventions

Interdivisional 8: Sustainable land use: Chairperson: Professor Claudio Zaccone

M1

1. Prof Sonoko Bellingrath-Kimura: New land use arrangement that harmonize various ecosystem services of agricultural landscape
2. Dr Claire Chenu: Climate-smart AND sustainable management of agricultural soils: identifying synergies and addressing trade-offs



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| | <ol style="list-style-type: none"> 3. Mr Olivier Heller: The potential of innovative soil management practices to address soil challenges across Europe - Outcomes of the i-SOMPE Project 4. Dr Michael Löbmann: Soil Mission Support: Participatory identification of research & innovation gaps for a sustainable soil and land use practice 5. Ms Nur Azima Busman: Long-term monitoring of carbon dioxide and methane fluxes from different types of tropical peat swamp forests 6. Prof John Quinton: Impacts of soil redistribution by tillage on crop production 7. Dr Jingyi Huang: Soil and environmental issues in sandy soils 8. Ms Estela Nadal-Romero: Land uses/land cover management after cropland abandonment as a strategy for enhancing ecosystem services: soil quality and organic carbon sequestration | |
| 17 Division 2: Sustainable use of legacy soil phosphorus: Chairperson: Karl Dunfield | | Gala |
| | <ol style="list-style-type: none"> 1. Keynote Speaker: Dr Andrew Margenot: Quantifying how much, where, and what form of legacy P across scales: the case of Illinois 2. Dr Jehangir Bhadha: Addressing phosphorus legacies and efficiencies through the Science and Technologies for Phosphorus Sustainability (STEPS) Center initiative 3. Dr Deb Jaisi: Residual and recalcitrant phosphorus pools and isotope signatures to track legacy sources 4. Prof Leo Condon: Impact of green manures on legacy soil phosphorus mobilisation and crop performance 5. Dr Antonio Rafael Sánchez-Rodríguez: Legacy soil phosphorus and biobased P fertilizers in the wheat/oleaginous-leguminous crop rotation in Mediterranean Vertisols 6. Miss Wen-hui Li: Solution for the phosphorus crisis: environmental friendly hybrid LDH serves as slow release phosphate fertilizer 7. Prof Mark Tibbett: Too much of a good thing: the legacy of phosphorus fertilisation in restored landscapes of high biodiversity value | |
| 22 Division 3 Commission 3.1 – Soil evaluation and land use planning: Chairperson: TBC | | Forth |
| | <ol style="list-style-type: none"> 1. Keynote Speaker: Dr. Anders Bjørn Møller: A cautionary tale of machine learning, land use and land suitability assessment 2. Chantal Hendricks: Stocktaking for agricultural soil quality and ecosystem services indicators and their reference values; The EJP SOIL 'SIREN' project 3. Mrs Ana Flavia Boeni: Linking soil and vegetation variables in assisted natural regeneration in the Doce river basin, Brazil 4. Mr Gilles Colinet: Assessing potential soil ecosystemic services in urban green areas from measurements of soil properties: insight from the URBERSOI project 5. Dr Mulenga Kalumba: Functional evaluation of digital soil hydraulic property maps through comparison of simulated and remotely sensed maize canopy cover 6. Dr Ahmed Al Arazah: Assessment of the hydrological status of Marshlands in the South of Iraq using a combination of remote sensing and drought indices | |
| 28 WG1.2 – Digital soil mapping: advances towards Digital Soil Assessment: Chairperson: Dr Laura Poggio | | Alsh 1 |
| | <ol style="list-style-type: none"> 1. Mr Bryan Fuentes: rassta: Raster-based Spatial Stratification Algorithms and their Application in Digital Soil Mapping 2. Dr Colby Brungard: Representative Elementary Areas to optimize field soil sampling under logistical constraints | |



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| | <ol style="list-style-type: none"> 3. Mr Stefan Oechslin: Development of a digital soil mapping based decision framework for management of degraded organic soils for the Swiss Rhine Valley 4. Ms Jessica Philippe : Utilizing Digital Soil Mapping Products for Environmental management Decisions in the United States 5. Dr Laura Poggio: Quantifying pedodiversity at different scales 6. Dr George van Zijl: "Digital Soil Mapping and Hydrological Modelling produces solutions for severe infrastructure damage in Cosmo City, South Africa | |
| 45 WG4.1 - The application of Soil Science in the Criminal Justice System: Chairperson: Professor Lorna Dawson | | Alsh 2 |
| | <ol style="list-style-type: none"> 1. Keynote Speaker: DCI Brian Geddes: The role of physical evidence in the investigation/detection of major crime In Scotland 2. Prof Lorna Dawson: Trace evidence comparison between soil on footwear and reference site locations: application to a murder investigation 3. Dr Rosa Maria Di Maggio: Geology and Civil Protection: when foreseeable hydrogeological disasters cause victims 4. Dr Laurance Donnelly: Forensic 'fingerprinting' (provenance determination) in the predictive geolocation of the global trade in illicit minerals and metals 5. Prof Robert Fitzpatrick: Soil material evidence in 2 crime investigations involving both primary and secondary transferences of soil materials 6. Prof Lorna Dawson: The Search for Moira | |
| 10:00 – 10:30 | Refreshment Break, Exhibition & Networking | Hall 4 |

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| 10:30 – 12:30 | Parallel Session 2 | |
| Interdivisional 7: Soil securing humanity Humanity securing soil: Chairperson: Professor Alex McBratney | | Lomond Auditorium |
| | <ol style="list-style-type: none"> 1. Prof Alex McBratney: Developing and implementing a diagnostic soil security assessment framework for Australia and beyond 2. Dr Laura Poggio: Global modelling of soil functions to support soil security 3. Mr Jonah Prout: soil organic carbon to clay ratio: effective for monitoring management activities to achieve improved carbon status and condition of soils. 4. Dr Mercedes Roman Dobarco: Digital pedogenon mapping for assessing changes in soil condition from local to continental scale 5. Professor Ronald Amundson: The global agricultural domestication of soil over time 6. Dr Eric Brevik: Securing soil to secure human health 7. Dr Claudia Erber: Application of organic materials on land - Regulatory challenges in implementing circular economy principles in Scotland 8. Prof Tom Vanwalleghem: Impact of soil erosion on soil security under global climate change: insights from simulation of soil water dynamics and drought | |



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| Interdivisional 8: Sustainable land use | | M1 |
| Chairperson: Professor Sonoko Bellingrath-Kimura | | |
| | <ol style="list-style-type: none"> 1. Dr Zach Simpson: Co-benefits and tradeoffs of conservation agriculture management on multiple ecosystem services: a synthesis of meta-analyses 2. Ms Catriona Willoughby: Using soil health testing to design crop rotations that are fit for the future by balancing productivity with sustainability 3. Prof Ying Zhao: The "Groundwater Benefit Zone" in saline agriculture, proposals, contributions, and new scientific issues 4. Dr Jack Hannam: Land use decisions under climate change: Reconciling food production and tree planting 5. Dr Kristi Mingus: Soil Health is the Guide: Three lessons from assessing grazing management practices in the western United States 6. Dr John Scullion: Trade-offs needed in delivering environmental services through extensification of improved UK upland pasture soils 7. Dr Deborah January-Bevers: Improving soil ecosystem services in Houston, Texas through large-scale tree planting frameworks providing sustainable land use and air pollution reductions 8. Prof Rosa M Poch: Protect Black Soils to Achieve Food and Environmental Security: Report of the Global Status of Black Soils | |
| 17 Division 2: Sustainable use of legacy soil phosphorus: | | Gala |
| Chairperson: Kari Dunfield | | |
| | <ol style="list-style-type: none"> 1. Keynote Speaker: Dr Jolanda Reusser: Associations of inositol phosphates and complex phosphomonoesters with soil organic matter 2. TBC 3. Miss Jennifer Davies: Simulating the capacity of legacy soil phosphorus to maintain long-term crop productivity under reduced phosphorus fertiliser inputs 4. Dr Tim George: Arbuscular mycorrhizal fungi are more important than root hairs of maize for utilizing legacy P in soils 5. Withdrawn 6. Juanjuan Ai: What controls the availability of organic and inorganic P sources in top- and subsoils? A ³³P isotopic labelling study 7. Dr Klaus Jarosch: Phosphorus fractions and availabilities in different soil depths after 20 years of continuous soil P management. | |
| 21 Division 3, Commission 3.2 - Soil water, pollutant and gas movement in the context of a changing climate: | | Forth |
| Chairperson: Lillian Øygarden | | |
| | <ol style="list-style-type: none"> 1. Keynote Speaker: Bob Rees & Phil Haygarth: Soil and their biogeochemical impacts in a changing climate 2. Fabian Fernandez: Nitrous oxide emissions in poorly drained soils in a corn and soybean cropping system: Effect of drainage and N applications. 3. Matteo Longo: Understanding GHGs dynamics of alternative management practices under shallow water table conditions 4. Fabian Fernandez: Nitrate, nitrous oxide, and ammonia loss mitigation with optimum rate of enhanced efficiency nitrogen fertilizer and application timing in corn 5. Alex Woodley: Trade-offs or co-benefits of carbon input strategies on greenhouse gas emissions in low organic matter soils of the Southeast U.S. 6. Dr. Amir Sadeghpour: Does long-term no-till decrease soil nitrous oxide emissions during corn years in a corn-soybean rotation? | |



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| | 7. Kazuyuki Inubushi: Effects of biodegradable plastics on soil properties and greenhouse gas productions | |
| 29 WG1.3 – Progress in Digital Soil Morphometrics - deeper and more precise soil observations: Chairperson | | Alsh 2 |
| | <ol style="list-style-type: none"> 1. TBC 2. Dr Julien Guigue: Effects of pre-processed organic fertilizers on soil organic matter and nutrient stocks in agricultural soils 3. Dr. David Hopkins: Value added pedology, a micromorphologic rewrite of a Natrudoll (Solonetz) case study in North Dakota, USA 4. Yin-Chung Huang: Characterization of podzolic soils using digital soil morphometrics in subtropical subalpine forests 5. Withdrawn | |
| 37 WG2.2 – Modelling soil processes from ped to global scale: Chairperson: Professor Martine van der Ploeg | | Alsh 1 |
| | <ol style="list-style-type: none"> 1. Mrs Mina Azizi-Rad : Model selection from incubation data for representing soil carbon dynamics 2. Mr Francis Durnin-Vermette: Including manure-amendments to croplands in Canadian modelled estimates of soil organic carbon sequestration and greenhouse gas emissions 3. Dr Daniel Gimenez: Linking static and dynamic properties to define soil heterogeneity at the meter-scale 4. Dr Umakant Mishra : Machine learning to investigate model representation of SOC storage and dynamics 5. Mr Mahyar Naseri: Experimental, theoretical, and modelling approaches to characterize hydraulic properties of stony soils 6. Prof Anne Verhoef: Modelling the impact of land-management based natural flood management measures using combined soil hydrological and surface-groundwater models 7. Dr Michael Young: Forecasting soil water content with soil models and weather information 8. Dr. Brigitta Szabó: Derivation and harmonization of soil data for SWAT+ modelling in European catchments | |

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| 12:30 – 14:30 | Lunch & Poster Presentations | Hall 4 |
| 12:30 – 14:30 | European Journal of Soil Sciences (EJSS) Associate Editors' Meeting | Boisdale 2 |
| 12:30 – 14:30 | Cranfield VR Experience | Dochart 2 |
| 12:30 – 14:30 | IUSS Council Meeting – <i>invited IUSS representatives only</i> | Carron 1 |
| 13:00 – 14:30 | British Society of Soil Science: Grants and Awards Committee – <i>closed meeting</i> | Fyne |

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| 14:30 – 16:30 | Parallel Session 3 | |
| Interdivisional 5: Soil science and the emerging philosophy of regenerative agriculture: Chairperson: Christine Watson | | Lomond Auditorium |
| | <ol style="list-style-type: none"> 1. Professor And Head Jodi Johnson-Maynard: Crop Diversification and Soil Health in Dryland Wheat-Based Agroecosystems in the Inland Pacific Northwest USA | |



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| | <ol style="list-style-type: none"> 2. Dr Nathaniel Looker: Scalable targets for soil health improvements in regenerative agriculture 3. Dr Gerhard Du Preez: Restoring soil ecosystem health and functioning in regenerative-based grain crop production systems 4. Dr Tom Storr: Implementing regenerative agriculture and measuring soil health on the farm 5. Dr Karen Vancampenhout: A tree against hunger: Enset-based farming systems for building soil health in the tropics 6. Dr Richard Gantlett: Soil carbon sequestration beyond global targets: soil organic matter increases in a modern arable and ley farming system 7. Associate Prof Abbey Wick: Evaluating Soil Health Practices at Field Scale 8. Miss Emily Howes: The impact of leys and sheep grazing on soil structure and hydrological functioning | |
| 13 Division 1 Commission 1.5: How Pedometrics can cross boundaries and change society: Chairperson: Nicolas Saby | | M1 |
| | <ol style="list-style-type: none"> 1. Mrs Sarah Donoghue: Predicting urban locations at risk of high soil Pb concentrations using a random forest model. 2. Prof Sabine Grunwald: Pede-econometric assessment of the efficiencies of soil functions 3. Dr Gerard Heuvelink: Spatial cross-validation is not the right way to evaluate soil map accuracy 4. Dr Madlene Nussbaum: What is the accepted level of erroneous decision for the Swiss arable land inventory? Uncertainty perception of digital soil maps. 5. TBC 6. Mr Stephan Van Der Westhuizen: Measurement error-filtered machine learning in digital soil mapping 7. Mr Hunter Winsor: Discovering quantitative soil-landscape relationships from soil survey data. 8. Dr Tobias Rentschler: The relevant range of scales for 3D multi-scale contextual spatial modelling | |
| 21 Division 3, Commission 3.2 – Soil water, pollutant and gas movement in the context of a changing climate: Chairperson: Lillian Øygarden | | Forth |
| | <ol style="list-style-type: none"> 1. TBC 2. Samira Daroub: Impact of soil properties and land management on water quality 3. Darsani Kumaragamage: Mitigating flooding-induced phosphorus losses from soils using inorganic soil amendments. 4. Tobias Klöffel: Climate change-induced alterations in freeze-thaw patterns in Sweden – implications for pore space characteristics and hydraulic properties of agricultural soils. 5. Martyn Roberts: Hold it there- utilizing soil hydrology and temporary storage areas to attenuate surface runoff. 6. Marie E.Muehe: Climate impacts on metal bioavailability in agricultural soils. 7. Nasrollah Sepehernia: <i>Escherichia coli</i> and <i>Rhodococcus erythropolis</i> transport and fate: straining or attachment? 8. Caitlin Lewis Hidden dangers of converting UK conifer forests to broadleaf woodlands | |



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| 31 WG1.5: Sensing soil chemical, physical and biological properties - advances and emerging techniques: | | Alsh 1 |
| Chairperson: Dr Asim Biswas | | |
| | <ol style="list-style-type: none"> 1. Dr Keith Shepherd: Global soil spectral calibration library and estimation service 2. Dr Yuxin Ma: Convolution neural network for simultaneous prediction of soil properties in New Zealand 3. Mr Vikram Narayanan Dhamu: Evaluation of an in-situ electrochemical sensor towards the quantification of Soil Organic Carbon 4. Dr Luana Circelli: Combination between Vis-NIR spectroscopy and Sentinel-2 to assess the variability of soil carbon pools in organic farming of southern Italy 5. Dr Asim Biswas: Estimating soil organic matter from cell phone images 6. Dr Thorsten Knappenberger: Evaluation of Mn and Fe oxide reduction dynamics using a rhizosphere camera and image analysis 7. Dr Josh Heitman: Soil structure revealed from covariation in thermal and electrical properties 8. Dr Stefan Hinck: Analyse-to-go on the field: prototypes4soil2data | |
| 46 WG4.2: Culture and Soil. Outlook and insights from around the world: Chairperson: Dr Sabine Grunwald | | Alsh 2 |
| | <ol style="list-style-type: none"> 1. Keynote Speaker: Dr Nikola Patzel: Cultural understanding of soils. Results from an inter-cultural project. 2. Danny Itkin: Degrees that train students for careers in soil science: Perspectives from diverse countries 3. Prof Sabine Grunwald: How mindfulness meditation practices impact how people relate to soils and nature: traditional Buddhist and contemporary North American perspectives 4. Dr Jude Allen: Soil Voices 5. Dr Jim Scown: 'Decolonizing narratives of conservation': Blood and soil politics and the long histories of colonial violence 6. Ms Emmeline Topp: Understanding farmers' cultural relations with soil: a cross-country comparison in the Mediterranean 7. Dr Nikola Patzel: European cultural roots of relating to soil 8. Dr Eric Brevik: Native American origin myths and potential links to modern culture | |
| 16:30 – 17:00 | Refreshment, Exhibition Break & Networking | Hall 4 |

Plenary Session

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| 17:00 – 18:00 | Rock dust: a reverse weathering mechanism for tropical soils: environmental and economic aspects | Clyde Auditorium |
| | Prof Suzi Huff Theodoro Professor of Soil Geology, Pesquisadora Universidade de Brasília | |

Fringe Events

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| 09:00 – 13:00 | Soil Benchmark | Dochart 1 |
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Day 5 Programme Thursday 4 August 2022

| Plenary Session | | |
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| 08:00 – 09:00 | Empowering Soil Scientists with Data-Driven Techniques Dr Ranveer Chandra CTO Agri-Food, Microsoft, USA | Clyde Auditorium |
| 09:00 – 09:30 | Refreshment Break & Networking | Hall 4 |

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| 08:00 – 11:30 | IUSS Research Forum Meeting – <i>invited IUSS participants only</i> | Carron 2 |
| 09:30 – 17:30 | Division 2 Business Meeting – <i>closed meeting</i> | Boisdale 2 |
| 09:30-11:30 | Division 2 Business Meetings – closed meeting | Dochart 2 |

| 09:30 – 11:30 | Parallel Session 1 | |
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| | Interdivisional 10: Land contamination and degradation, including Urban Land: Chairperson: Professor Junta Yanai | Lomond Auditorium |
| | <ol style="list-style-type: none"> 1. Mr Benoit Bergen: Uranium and cadmium accumulation in European agricultural soils due to mineral phosphate fertiliser applications 2. Mr Francesc Xavier Dengra i Grau: Bioavailability and colloidal characterization of heavy metals and radionuclides in waterlogged, contaminated Belgian soils via diffusive gradients in thin films 3. Dr Elio Padoan: Assisted phytoextraction of Zn from contaminated soils using alternate submersion cycles; a novel approach 4. Dr Magdalena Sut-Lohmann: Using remote sensing to monitor heavy metals in plants at the former sewage farm near Berlin 5. Dr Takuro Shinano: Radiocesium uptake by vegetables in different soils after nuclear accident of FDNPP 6. Miss Hadee Thompson-Morrison: Trace elements in palm oil production systems: Implications for international agriculture 7. Mr Manuel Gabriel Velásquez Ramirez: Soil mercury levels in a natural protected area degraded by illegal artisanal and small-scale gold mining in the Peruvian Amazon 8. TBC | |
| | 20 Division 2 Commission 2.3- Soil biology in transition: from descriptive to mechanistical understanding: Chairperson: Ellen Kandeler | M1 |
| | <ol style="list-style-type: none"> 1. Prof Kari Dunfield: Functional gene analysis of phosphorus-cycling microbial communities in organic and upper mineral soil horizons from a temperate rain forest chrono sequence 2. Dr Stefanie Heinze: Going deep - Microbial C-turnover in flow path and matric subsoil | |



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| | <ol style="list-style-type: none"> 3. Ms. Julia Köninger: Stage free for the diversity of soil eukaryotes: an EU-wide metabarcoding analysis correlating biodiversity with environmental drivers 4. Dr Rodica Pena: Shifts in root-associated fungal communities under variations in soil N:P stoichiometry - the effects on forest ecosystem processes 5. Mr Daniel Wasner: The relationship of soil organic matter and bacterial community structure in grasslands across major soil zones 6. Dr Tiffany Carter: Toward a national assessment of soil biodiversity: A framework for systematic data collection 7. Dr Vince Lang: Soil metagenomic analysis of different WRB diagnostic units under different management systems for soil health assessment 8. Dr Andrew Margenot: Progress towards a mechanistic soil enzymology to put the 'bio' in biogeochemistry | |
| 25 Division 4 Commission 4.4: Soil education – in School, university and In-Service training: Chairperson: Cristine Muggler | | Forth |
| | <ol style="list-style-type: none"> 1. Dr Felicity Crotty: Where pedology meets pedagogy 2. Prof Rosa M Poch: Soil cakes: unexplored resources to improve soil awareness 3. Dr Said Al-Ismaïly: Soil Skills: a problem-based field challenge towards active learning ethos for undergraduate soils students 4. Dr Klaus Jarosch: Changing sides: Experiences with a “flipped classroom” format for teaching soil science to bachelor students in physical geography. 5. Prof. Damien Field: Do we need to new set of soil principles to guide general soil education 6. Ednalva Duarte: The virtual Roraima soil museum to support soil education 7. Ms Emmeline Topp: Farmer field schools for improved soil literacy among Mediterranean dryland farmers: Insights from the ConServeTerra project 8. Jean Haley: Network-based approaches for adoption of soil and agronomic management practices | |
| 32 WG1.6: Soil information standards and systems - current initiatives and advances: Chairperson: Fenny van Egmond | | Alsh 1 |
| | <ol style="list-style-type: none"> 1. Tegbaru Gobezie: Soil 'Data-Hyperlooping': An Automated Framework for Curating Soil Data 2. Dr Maria Fantappiè: On soil data sharing: legal framework and general sharing policies resulting from the investigation done in EJP SOIL H2020 programme 3. Dr José Padarian: Integrating information and inference systems 4. Prof Tomas Reznik: Developments and open challenges of information model for global soil information system 5. Ms Fenny van Egmond: EJP SOIL: Working towards a European soil data infrastructure 6. Dr Adam Csorba: Establishment of the Hungarian Soil Spectral Library | |
| 38 WG3.1: Acid sulfate soils, sulfidic materials and wetland soils: Chairperson: Anton Boman | | Alsh 2 |
| | <ol style="list-style-type: none"> 1. Dr Eva Högfors-Rönholm: From sulfidic sediment to acid sulfate soil: novel results from a microbiological perspective 2. Ms Emily Leyden: Seawater inundation induces trace metal mobilisation in freshwater soils: Impact of sea level rise on metal biogeochemistry in coastal environments | |



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| | <ol style="list-style-type: none"> 3. Ms Minna Mäkelä: Microbial N₂O production in a peaty acid sulphate soil derived from black schists 4. Dr Miriam Nystrand: Long term effects of groundwater management and subsurface irrigation on the water quality from boreal acid sulfate soil farmland 5. Dr Peter Österholm: Effects of subsoil injection of ultrafine-grained limestone, peat and urine on geochemistry and crop/root growth in an acid sulfate soil 6. Mr Jouni Pihlaja: Mapping of acid sulfate soils in Finland 7. Dr Heidi Salo: Modelling geochemical processes and transport in acid sulfate soils under steady state inflow and variable drainage depths 8. Dr Asko Simojoki: Response of nitrous oxide and carbon dioxide production to liming in different horizons of boreal acid sulfate soil |
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| 11:30 – 13:00 | Lunch, Exhibition & Poster Presentations | Hall 4 |
| 11:30 – 13:00 | IUSS Council Meeting – <i>Invited IUSS participants only</i> | Boisdale 1 |
| 12:00 – 12:45 | Soil Science Society of America Symposia Soil Health Bridges Gaps to Human and Planetary Health Session Speaker: Carrie Laboski, Ph.D. | Lomond |

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| 13:00 – 15:00 | Parallel Session 2 | |
| | Interdivisional 10: Land contamination and degradation, including Urban Land: Chairperson: Tom Aspray | Lomond Auditorium |
| | <ol style="list-style-type: none"> 1. Ms Shaswati Chowdhury: Circular urban land-use: Bringing brownfields back in use as Urban Greenspaces (UGS) by integrating Nature-Based Solutions (NBS) 2. Mrs Claire Froger: Spatial variation of organic pollutants in French soils 3. Prof Kari Dunfield: Toluene biodegrading microbial communities associated with soil and roots of a poplar phytoremediation system in an urban landscape 4. Dr Ana Barreiro: Presence of antibiotics in sludge from wastewater treatment plants and amended soils and crops 5. Dr Charlotte Chivers: Exploring the environmental implications of micro- and nano-plastic debris on agricultural soils 6. Dr Luana Circelli: Using of Vis-NIR and FTIR spectroscopy to identify microplastics in biosolids produced in New York City 7. Miss Jordan Grigg: Characterization and quantification of microplastics on agricultural fields amended with municipal compost. 8. TBC | |
| | 15 Divisions 1 and 2 Commission 1.1, Commission 2.1– Soil structure - Observation, resilience and its role in ecosystem functioning Chairperson: Professor Stephen Peth | M1 |
| | <ol style="list-style-type: none"> 1. Dr Andy Gregory: The soil structure - soil organic carbon interaction as controlled by agricultural management | |



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| | <ol style="list-style-type: none"> 2. Dr Haojie Liu: Soil structure of peat and its role in ecosystem functioning 3. Dr Franziska B. Bucka: Organic matter induced soil structure formation generates distinct architectural features at the microscale 4. Dr Vincent J. M. N. L. Felde: Investigating the link between soil water repellency and biological soil crust surface dynamics upon wetting 5. Dr Xavier Portell: Functional habitat connectivity in soils: more than just pore sizes 6. Mrs Nermine Marzouki: Experimenting hydraulic fatigue of soil biopores 7. Dr Nicholas Jarvis: Modelling the interactions between soil structure, carbon cycling, hydrological processes, and crop production 8. TBC | |
| 18 Division 2 Commission 2.2 – Biogeochemical cycles in the soil - processes linking the abiotic and biotic realms: Chairperson: Ashish Malik & Karen Vancampenhout | | Forth |
| | <ol style="list-style-type: none"> 1. Keynote Speaker: Dr Avni Malhotra: Linking roots to soil carbon: methods, data and models 2. Dr Kirsten Ball: Inorganic carbon mediates tillage effects on soil organic carbon stocks in arid agricultural soils 3. Mr Oscar Crovo: Differential response of carbon, nitrogen and phosphorus pools after conversion from native forest to exotic plantation in soils of contrasting origin. 4. Ms Julia Schroeder: Microbial carbon use efficiency as affected by land use conversion from boreal forest to agricultural land 5. Binyan Sun: Will root biomass degrade faster in deep soil under +4°C in temperate forests? Lessons from a long-term field incubation experiment 6. Dr Sarah Duddigan: Above and belowground biotic responses to long-term acidification of pH neutral grasslands 7. Prof Gloria Falsone: Soil quality regulates litter decomposition and soil CO₂ emission in chestnut stands | |
| 33 WG1.7 – Advances in soil monitoring: Chairperson: Nicolas Saby | | Alsh 1 |
| | <ol style="list-style-type: none"> 1. Dr Antonio Bispo: A review of existing soil monitoring systems to pave the way to the EU Soil Observatory 2. Withdrawn 3. Dr Gerard Heuvelink: Machine learning in space and time for global modelling of soil organic carbon change 4. Dr Jose Luis Munera-Echeverri: Digging into the bulk density and coarse fragment data of the French soil quality monitoring network 5. Dr Maryam Gebleh-Goydaragh: Changes in carbon and nitrogen soil stocks according to the sampling protocol by the ICOS over the last decade. 6. Dr Fiona Seaton: Monitoring increases in soil pH in response to sulphur deposition at a national scale 7. Dr Camille Imbert: The RMQS-Biodiversity as a project of large-scale soil biodiversity monitoring in France | |
| IUSS Gender Balance Meeting: How to move towards gender equality? | | Dochart 2 |
| 1. | Dr Eric Brevik: Gender Equity in Soil Science: A View from Multiple Countries | |



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| 15:30 – 17:30 | Parallel Session 3 | |
| 15 Divisions 1 and 2 Commission 1.1, Commission 2.1– Soil structure: Observation, resilience and its role in ecosystem functioning Chairperson: Professor Stephen Peth | | M1 |
| | <ol style="list-style-type: none"> 1. Dr Richard Heck: Application of structure function analysis to quantifying soil micromorphology from X-ray CT imagery 2. Dr Ranjith Udawatta: Cover crop effects on μCT-measured geometrical pore characteristics 3. Mr Gerhard Zacher: Imaging of roots and pore networks in soil systems by using high resolution X-ray micro-CT 4. Mrs Marine Lacoste: ImageSol: a new database to boost explorations of the links between soil structure and soil functioning. 5. Dr Rainer Horn: Soil deformation – how far are shear induced coupled mechanical and hydraulic processes fundamental for the predictions of trafficability 6. TBC 7. Mr Alejandro Romero-Ruiz: Modelling soil structure dynamics in compacted soils induced by livestock treading 8. Mr Emile Mailliet: Multi-scale study of soil structure in relation to nitrous oxide emissions | |
| 18 Division 2 Commission 2.2 – Biogeochemical cycles in the soil - processes linking the abiotic and biotic realms: Chairperson: Ashish Malik & Karen Vancampenhout | | Forth |
| | <ol style="list-style-type: none"> 1. Keynote Speaker: Dr Kirsten Hofmockel: Abiotic and biotic controls on microbial derived carbon cycling 2. Dr Tom Sizmur: Mixing cover crop residues increases soil microbial biomass with no resultant priming of SOM decomposition 3. Dr Eleanor Reed: Molecular Characterisation and Pb-210 Dating to Explore Carbon Accumulation in Peat 4. Mr Luke Harrold: The Priming Arena: soil mineralogy and structure interact with the chemical composition of plant-derived inputs to mediate priming effects. 5. Dr Ana Natalio: Soil organic carbon response to different management practices following conversion to no-till in an arable system 6. Prof Sandra Spielvogel: Soil microbial necromass as an essential carbon, nitrogen and phosphorus reservoir in forest soils 7. Ms Noora Manninen: Characteristics of dissolved organic matter in agricultural mineral soils in Boreal region 8. Luis Colocho Hurtarte: Responses of organic carbon fractions and phosphorus distribution at microscale to land use change in Amazonian Dark Earth and Acrisol | |
| 23 Division 3 Commission 3.3 – Effects and processes of biochar and soil organic matter on plant nutrition: Chairperson: TBC | | Lomond Auditorium |
| | <ol style="list-style-type: none"> 1. Prof Kwame Frimpong: Biochar co-compost can promote sustainable agricultural intensification in highly weathered Ghanaian soils 2. Prof Vincent Logah: Biochar improves crop nutrient uptake and economic viability of tropical cropping systems 3. Dr Dilfuza Egamberdieva: Systematic analysis of biochar performance on plant growth in soybean cropping system at marginal area in Germany and China 4. Ms Evelyne M Delbos: Characterisation of biochar: the power of combining FTIR and SEM/EDS Analysis | |



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| | 5. Raúl Castejón-del Pino: Radish growth and N ₂ O emissions using a N-enriched biochar-based fertilizer | |
| 42 WG 3.3 – SUITMA: Soils of Urban, Industrial, Traffic, Mining and Military Areas: Chairperson: Przemyslaw Charzynski | | Alsh 1 |
| | <ol style="list-style-type: none"> 1. Prof Paola Adamo: Fostering a sustainable use of soil and enhancing food quality and safety in urban agricultural areas of Naples 2. Dr Felipe Aburto: Rapid response of soil functions to soil covers after rehabilitation of a Fly-Ash Landfill. 3. Ms Floriane Guillevic: Pb and Sb transfer processes in soils contaminated by ancient mining activities in the Pb-Ag mine of Peisey-Nancroix (France) 4. Dr. Remigio Paradelo Núñez: Summary of four years of research on urban soils in Santiago de Compostela (Spain) | |

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| 15:30 – 16:30 | Sustainability and the World Congress of Soil Science 2022 | Carron 2 |
| 15:30 – 16:30 | Division 1 Business Meeting – <i>closed meeting</i> | Alsh 2 |
| 18:30 – 19:30 | IUSS Executive Meeting – <i>closed meeting</i> | Boisdale 1 |
| 18:30 – 19:30 | British Society of Soil Science Education Committee Meeting – <i>closed meeting</i> | Boisdale 2 |

Fringe Events

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| 09:30 – 13:00 | Global Soil Health Session 2 | Carron 2 |
| 09:30 – 17:30 | Ecological Continuity Trust (ECT) | Dochart 1 |
| 15:30 – 16:30 | Sustainability and the World Congress of Soil Science 2022 | Carron 2 |

Closing Ceremony

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| 17:30 – 18:30 | Including a closing message from His Royal Highness, Prince Charles, the Prince of Wales | Clyde Auditorium |
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