



International Conference on Ozone and Plant Ecosystems

21-25 May 2018

Sant'Apollonia Auditorium, Via San Gallo 25, Firenze, Italy

Monday 21st May, 2018

19:00-20:30 – Welcome cocktail, registration of participants, mounting of posters

Tuesday 22nd May, 2018

8:00-9:00 - Registration of participants

9:00-09:30 - Opening remarks

Elena Paoletti (local organizer), Harry Harmens (ICP Vegetation), Zhaozhong Feng (IUFRO RG7.01.02), Alessandra De Marco (IUFRO RG7.01.05), Pierre Sicard (IUFRO RG7.01.09) and Furio Forni (Regione Toscana)

9:30- 10:00 **Keynote speaker** Historical approach to research on ozone and plants
Pierre Dizengremel
(France)

10:00-10:30 - Coffee break

10:30-12:30 - Session 1 “Monitoring, modelling and assessing the risk of ozone damage to plant ecosystems” Chair: Pierre Sicard

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| 10:30 | Harry Harmens (UK) | TOAR-Vegetation: Present day tropospheric ozone distribution and trends relevant to vegetation |
| 10:50 | Howard Neufeld (USA) | Ozone trends in Great Smoky Mountains National Park and their implications for plants |
| 11:10 | Valda Araminiene (Lithuania) | Meteorological conditions and ambient ozone effects on temperate forest vegetation |
| 11:30 | Iva Hůnová (Czech Republic) | Mapping Changes in Spatial Patterns of Ambient Ozone Levels |

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| 11:50 | Matej Rupel (Slovenia) | Air pollutant ozone comparison between city areas and big forest land in Slovenia |
| 12:10 | Algirdas Augustaitis (Lithuania) | Ozone flux and its effect in relation to meteorology on ecophysiological reactions of prevailing in hemi-boreal forest tree species |

12:30-14:00- Lunch

14:00-16:00 - Session 1 “Monitoring, modelling and assessing the risk of ozone damage to plant ecosystems” Chair: Alessandra De Marco

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| 14:00 | Alessandro Anav (Italy) | A multi-model framework for ozone risk assessment |
| 14:20 | Barbara Moura (Brazil) | Exposure- and flux-based assessment of ozone risk to sugarcane plants |
| 14:40 | Hanieh Eghdami (Germany) | Ozone flux time series from Rhineland-Palatinate (Germany) - A sensitivity analysis of DO3SE |
| 15:00 | Yasutomo Hoshika (Japan) | Development of stomatal conductance modeling for forest trees under elevated ozone |
| 15:20 | Auke Visser (Netherlands) | Multi-scale monitoring and modeling of ozone deposition to ecosystems |
| 15:40 | Ioannis Droutsas (UK) | A new crop modelling technique for dealing with ozone stress |

16:00-16:30 - Coffee break

16:30-18:00 - Session 1 “Monitoring, modelling and assessing the risk of ozone damage to plant ecosystems” Chair: Harry Harmens

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| 16:30 | Kim Oanh (Thailand) | ICP Vegetation-Asia: A new policy-focused evidence collecting and risk assessment network for ozone |
| 16:50 | Ya Tang (China) | Research is highly required on the impacts of increasing surface ozone in China |
| 17:10 | Xue Qiao (China) | Vegetation exposure to ozone in China: model performance and regions needing further field investigations |

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| 17:30 | Frode Stordal (Norway) | Ozone and climate stresses on sub-Arctic tundra vegetation: Modelling of stomatal fluxes in midnight sun |
| 17:50 | Bheki Maliba (South Africa) | Using OJIP transients to monitor the effect of elevated ozone on canola plants, South Africa |

18:10-20:00 - Wine tasting and poster session

Wednesday 23rd May, 2018

8:30-09:30 - Session 2 “How plant ecosystems respond to ozone exposure”

Chair: Zhaozhong Feng

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| 08:30 | Keynote speaker Giacomo Lorenzini (Italy) | A mechanistic understanding of ozone impact on forest ecosystems |
| 09:00 | Keynote speaker Youzhi Feng (China) | Elevated ground-level ozone modifies the microbiome |

09:30-10:00 – Conference picture

10:00-11:00 – Coffee break & Poster Session

11:00 – Session 2 “How plant ecosystems respond to ozone exposure” Chair: Elena Paoletti

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| 11:00 | Harry Harmens (UK) | Impacts of changing ground-level ozone profiles in Europe on vegetation in the current and future climate |
| 11:20 | Zhaozhong Feng (China) | Effects of ozone on plants in China |
| 11:40 | Ane Vollsnes (Norway) | Ozone stress on sub-Arctic tundra vegetation: ozone exposure experiments with daylength manipulation |
| 12:00 | Tsetan Dolker (India) | Grassland community response to elevated ozone exposure by assessment of soil dynamics, plant diversity and total biomass |

12.20-13:40 lunch

13:40-16:30 - Session 2 “How plant ecosystems respond to ozone exposure”

Chairs: Lu Zhang

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| 13:40 | Keynote speaker Hakan Pleijel (Sweden) | Ozone impacts on crop yield and food security |
| 14:10 | Katrina Sharps (UK) | Global food security modelling : quantifying the threat to crop production from ozone pollution |
| 14.30 | Shashi B. Agrawal (India) | Understanding the Ozone response in Indian Crop plants |
| 14.50 | Elna Oksanen (Finland) | Sensitivity on Indian crop plants to ozone |
| 15:10 | Michael Frei (Germany) | Breeding of ozone tolerant cereal crops: progress and prospects |
| 15.30 | Felicity Hayes (UK) | Impact of ozone on physiology and yield of African crops |
| 15.50 | Juliette Leymarie (France) | Responses of crops to ozone exposure: study of physiological parameters |
| 16:10 | Daniel Blanco Ward (Portugal) | Assessing the risk of tropospheric ozone phytotoxic effect on Southern European Mediterranean environments: a review with emphasis on vineyards |

16.30-17.00 Coffee break

17:00-19:00 – Session 2 “How plant ecosystems respond to ozone exposure”

Chair: Elisa Carrari

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| 17:00 | Maamar. Benchora (Algeria) | Effect of short term fumigation of tropospheric ozone on young trees of poplar <i>Populus nigra</i> |
| 17:20 | Sheng Xu (China) | Physiological responses of turf-type <i>Festuca arundinacea</i> to elevated O ₃ |
| 17:40 | Anthony Gandin (France) | Multi-level responses to ozone in Euramerican poplars |
| 18:00 | Marisa Domingos (Brasil) | The role of secretory glands in plant sensitivity to ozone: an alternative route for uptake? |

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| 18:20 | Tetsuto Sugai (Japan) | Non-linear responses of two larch species exposed to four ozone levels |
| 18:40 | Laurence Dalstein-Richier (France) | Monitoring ozone, foliar deficit and ozone-specific foliar damage on national forest plots in France over several years |

20:00 to Midnight - Conference dinner (Meeting point will be communicated)

Thursday 24th May, 2018

8:30-9:50-Session 2 “How plant ecosystems respond to ozone exposure” Chair: Alessio Giovannelli

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| 8:30 | Md. Ashrafuzzaman (Germany) | Insights into the mode of action of ethylenediurea (EDU) as an antiozonant in rice (<i>Oryza sativa</i> L.) |
| 8:50 | He Shang (China) | Effects of elevated O ₃ on physiological and biochemical responses in three kinds of trees native to subtropical forest in China during non-growing period |
| 9:10 | Makoto Watanabe (Japan) | Leaf internal process of photosynthesis in Siebold's beech seedlings under elevated ozone |
| 9:30 | Richa Rai (India) | Impact of elevated tropospheric O ₃ and ambient temperature on early and late sown cultivars of wheat: an insight to biochemical mechanism and yield |
| 09.50 | Lulu Dai (China) | The detoxification of ozone by apoplastic antioxidants in four species |

10:10-10:40 Poster viewing & Coffee break

10:40-12:20 - Session 2 “How plant ecosystems respond to ozone exposure”
Chair: Evgenios Agathokleous

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| 10:40 | David Grantz (USA) | Integrated impacts of ozone on plant water use |
| 11:00 | Lucienne De Witte (Switzerland) | Ozone flux is negatively related to foliar N and P in Swiss beech and Norway spruce forest |

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| 11:20 | Alessandra Podda (Italy) | Nutrient fertilization mitigates the effects of ozone exposure on poplar plants |
| 11:40 | Supriya Tiwari (India) | Soil nitrogen amendments: an important approach for evaluating ozone injury in maize |
| 12:00 | Ignacio González-Fernández (Spain) | Tropospheric ozone interactions on nitrogen cycling in Mediterranean annual pastures |

12:20-13:50 - Lunch

13:50-15:30 - Session 2 “How plant ecosystems respond to ozone exposure”

Chair: Marisa Domingos

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| 13:50 | Nicolas Dusart (France) | Poplar submitted to a succession of ozone and drought stresses: dynamic of stomatal responses |
| 14:10 | Marco Landi (Italy) | Influence of drought stress on the ozone-induced signalling mechanisms of two Mediterranean tree species |
| 14:30 | Elisa Pellegrini (Italy) | Antioxidative responses of three oak species under ozone and water stress conditions |
| 14:50 | Pin Li (China) | Effects of elevated O ₃ on biomass allocation, non-structural carbohydrates and rhizosphere soil function in poplar by joint water and nitrogen limitation |
| 15:10 | Takayoshi Koike (Japan) | Leaf beetle activities on Japanese white birch grown under elevated O ₃ |

15:30-16:00- Coffee break

16:00-17:50 Session 3 “How plant ecosystems affect ozone concentration in the atmosphere” Chair: Yasutomo Hoshika

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| 16:00 | Keynote speaker Silvano Fares (Italy) | Ozone and BVOC exchanges between biosphere and atmosphere |
| 16:30 | Carlo Calfapietra (Italy) | Ozone fluxes from an urban park: the unique station of Bosco di Capodimonte in Naples |

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| 16:50 | Rüdiger Grote (Germany) | Linking ozone susceptibility to induced emissions of biogenic volatile organic compounds |
| 17:10 | Xiangyang Yuan (China) | Spatial variability of isoprene emission in China under ambient conditions |
| 17:30 | Saxena Pallavi (India) | Ornamental plants used as tool for remediation of ozone pollution in indoor environment |

17:50-18.50 Discussion: the future of research on ozone impacts on plant ecosystems Chair: Harry Harmens

18:50-19:30 - Closing remarks with delivery of the best poster award - by Elena Paoletti

Friday 25th May, 2018: Scientific excursion

8:00 Meeting point close at Santa Maria Novella railway station (maps will be provided)

8:15-8:45 Transfer by bus from Firenze to Sesto Fiorentino

09:00-11:00 Visit of the O3 FACE facility

11:00-12:00 Transfer by bus to Castello da Verrazzano

12:00-12:30 Visit of the winery

12:30-14:00 Wine tasting and lunch

14:00-15:30 Transfer by bus to Siena across the Chiantishire

15:30-17:00 Free time to visit Siena (maps will be provided)

17:00 - 18:30 Transfer by bus to Firenze