



XIX INQUA CONGRESS

*Quaternary Perspectives on
Climate Change, Natural Hazards and Civilization*

at Nagoya Congress Center

Nagoya, JAPAN 26 July – 2 August 2015



Science Council of Japan

Japan Association for Quaternary Research

International Union for Quaternary Research

PROGRAM BOOK

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P07-07 10:30-10:45 Kale Sniderman

Late Pleistocene vegetation and environmental change in southwestern Australia: new insights from speleothem palynology

02 August (Sun) AM2 (11:10-13:00)**Oral: [S03] Progress in European Quaternary stratigraphy (Reception Hall A)**

Convener(s): Wim Westerhoff, Guzel Danukalova, Markus Fiebig

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|----------------|-------------|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| S03-08 | 11:10-11:25 | Tuncer Demir | Influence of crustal properties on patterns of Quaternary stratigraphy across Western, Central and Eastern Europe |
| S03-09 | 11:25-11:40 | Alessandra Negri | A possible Upper Pleistocene global boundary stratotype section and point (GSSP): The Fronte Section at Taranto (Italy) |
| <i>Invited</i> | | | |
| S03-10 | 11:40-11:55 | Natalia P. Gerasimenko | Stratigraphy of the late Middle Pleistocene in the Central Ukraine |
| S03-11 | 11:55-12:10 | Markus C Fiebig | Chronostratigraphic correlation of Pleistocene river terrace sediments A case for reliable numerical dating |
| S03-12 | 12:10-12:25 | Stephanie Scheidt | A consistent magnetic polarity stratigraphy of late Neogene to Quaternary fluvial sediments from the Heidelberg Basin (Germany): A new time frame for the Plio-Pleistocene palaeoclimatic evolution of the Rhine Basin |
| S03-13 | 12:25-12:40 | Maria Sekar Proborukmi | Quaternary palynological and environmental records from the Garding-2 sediment core, coastal northwest Germany |
| S03-14 | 12:40-12:55 | Pierluigi Pieruccini | Terrestrial Quaternary Stratigraphy in Italy |

02 August (Sun) AM2 (11:10-13:00)**Oral: [P03] The ACER IFG initiative (Reception Hall B)**

Convener(s): Maria Fernanda Sanchez Goñi, Stéphanie Desprat, Anne-Laure Daniau, Franck Bassinot, Didier Swingedouw

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|----------------|-------------|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| P03-08 | 11:10-11:25 | Christo Buizert | Precise interhemispheric phasing of the bipolar seesaw during abrupt Dansgaard-Oeschger events |
| <i>Invited</i> | | | |
| P03-09 | 11:25-11:40 | Dunia H Urrego | Millennial-scale vegetation changes in the tropical Andes |
| P03-10 | 11:40-11:55 | Vazquez Riveiros Natalia | Terminal millennial scale events and the deglacial process: the case of MIS 7 |
| P03-11 | 11:55-12:10 | Russell N Drysdale | Millennial-scale climate events: a speleothem perspective |
| P03-12 | 12:10-12:25 | Dulce Oliveira | New insights on MIS 11 climate changes at millennial time scale in southwestern Europe |
| P03-13 | 12:25-12:40 | William J Fletcher | Past interglacial vegetation and climate dynamics in the eastern Mediterranean: the case study of the third climatic cycle (Marine Isotope Stages 9 and 8) at Tenaghi Philippon |
| P03-14 | 12:40-12:55 | Stephen Barker | Abrupt climate variability over the last ten glacial cycles |

02 August (Sun) AM2 (11:10-13:00)**Oral: [P14] Antarctic ice sheets and the Southern Ocean (Room 131-132)**

Convener(s): Yusuke Suganuma, Duanne A. White, Andrew Mackintosh

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| P14-08 | 11:10-11:25 | Joanne S Johnson | Reconstructing West Antarctic Ice Sheet history in the western Amundsen Sea Embayment, using high-precision cosmogenic dating |
| P14-09 | 11:25-11:40 | Duanne A White | Marine ice sheet instability drove deglaciation in Prydz Bay, East Antarctica |
| P14-10 | 11:40-11:55 | Lauren M Simkins | Geomorphic and sedimentological record of complex and episodic post-LGM ice-sheet retreat in the western Ross Sea, Antarctica |
| P14-11 | 11:55-12:10 | Sarah L Greenwood | Time-varying configuration of ice flow in the western Ross Sea reveals competing West and East Antarctic ice sources during the last glacial period |

Quaternary palynological and environmental records from the Garding-2 sediment core, coastal northwest Germany

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Palynological, palaeoecological and geochemical analyses of a 240 m Quaternary sediment core in the Garding area, North-west Germany, have been carried out to reconstruct the vegetation, climatic and environmental history of the area. Analyses focused on four layers (189-182 m, 148-92 m, 81-73 m and 20-1 m) which are composed of fine-grained clastic sediments.

Last appearances of Tertiary relics such as *Taxodium*, *Sequoia*, cf. *Liquidambar* and cf. *Nyssa* marked the Pliocene-Pleistocene boundary, preceded a cooler and drier phase. Sequences of alternating temperate and cooler fluvial deposits were recorded between 148-92 m. The Early to Middle Pleistocene transition is marked by the last occurrence of *Tsuga* at the beginning of the warmer period at 119.5 m. *Pterocarya* occurred through this section and indicates that it is not younger than Holsteinian (Urban et al., 2011).

On top of the Elsterian till, shallow marine sediments containing organic rich brown coal lenses were deposited at 81-73 m. Reworked Early Pleistocene pollen grains of *Tsuga*, *Carya* and *Sequoia* were found and indicated existence of an unconformity at the bottom of this layer.

The top 20 m of the core belongs to the Holocene (Zhang, et al., 2014). It was deposited above a hiatus. First occurrences of *Fagus* at 15.97 m and *Carpinus* at 16.40 m demonstrate the beginning of the Sub-boreal about 5660 years BP. Agricultural activities are more pronounced from the beginning of Subatlantic (2500 years BP) at 11.27 m as the total arboreal pollen decreased and increasing percentages of Cerealia and heliophilous herbs were detected. A sedimentation rate estimated around 2.90 mm/year is believed to be the reason for subsequent changes of depositional environment from shallow marine to coastal back swamp.