9th European Palaeobotany and Palynology Conference

23rd to 31th of August, Padova, Italy

In the context of the EPPC 2014, our members had organized two symposia were organized and listed as NECLIME symposia. We kindly thank all the organizers, but also the high number of participants for each session as well as the great discussions.

NECLIME symposia at the 9th EPPC

S25. Cenozoic vegetation quantification with models and proxy data (a NECLIME and ROCEEH contribution)

Conveners: Louis François, Angela A. Bruch, Torsten Utescher

The Cenozoic era is marked by a worldwide cooling of climate and a decline of the atmospheric CO2 level. In response to these climate and environmental changes, the composition of vegetation was modified, the structure and functions of ecosystems were altered. These changes in vegetation and ecosystems impacted the evolution of Cenozoic fauna, as well as the displacements and life habits of early human and pre-human communities. Quantitative reconstruction of palaeovegetation is thus crucial to understand the interactions between Cenozoic climate and vegetation changes, as well as their impacts on fauna and early human communities. In this session, we welcome contributions on quantitative reconstructions of vegetation from models and/or proxy data at regional, continental or global scales, and for any time of the Cenozoic era, from the Palaeocene to the Pleistocene. This open session is organised in the framework of NECLIME (Neogene Climate Evolution in Eurasia) and ROCEEH (The Role of Culture in Early Expansions of Humans).

Oral contributions:

D'Apolito, Carlos; Harrington, Guy: The dynamic paleogeography of Neogene western Amazonia as revealed by its pollen record

Crifò, Camilla; Currano, Ellen; Baresch, Andrés; Jaramillo Carlos: Variations in angiosperm leaf vein density have implications for interpreting life form in the fossil record

Konrad, Wilfried; Roth-Nebelsick, Anita: Get your coat wet – dew collection by dense trichome layers may facilitate plant survival under dry conditions

Roth-Nebelsick, Anita; Konrad, Wilfried: Shifting of taxon-specific humidity demands under changing CO2? - A multidimensional analysis using different stomatal conductance models

François, Louis; Henrot, Alexandra-Jane; Utescher, Torsten; Hamon, Noémie; Erdei, Boglarka; Dury, Marie; Krapp, Mario; Herold, Nicholas; Goldner, Aaron: Middle Miocene vegetation reconstructions with the CARAIB dynamic vegetation model and validation using the NECLIME database

Popova, Svetlana; Utescher, Torsten; Gromyko, Dmitry; Bruch, Angela A.: Cenozoic vegetation and climate gradients along a latitudinal transect from the Caspian region to the High Arctic – results from the plant fossil record compared to modern conditions

Utescher, Torsten; Erdei, Boglárka; Hably, Lilla; Mosbrugger, Volker; Tamás, Júlia: Late Miocene Vegetation of the Pannonian Basin – an interpretation at the level of plant functional types

Salzmann, Ulrich; Dowsett, Harry J.; Dolan, Aisling M.; Haywood, Alan M.; Pound, Matthew J.: PRISM, PlioMIP: Challenges in quantifying Pliocene warming revealed by data–model discord

Bruch, Angela A.; Gabrielyan, Ivan G.: Testing quantitative methods of vegetation reconstruction on Early Pleistocene macro floras from Armenia

Rudaya, Natalia; Markin, Sergey: Reconstruction of dominant vegetation types and climate during the period of the Neanderthals settlement in Chagyrskaya Cave (Altai Mountains)

Levkovskaya, Galina; Shumilovskikh, Ludmila; Hoffecker, John; Platonova, Nadejda; Anikovich, Mikhael: Chronology of the Russian Plain Upper Paleolithic Kostenki 12 / V(?), IV and III Layers of the Glinde and Moershoofd Optima in the Context of IRSL/OSL Dates and Correlations with Monticcio and Black Sea core 25-GC1 Diagrams and GISP2 O16/O18 and C13/C14 "Calendars"

Poster contributions:

S25-01: Bayramova, Shafag; Huseynova, Shalala: Palynoflora at the boundary of Oligocene and Miocene South-Eastern edges of Greater Caucasus

S25-02: Bondarenko, Olesya V.; Utescher, Torsten; Bruch, Angela: The Calabrian Climate and vegetation of southern Primory'e (Far East of Russia)

S25-03: Donders, Timme; Westerhoff, Wim; Luthi, Stefan: The north Sea Basin as a recorder for key Cenozoic transitions: climate development, fluvial response and ecosystem change in a subsiding basin

S25-04: Dury, Marie; Düllinger, Stefan; Hülber, Karl; Cheddadi, Rachid; Laborde, Henri; Singarayer, Joy S.; Schurgers, Guy; Munhoven, Guy; François, Louis: Holocene migration of **Fagus sylvatica** and **Picea abies** in Europe: dynamic vegetation modelling in the light of palaeorecords studies

S25-05: Kłusek, Marzena: Tree-ring climate reconstruction in the area of Austrian Alps

S25-06: Kováčová, Marianna; Rybár, Samuel; Šarinová, Katarína; Halásová, Eva; Hudáčková, Natália; Kováč, Michal; Šujan, Michal: Badenian palaeovegetation, palaeoenvironment and biostratigraphy of the northern Danube Basin (Slovakia) - a case study

S25-07: Milivojević, Jelena; Lazarević, Zorica: Palynomorphs from Tertiary sediments of the Srpska Crnja local depression (Serbia)

S25-08: Panitz, Sina; Salzmann, Ulrich; Hocking, Emma; De Schepper, Stijn: Reconstructing Late Pliocene vegetation and climate fluctuations in the subpolar North Atlantic region (ODP Site 642, Norwegian Sea)

S25-09: Pound, Matthew J.; Lowther, Robert I.; Peakell, Jeff; Chapman, Robert J.; Salzmann, Ulrich: There’s pollen (and gold) in them thar hills: Palynological evidence for a warmer boreal climate during the Late Pliocene of the Yukon, Canada

S25-10: Pound, Matthew J.; Salzmann, Ulrich; Haywood, Alan M.; Riding, James B.: Vegetation controls on the global distribution and evolution of Late Miocene mammals

S25-11: Ramírez Arriaga, Elia; Galván-Escobedo, Iris G.; Helenes Escamilla, Javier; Martínez Hernández, Enrique; Valiente Banuet, Alfonso; Carreño, Ana Luisa: Palynological comparison and

statistical analysis of boreholes B1 and B4 from the San Gregorio Formation (Oligocene-Miocene), Baja California Sur, Mexico

S25-12: Romero, Ingrid C.; Jaramillo, Carlos; Zavada, Michael: Palynological evidence for the paleonvironmental history of the Miocene Llanos Basin, Eastern Colombia

S25-13: Salzmann, Ulrich; Sangiorgi, Francesca; Strother, Stephanie; Bijl, Peter; Pross, Joerg; Raine, Ian; Morgans, Hugh; Shouten, Stefan; Passchier, Sandra; Tauxe, Lisa; IODP, Expedition 318: Southern High Latitude Vegetation Response to Antarctic glaciation during the Eocene-Oligocene and mid-Miocene climate transition

S25-14: Strother, Stephanie; Salzmann, Ulrich; Woodward, John; Sangiorgi, Francesca; Bijl, Peter; Pross, Jörg; IODP, Expedition 318: Oligocene vegetation and climate change of Wilkes Land, East Antarctica (IODP Expedition 318)

S25-15: Taghiyeva, Yelena: Vegetation and climate of the south Caucasus in the Sarmatian and Meotian Centuries

S25-16: Tolotti, Raffaella; De Santis, Laura; Caburlotto, Andrea; Bonci, Cristina; Lucchi, Renata; Salvi, Gianguido; Colizza, Ester; Corradi, Nicola: Polar marine diatom floras as basic tools for paleoclimatic and paleoenvironmental research: Ross Sea and Wilkes Land on the Antarctic continental Margin

S25-17: Tolotti, Raffaella; De Santis, Laura; Lodolo, Emanuele; Harwood, David; Bonci, Maria Cristina; Corradi, Nicola: Biosiliceous marine floras responses to climatic and environmental changes during late Eocene-Oligoceneearly Miocene transitions in Antarctica

S25-18: Traiser, Christopher; Nobis, Michael P.; Roth-Nebelsick, Anita: Contrasts of environmental and phylogenetic signals in plant morphological traits – an underestimated factor in palaeoenvironmental research? A case study of the extant genus *Pinus*

S25-19: Utescher, Torsten; Bozukov, Vladimir; Ivanov, Dimiter: Early Oligocene palaeoclimate in southeast Bulgaria - a study based on Palaeobotanical data from Ustren (east Rhodope Mts.)

S26. Seasonal climate differences and their evolution through the Cenozoic of Eurasia (a NECLIME symposium)

Conveners: Andrea K. Kern, Gonzalo Jimenez-Moreno, Wei-Ming Wang

The Cenozoic climatic history was initially summarized by long continuous marine records highlighting important phases of warm and cold global temperatures. Accordingly, the same climatic trend was later verified by paleoclimatic reconstructions based on fossil plants, where a further clearer distinction of temperature and precipitation signals was possible. However, paleobotanical records have the potential to characterize paleoclimate also in reference to seasonality due to their sensitivity towards climatic extremes within a year. These inner-annual changes in the climatic evolution shall be the topic of this symposium based on different approaches. Discussions about climatic indicative plant taxa shall be combined with variations in the paleovegetation derived from botanical abundance records. This information shall be contrasted by climatic parameters reconstructed by various paleoclimatic approaches (e.g. CLAMP, Coexistence Approach) and other proxy records (e.g. sedimentology, stable isotopes, mammal data). As a consequence, we aim to understand how to trace the presence of seasonality in reference to the global climate and to distinguish significant regional and temporal changes/phases through the Cenozoic. Furthermore, we intend to trace the rise of continental climate patterns in Eastern Europe and Central Asia as well as phenomena such as monsoon climates. This will help to give a deeper understanding of the complexity of the climate and its evolution.

Oral Contributions

Utescher, Torsten; Utescher, Torsten; Bruch, Angela A.; Bondarenko, Olesya V.; Bondarenko, Olesya V.; Mosbrugger, Volker; Popova, Svetlana (keynote): Seasonality patterns in Cenozoic continental climate reconstructed from Eurasian palaeobotanical records

Wang, Wei-Ming: Cenozoic environment changes and the development of arid vegetations in Northwest China

Bondarenko, Olesya V.; Bondarenko, Olesya V.; Wang, Hao-Bo; Jacques, Frédéric M.B.; Wang, Yue-Hua; Zhou, Zhe-Kun: Fossil wood of *Tsuga* (Pinaceae) from the Late Miocene of Central Yunnan, China and its palaeoclimatic implication

Li, Shufeng; Mao, Limi; Zhou, Zhekun: Late Miocene climate inferred from palynological data in Southwestern China: a case study from Wenshan basin of Yunnan

Zhou, Zhekun: With increasing seasonality, **Quercus schottkyana** replaces the *Q. delavayi* complex as the dominant tree species in evergreen broadleaf forests.

El Atfy, Haytham; Brocke, Rainer; Uhl, Dieter: Miocene palynology and palynofacies of the Gharandal Group, southern Gulf of Suez, Egypt

Poster contributions

S26-01: Hayashi, Ryoma; Takahara, Hikaru; Inouchi, Yoshio; Takemura, Keiji: Orbital-scale vegetation response to seasonal climate changes in ocean atmosphere systems during the last glacial-interglacial cycle based on terrestrial and marine pollen records around Japanese archipelago

S26-02: Kawai, Takanori; Hikaru, Takahara; Atsuo, Kotaki; Naoko, Sasaki; Ryoma, Hayashi; Kazuya, Nakagawa: Differences of vegetation changes from MIS3 to MIS2 between the inland area and the Sea of Japan area, near Kyoto, western Japan

S26-03: Lazarević, Zorica; Milivojević, Jelena: Early Miocene floras from Serbia

S26-04: Leroy, Suzanne A.G.; López-Merino, Lourdes; Bookman, Revital: Are the Dead Sea laminae seasonal? Evidence from the taphonomy of pollen

S26-05: Moreno-Domínguez, Rafael; Diez, José B.; Jacques, Frédéric MB; Sender, Luis M.; Ferrer, J.: Fruits and seeds of palms of genus Nypa Steck, 1757 in the Eocene from the Arguis Formation (Arguis, Huesca)

S26-06: Shu, Jun-Wu; Wang, Wei-Ming: An aquatics-rich Miocene pollen flora from the Bohai Bay Basin, North China: its palaeoclimatic and stratigraphic significance

S26-07: Słodkowska, Barbara: The Miocene climatic changes in the western Poland in the palynological record