

# Climate variability and human impacts in Central and Eastern Europe during the last two millennia

17-19 June, University of Gdańsk, Poland

## Detailed Program

Keynote: 25 min. talk + 5 min. discussion

Invited talk: 15 min. talk + 5 min. discussion

Oral presentation: 15 min. talk + 5 min. discussion

Poster presentation: 2 min. talk + general discussion in the poster hall

### Tuesday, 16 June 2015

| Time        | What              | Who | Responsible |
|-------------|-------------------|-----|-------------|
| 15.00-20.00 | Registration open | LOC | LOC         |
| 18.00-20.00 | Ice Breaker       | LOC | LOC         |

### Wednesday, 17 June 2015

|  |  |   |                                       |
|--|--|---|---------------------------------------|
| 8.00-8.30  | Registration open  | LOC   | LOC                                   |
| 8.30-9.00  | Conference opening and introduction  | Wojciech Tylmann<br>Rector UG<br>Dean FOG<br>Martin Grosjean              | Wojciech Tylmann /<br>Martin Grosjean |
| 9.00-9.30  | Past Global Changes (PAGES)<br>Presentation of PAGES working groups: EuroMed2k, Landcover6k, Varves Working Group  | Lucien von Gunten<br>Ulf Büntgen<br>Marie-Jose Gaillard<br>Pierre Francus | Martin Grosjean                       |
| <b>Session 1 Historical climatology and documentary data</b> |  |   |                                       |
| 9.30-10.00   | <i>Keynote:</i><br>Historical climatology in Central Europe and its scientific potential   | Rudolf Brázdil  | Mirośław Miętus                       |
| 10.00-10.20  | Historical climatology in Hungary and the Carpathian Basin since 1000 AD: present stage of research from documentary and early instrumental data (invited) | Andrea Kiss   |                                       |
| 10.20-10.40  | Climate of Poland in the last millennium (invited)   | Rajmund Przybylak   |                                       |
| 10.40-11.00  | Climate variability in Poland in the period of the instrumental record (invited)   | Janusz Filipiak   |                                       |
| 11.00-11.20  | Human communities as climate indicators: Water level rising in a Hungarian lowland landscape during the medieval climate change?                           | Zsolt Pinke   |                                       |
| <b>Poster Session 1</b>                                      |  |   |                                       |
| 11.20-12.20  | Meteorological information in Romanian publications and archives from the 19 <sup>th</sup> century   | Ioana Ipate   | Martin Grosjean                       |
|  | How does human perception influence the registration of hydric regime variability in historical documents?   | Viorica Nagavciuc   |                                       |
|  | Climate of Gdańsk from 1770 to 1786 based on Gottfried Reyger's meteorological observations and measurements   | Rajmund Przybylak   |                                       |
|  | Wrecks as a testimony of history and the state of the environment  | Stanisław Rudowski  |                                       |
|  | An interdisciplinary investigation of archaeological evidence for meteorological application   | Elisabeth Thompson  |                                       |

| Time   | What   | Who                      | Responsible      |
|--|--|--------------------------|------------------|
| 11.20-12.20  | Medieval climate warming reflected in the pollen and macrofossil record from urban archaeological sites in Gdańsk (N Poland)                                     | Joanna Świąta-Musznicka  | Martin Grosjean  |
|  | Pollen-inferred temperature series for the northern Italian Holocene   | Francesca Vallé          |                  |
|  | Dendroclimatic studies in the Sudetes Mountains - a key site for analysing Central European past climate variations  | Magdalena Opała          |                  |
|  | Hydrological dynamics and fire history of the Iżera Mountains during the last 800 years inferred from testate amoebae and charcoal                               | Katarzyna Kajukało       |                  |
|  | Investigation of extreme climate events using <i>Pinus sylvestris</i> tree rings from Hungary  | Dávid Misi               |                  |
| <b>Session 2 Climate reconstructions from natural archives</b> |  |                          |                  |
| 12.20-12.50  | <i>Keynote:</i><br>Varved sediments and their paleoclimatic significance   | Bernd Zolitschka         | Achim Brauer     |
| 12.50-13.10  | Varved sediments of Lake Żabińskie, northeastern Poland: a chronological frame for high-resolution paleoclimate reconstructions over the last millennium         | Wojciech Tylmann         |                  |
| 13.10-13.30  | Temperature reconstruction using chironomids (non-biting midges) preserved in the varved sediment of Lake Żabińskie, Poland (invited)                            | Isabelle Larocque-Tobler |                  |
| 13.30-13.50  | A chrysophyte-based transfer function as a tool for winter severity reconstructions in NE Poland during the past millennium (invited)                            | Iván Hernández-Almeida   |                  |
| 13.50-15.30  | <i>Lunch</i>   |                          |                  |
| 15.30-16.00  | <i>Keynote:</i><br>The PAGES 2k EuroMed project – beyond tree ring-based temperature reconstructions   | Ulf Büntgen              | Olga Solomina    |
| 16.00-16.20  | Climate reconstructions from tree-ring widths for the last 850 years in Northern Poland  | Ingo Heinrich            |                  |
| 16.20-16.40  | Climate of Poland in the last 400 years on the basis of tree rings isotope studies   | Sławomira Pawełczyk      |                  |
| 16.40-17.00  | Tree-ring based reconstruction of temperature extremes over the last five centuries in Silesia, southern Poland: a multispecies perspective                      | Magdalena Opała          |                  |
| <b>Poster Session 2</b>  |  |                          |                  |
| 17.00-18.30  | Improving the study of annually laminated sediments - A new online tool  | Bernd Zolitschka         | Wojciech Tylmann |
|  | Geochemical indices of environment in the varved clastic and bio-chemogenic lake sediments   | Ivan Kalugin             |                  |
|  | Periodic characteristics of 10,000-year-long clastic-biogenic varve records from lakes Nautajärvi and Korttajärvi in continental Scandinavia during the Holocene | Antti E.K. Ojala         |                  |
|  | Stable isotope record of late Holocene precipitation changes from Lake Nuudsaku in southern Estonia  | Nathan Stansell          |                  |
|  | Preboreal climate oscillations registered in multi-proxy record from Lake Suchar Wielki in the Wigry National Park, NE Poland                                    | Magdalena Fiłoc          |                  |
|  | Isotopic investigations of contemporary carbonate sedimentation in lakes from N Poland   | Natalia Piotrowska       |                  |
|  | Chrysophyte cyst-inferred variability of warm season lake water chemistry and zonal wind in northern Poland  | Iván Hernández-Almeida   |                  |

| <b>Time</b> | <b>What</b>   | <b>Who</b>             | <b>Responsible</b> |
|-------------|---|------------------------|--------------------|
| 17.00-18.30 | Chrysophyte cysts population dynamics in northern Poland: a two-years sediment trap experiment  | Iván Hernández-Almeida | Wojciech Tylmann   |
|             | Modern limnology, sediment accumulation and varve formation processes in Lake Żabińskie, northeastern Poland: a key to understand the sediment record | Alicja Bonk            |                    |
|             | Sedimentological and geochemical record of meteorological variability in varves of Lake Żabińskie, northeastern Poland                                | Alicja Bonk            |                    |
| 18.30-      | <i>City Tour</i>  |                        |                    |

**Thursday, 18 June 2015**

| Time   | What  | Who                    | Responsible       |
|--|---|------------------------|-------------------|
| <b>Session 2 Climate reconstructions from natural archives</b>                                     |   |                        |                   |
| 08.30-9.00   | <i>Keynote:</i><br>Climate variability in European Russia of the past 2000 years  | Olga Solomina          | Lucien von Gunten |
| 9.00-9.20  | Drought severity for the last 200 years in the Voronezh region (Russia) reconstructed from pine ring width chronology                   | Vladimir Matskovsky    |                   |
| 9.20-9.40  | Climate reconstructions in the Urals over the last millennium inferred from borehole temperature data                                   | Anastasiia Gornostaeva |                   |
| 9.40-10.00   | Proxy data from East Central European cave sediments for the past two Millennia (invited)   | Zoltán Kern            |                   |
| <b>Poster Session 3</b>  |   |                        |                   |
| 10.00-11.00  | Identifying natural and anthropogenic impacts in the southern boreal forests of Europe  | Jennifer Clear         | Janusz Filipiak   |
|  | Disturbance dynamics of the High Tatra Mountains, Slovakia: a multi-proxy approach combining palaeoecology and dendroecology            | Jennifer Clear         |                   |
|  | Different successional patterns in two close located cores: comparison of mire and floating mat zone (Rzeczyn mire, W Poland)           | Grzegorz Kowalewski    |                   |
|  | Reconstruction of total phosphorous in north German lowland lakes since 500 AD  | Thomas Hübener         |                   |
|  | Human impact and past climate changes - records in lake sediments of two Pamir lakes  | Piotr Szwarczewski     |                   |
|  | Human impact on the landscape of the Mrągowo Lake District (Masuria, NE Poland) in the Iron Age   | Marta Szal             |                   |
|  | Impact of land-use changes in small catchments on lake sedimentation: case study of Lake Jaczno, northeastern Poland                    | Anna Poraj-Górska      |                   |
|  | Lacustrine ecosystem response to medieval hemp-retting practices – an example of three hard water lakes from SE Poland                  | Magdalena Suchora      |                   |
|  | The human activity during the first five centuries AD recorded in the laminated sediments of the Lake Czechowskie (northern Poland)     | Milena Obremska        |                   |
|  | Anthropogenic changes of vegetation over the last millennium in NE Poland; a case study on the varved sediments from Lake Żabińskie     | Agnieszka Wacnik       |                   |
|  | Environmental changes recorded in Lake Żabińskie (Masurian Lake District) based on the subfossil diatom flora, AD 1888-2010             | Małgorzata Witak       |                   |
| Diatom biostratigraphy of the last millennium sediments of Lake Żabińskie (Masurian Lake District) | Małgorzata Witak  |                        |                   |
| <b>Session 2 Climate reconstructions from natural archives</b>                                     |   |                        |                   |
| 11.00-11.20  | Comparing varve formation and preservation during the last 2000 years in two lakes along a W-E transect in the southern Baltic lowlands | Nadine Dräger          | Bernd Zolitschka  |
| 11.20-11.40  | Regional and local sedimentation signatures in varved sediments of the last 150 years in three lakes in northern central Poland         | Florian Ott            |                   |
| 11.40-12.00  | Hyper-spectral imaging: A promising tool for quantitative pigment analysis of varved lake sediments                                     | Christoph Butz         |                   |

| Time  | What  | Who                         | Responsible            |
|---|---|-----------------------------|------------------------|
| <b>Session 3 Past climate modeling and data-model comparison</b>                                |   |                             |                        |
| 12.00-12.30   | <i>Keynote:</i><br>European Temperature of the last 2 millennia – comprehensive climate reconstructions   | Jürg Luterbacher            | Rajmund Przybylak      |
| 12.30-12.50   | Dynamic downscaling as a way to bridge gaps between climate simulations and reconstructions (invited)   | Juan José Gómez-Navarro     |                        |
| 12.50-14.20   | <i>Lunch</i>  |                             |                        |
| <b>Session 4 Proxy calibration, disentangling climate and human impacts</b>                     |   |                             |                        |
| 14.20-14.50   | <i>Keynote:</i><br>Multi-proxy, high-resolution studies of peatlands development during the last 2000 years - climatic drivers and human impact   | Mariusz Lamentowicz         | Ulf Büntgen            |
| 14.50-15.10   | 2000 years of hydroclimate variability recorded in different types of mire archives in north-eastern and north-western Poland   | Małgorzata Latałowa         |                        |
| 15.10-15.30   | Last Millennium hydro-climate variability in Central Eastern Europe (Northern Carpathians, Romania): a multi-proxy approach   | Angelica Feurdean           |                        |
| 15.30-15.50   | How does fire and drought influence peatland under oceanic-continental climatic conditions? 2000 years of environmental change in Linje mire, northern Poland   | Katarzyna Marcisz           |                        |
| <b>Poster Session 4</b>   |   |                             |                        |
| 15.50-17.30   | Water level changes in the lake-mire ecosystem of humic lake Płotycze Sobiborskie reflected in Testate Amoebae and Cladocera analysis: preliminary results  | Joanna Jarosz               | Iván Hernández-Almeida |
|   | Forest response to human impact in Białowieża Primeval Forest during the last two millennia   | Marcelina Zimny             |                        |
|   | Directions of changes in the use of peatlands of the Tuchola Pinewoods from the end of the 19 <sup>th</sup> to the end of the 20 <sup>th</sup> century  | Danuta Szumińska            |                        |
|   | Two millennia of forest habitats transformations as a result of land use and climatic shifts (Gdańsk Upland, N. Poland)   | Anna Pędziszewska           |                        |
|   | Pedosedimentary record of human impact and climate changes in the Holocene - evidences from closed depressions in loess areas of Lublin Upland  | Renata Kołodyńska-Gawrysiak |                        |
|   | Geochemical and isotopic records of anthropogenic impact and natural environmental change in the Romanian Carpathians during the last millennia   | Daniel Veres                |                        |
|   | Hypothesis on the relation between the late humid period of the Little Ice Age and the culmination of the Hungarian arable lands  | Zsolt Pinke                 |                        |
|   | Vegetation Change by Pollen, Macro and Microfossil Analysis in an Archaeological Site in Northwest Hungary  | Rita Judit Tövistes         |                        |
|   | The Slavic expansions: Evidence from linguistics and paleoenvironmental archives  | Michiel de Vaan             |                        |
|   | The correlation of soil-sediments sequences in alluvial fans and closed depressions as a sources of data about climate changes of the loess areas in the Holocene. A case study from Nałęczów Plateau (Lublin Upland, E Poland) | Renata Kołodyńska-Gawrysiak |                        |
| Road construction impact on the landscape transformation during the last 700 years in NE Poland | Michał Słowiński  |                             |                        |
| 17.30-18.30   | PAGES WG Business Meetings  |                             |                        |
| 19.00-  | <i>Conference Dinner</i>  |                             |                        |

Friday, 19 June 2015

| Session 4 Proxy calibration, disentangling climate and human impacts |  |                             |                                       |
|--|--|-----------------------------|---------------------------------------|
| 08.30-08.50  | Climate reconstructions and human impact from lakes sediments during last two millennia in the Central European Russia   | Tatyana Sapelko             | Pierre Francus                        |
| 08.50-09.10  | Climate versus human impacts on Lake Atnsjøen ecosystem (south-eastern Norway) during the last millennium  | Izabela Zawiska             |                                       |
| 09.10-09.30  | Stable isotope record in annually laminated lake sediments from Lake Żabińskie (NE Poland) for the last millennium   | Alicja Gabryś               |                                       |
| 09.30-09.50  | Spring (MAM) temperature signal in the varved sediments of Lake Żabińskie, NE Poland: calibration and reconstruction back to AD 1600   | Benjamin Amann              |                                       |
| Session 5 Past human impacts on the environment                      |  |                             |                                       |
| 09.50-10.20  | <i>Keynote:</i><br>Pollen-based quantitative reconstructions of Holocene vegetation cover in Europe: contribution to the study of land cover – climate interactions and other examples of applications | Marie-José Gaillard-Lemdahl | Małgorzata Latałowa                   |
| 10.20-10.40  | Anthropogenic deforestation of northern Europe and eastern Baltic area during the last 2 millennia (invited)   | Anneli Poska                |                                       |
| 10.40-11.00  | How wrong are pollen based reconstructions of landscape openness?  | Martin Theuerkauf           |                                       |
| 11.00-11.30  | <i>Coffee break</i>  |                             |                                       |
| 11.30-11.50  | Role of climatic factors and human activity in the transformation of valley floors and slopes in C-E Europe during last 2 millennia  | Leszek Starkel              | Martin Grosjean                       |
| 11.50-12.10  | Demographic changes during the first millennium AD and their impact on vegetation cover in north-western Poland  | Anna Pędziszewska           |                                       |
| 12.10-12.30  | The 500 years of vegetation changes in lowland forest wetlands in relation to human impact and climate change  | Andrea Gálová               |                                       |
| 12.30-12.50  | Trace elements in lake sediments as a proxy of human impacts and climate changes - limitations and possibilities of application  | Piotr Szwarzewski           |                                       |
| 12.50-13.10  | Paleolimnological evidence of European spread of hypoxia in freshwaters caused by local anthropogenic pressures  | Philippe Jenny              |                                       |
| 13.10-13.30  | Conference closure   |                             | Wojciech Tylmann /<br>Martin Grosjean |