

## Program *From the North Sea Lowlands to the Celtic Edge*

Keynote presentations are 30 minutes (including questions), regular oral presentations are 14 minutes (including questions), poster presentations are 5 minutes (including applause).

### November 18

12:00 Registration and lunch

13:00 *Sytze van Heteren* - Opening remarks and word of welcome to our special guests Cees Laban and Erno Oele

13:05: *Michiel van der Meulen* - Fifty years of marine-geological mapping in the Netherlands

13:15 *Phil Gibbard* - The Quaternary evolution of the North Sea

13:45 Session 1 (Subsurface records; chair - *Carol Cotterill*)

*Dag Ottesen* - The Quaternary North Sea Basin. Infill history and sedimentary processes (O)

*Stephen Eaton* - Palaeogeographic change in response to glacial/interglacial cycles: Middle and Upper Pleistocene stratigraphy of the southern North Sea (O)

*Matthew Owen* - Late Quaternary geological processes from the southeast Skagerrak – a transnational geological feature (O)

*Frank Wesselingh* - On the origin of Late Quaternary arctic marine faunas: implications for landscape evolution in the southern North Sea Basin during the Late Pleistocene (O)

*Maikel De Clercq* - The evolution of the Last Interglacial North Sea reconstructed using preserved wave- and tide-dominated paleo-estuarine infills on the Belgian Continental Shelf (O)

14:55 Coffee break and posters

15:20 Session 1 (Large-scale drainage; chair - *Matt Owen*)

*Fabien Paquet* - One network may hide others – toward a comprehensive scenario for Neogene superimposed valley networks along the English Channel (O)

*Sanjeev Gupta* - Opening of the Dover Strait: Constraints on landscape evolution from high resolution sonars and sub-bottom data (O)

*David Garcia Moreno* - Evolution of southern North Sea drainage systems during Middle-Late Pleistocene marine lowstands (O)

*Jörg Lang* - The impact of Middle Pleistocene glacial lake-outburst floods on the meltwater-drainage system of northern central Europe (P1 – pitch by *Jutta Winsemann*)

*Alain Trentesaux* - Fosse drilling needed (P2)

*Bart Meijninger* - Anomalous buried scour hollows in the Dutch Borssele wind-farm site (P3)

*Maikel De Clercq* - Glacial erratics on the Belgian Continental Shelf: analysis, origin and transportation mechanisms (P4)

16:25 Short break

16:35 Session 1 (Ice-marginal landforms and processes; chair - *Katrine Andresen*)

*Margaret Stewart* - The tunnel valleys of the central and northern North Sea (56°N – 62°N): distribution, characteristics and generations (O)

*Arne Lohrberg* - Paleolandscapes and ice-marginal subsurface landforms in the German sector of the southeastern North Sea imaged by closely spaced high-resolution 2D multi-channel reflection seismics (O)

*Kirstin Johnson* - Deposition of proglacial sediments along an active ice margin during the Last Glacial Maximum, Dogger Bank, southern central North Sea (O)

*Mattijs Vollenberg* - The effect of boundary conditions on morphometric parameters of tunnel valleys in the North Sea (P5)

*Louise Callard* - The last glacial cycle in the North Sea Basin: research highlights from the BRITICE-CHRONO project (P6)

17:30 Poster event (sponsored by the Cultural Heritage Agency of the Netherlands) with snacks and drinks, information stands, break-out session to discuss white paper

19:00 End of program

## November 19

08:45 Session 1 (Ice-marginal tectonics and dynamics; chair - *Louise Callard*)

*Jutta Winsemann* - Seismic interpretation and structural restoration of the Heligoland glaciotectionic thrust-fault complex: deformation during a pre-Elsterian ice advance into the southern North Sea Basin? (O)

*Volkhard Spiess* - Glacial deformation in the eastern German North Sea – from shallow fracturing to large-scale thrusting (O)

*David Roberts* - Ice marginal dynamics of the last British-Irish Ice Sheet in the southern North Sea: ice limits, timing and the influence of the Dogger Bank (O)

*Emrys Phillips* - Glacitectonic evidence of ice lobe interaction across Dogger Bank (southern central North Sea) during the Last Glacial Maximum (O)

09:45 Short break

09:55 Session 1 (Celtic Sea; chair - *Louise Callard*)

*Katrien Van Landeghem* - The role of the Irish Sea Ice Stream in the palaeo-landscape evolution of the Irish Sea, Celtic Sea and the shelf edge (O)

*Zsuzsanna Tóth* - Geomorphological and seismostratigraphic evidence for multidirectional polyphase glaciation of the northern Celtic Sea (P7)

10:15 *Natasha Barlow* - The North Sea: a climatic and environmental archive

10:45 Coffee break and posters

11:10 Session 2 (Climate, sea level and vegetation; chair - Simon Fitch)

*Timme Donders* - Land–sea coupling of early Pleistocene glacial cycles in the southern North Sea (O)

*Freek Busschers* - Peat Hunt: the 2017 and 2018 RV Pelagia early Holocene sea-level cruises on the North Sea (O)

*Marc Hijma* - SLIP Hunt: first paleo sea-level data from the 2017 and 2018 RV Pelagia Early Holocene sea-level cruises (O)

*Lutz Reinhardt* - Relative sea-level change in northwest Europe and the southern North Sea during the Holocene: Determination of isostatic and (neo)tectonic subsidence in the German Bight (P8)

*Zicarlo van Alderen* - Post-glacial vegetation history of the Dogger Bank, North Sea using plant macrofossil analysis (P9)

*Wim Hoek* - Towards integrated drowned landscape reconstructions of the North Sea (P10)

*Daniel Hepp* - The Elbe Paleovalley and its tributaries: Late glacial to postglacial drainage system of the paleolandscape in today's German Bight (North Sea) (P11)

12:15 Lunch and posters

13:15 Session 2 (Neotectonics and isostasy; chair - TBA)

*Sarah Louise Bradley* - Glacial isostatic adjustment and sea level of north-west Europe (O)

*Ronald van Balen* - Late Glacial surface rupturing earthquakes in the Roer Valley Rift System (O)

13:45 Session 2 (Eemian and Weichselian Early Glacial; chair - TBA)

*Kay Beets* - New age and climate data from the Eemian sedimentary record in the Amsterdam Saalian glacial basin (O)

*Jeroen Schokker* - Reconstructing Eemian to Early Weichselian coastal and shallow-marine environments in the Amersfoort glacial basin at the southern North Sea edge (O)

*Victor Cartelle* - Tracing the Eemian: coastal response to Last Interglacial sea-level rise in the southern North Sea (O)

14:30 Coffee break and posters

14:55 *Luc Amkreutz* - Doggerland emerging: a survey of the archaeological potential of a vast prehistoric landscape

15:25 Session 3 (Paleolandscape reconstructions; chair - Alain Trentesaux)

*Carol Cotterill* - Buried landscapes and the issue of seismic scale: A case study from Dogger Bank, southern North Sea (O)

*Samuel Griffiths* - The significance of inferred Quaternary coastal and intertidal landscapes (O)

*Rachel Bynoe* - Targeting submerged Pleistocene landscapes off Happisburgh, UK (O)

*Rachel Harding* - Revealing the lost landscapes of Cardigan Bay, Wales: mapping the Holocene transgression using parametric echosounder data (O)

*Frieda Bogemans* - High Tide – Low Tide. Bruges' late-medieval harbor system as a maritime cultural landscape - an interdisciplinary research project (P13)

16:30 Short break

16:40 Session 3 (Context for artefacts and fossils; chair - Renée de Bruijn)

*Hans Vandendriessche* - Out of Doggerland? Early Holocene climate change and the Mesolithic 'Rhine-Meuse-Scheldt culture' (O)

*Kim Cohen* - Last Glacial river valleys of the Southern North Sea Basin: continuous-cover context for spotty-cover finds and sites (O)

*Bjørn Smit* - 'Peopling Doggerland' submerged stone age finds from the Dutch North Sea (P14)

*Tine Missiaen* - The Scheur – a unique prehistoric fossil graveyard off the Belgian coast (P15)

*Bram Langeveld* - Using citizen science to study fossil vertebrates from the North Sea (P30)

17:25 Session 3 (Advice and research agenda; chair - Renée de Bruijn)

*Hans Peeters* - The North Sea Prehistory Research and Management Agenda 2019 (O)

*Katrine Juul Andresen* - The geo-archaeological potential of the eastern North Sea – initial considerations based on existing geophysical data (P16)

17:45 End of day

19:15 Conference dinner

## November 20

08:45 *Vera Van Lancker* - Transnational seabed mapping and subsurface modeling

09:15 Session 4 (New datasets and opportunities; chair - Marc De Batist)

*Niels Noergaard-Pedersen* - Danish North Sea marine geological data as input for transnational large-scale projects (O)

*Menno Hofstra* - High-resolution investigations of the shallow subsurface in the Dutch Sector of the North Sea for aiding the development of wind farm zones (O)

*Lars Kint* - Geomorphological mapping of the Belgian seabed and its submerged landscapes (P17)

*Riccardo Arosio* - A very high resolution geomorphological and habitat mapping investigation of the Northern Paleovalley, English Channel (La Manche) (P18)

*Sytze van Heteren* - Hierarchies in geomorphological seabed mapping for multi-purpose end use (P19)

10:00 Short break

10:10 Session 4 (Small- and large-scale mapping; chair - TBA)

*Peter Vos* - Mapping program of the coastal plain of the Netherlands (O)

*Simon Fitch* - Lost Frontiers: Mapping and prospecting submerged Holocene landscapes (O)

*Maikel De Clercq* - Geo-archaeological mapping of the Zeebrugge area, Belgium (P20)

*Marcel Bakker* - Mapping the southernmost Weichselian ice margin on the Dutch shelf using multibeam bathymetry, sidescan backscatter and 3D seismics (P21)

*Kay Koster* - Coastal plain mapping for archaeological research: a new geological map of the cities of The Hague and Rijswijk (the Netherlands) (P22)

10:55 Coffee break and posters

11:20 Session 4 (Learning from maps and subsurface models; chair - TBA)

*Jelte Stam* - Construction of a transnational offshore sand-resource model for the southern North Sea area (O)

*Harm Jan Pierik* - How tides and rivers shape levees and crevasses: Holocene overbank phases of the Old Rhine river, the Netherlands (O)

*Hanno Keil* - Classification and mapping of small-scale 'complex' Pleistocene seismoacoustic facies in the Eastern North-Sea (P23)

*Harm Jan Pierik* - How tidal ingressions along the North Sea grow and heal: impact of storms (P24)

12:00 *Samuel Toucanne* - Keynote on unraveling Quaternary source-to-sink processes

12:30 Lunch and posters

13:30 Session 5 (DNA, geochemistry and dating; chair - Marc Hijma)

*Roselyn Ware* - Exploiting sedaDNA to trace the impact of the Storegga slide tsunami on the Doggerland paleolandscape (O)

*Eveline Altena* - Resurfacing Doggerland genomes. Whole genome analysis of hunter-gatherer remains from Doggerland (O)

*Tanya Lippmann* - The greenhouse gas emission potential of North Sea peat sediments (O)

*Rick Hennekam* - Reconstructing environmental change in the North Sea using novel XRF-core-scanning methods (O)

*Jakob Wallinga* - North Sea sediments in a new light - possibilities and limitations of luminescence dating (O)

*Vanessa Heyvaert* - GEN-EX – Application of metagenomic analyses to extreme wave deposits in the Shetland Islands, UK (P25)

14:45 Short break

14:55 Session 5 (Seismics and granulometry; chair - Freek Busschers)

*Tine Missiaen* - New developments in seismic techniques for archaeological prospection at sea (O)

*Seger van den Brenk* - Buried channels revealed by magnetic data (O)

*Axel Muller* - The Marine Prehistoric Sampler, new ways of survey on water (O)

*Hans van Hateren* - Determination of sediment transport mode based on grain size and shape data from dynamic image analysis (1): testing a new methodology (O)

*Unze van Buuren* - Determination of sediment transport mode based on grain size and shape data from dynamic image analysis (2): application to an active coastal dune system (P26)

*Maarten Prins* - Determination of sediment transport mode based on grain size and shape data from dynamic image analysis (3): application to a secondary tidal inlet system (P27)

*Stefan Carpentier* - Recycling vintage geophysical and geological data for cost optimization of offshore wind farm design (P28)

*Jelte Stam* - Reconstructing vintage seismic data for geological mapping of the Dutch North Sea sector (P29)

16:10 Coffee break and posters

16:35 Discussion about the way forward (chair - TBA)

17:15 TBA - Wrap-up and actions

17:25 *Sytze van Heteren* - Closing remarks

17:30 End of conference