

ECORD Summer School 2023 - From Greenhouse to Icehouse - The Cenozoic Arctic Ocean and (global) climate history						
	Monday 4th Sep	Tuesday 5th Sep	Wednesday 6h Sep	Thursday 7th Sep	Friday 8th Sep	Sunday 10th Sep
	<i>Introduction to the topic</i>	<i>Stratigraphy / Chronology</i>	<i>Cenozoic Arctic climate history</i>	<i>Cenozoic Arctic climate history</i>	<i>IODP-style Logging</i>	
9:00 - 9:15	Welcome & Introduction Dierk Hebbeln, Ulla Röhl, Ruediger Stein	Revision of previous day's material by the participants	Revision of previous day's material by the participants	Revision of previous day's material by the participants	Revision of previous day's material by the participants	10:15 - 14:00 Guided tour through the medieval Hanseatic City of Bremen Lunch in the scenic Ratskeller (restaurant in the cellar of the City Hall)
9:15 - 10:45	The long-term Arctic Ocean climate history – a challenge for past and future scientific drilling <i>Ruediger Stein</i>	Stratigraphy/Chronology of Arctic Ocean sedimentary records - Problems and perspectives <i>Matt O'Regan</i>	The Early Cenozoic Greenhouse World The Arctic Perspective <i>Kasia Sliwinska</i>	Arctic sea ice in the paleoclimate system: Multi-proxy reconstruction vs. modelling <i>Juliane Müller</i>	Shipboard simulation group activity Downhole Logging <i>Andrew McIntyre & Tim van Peer</i>	
10:45 - 11:15	Coffee break	Coffee break / Group photo	Coffee break	Coffee break	Coffee break	
11:15 - 12:45	The IPCC Perspective: The polar oceans and recent climate change <i>Hans-Otto Pörtner</i>	Magnetostratigraphy in the Arctic Ocean: An ongoing controversial debate <i>Steffen Wiers</i>	The Cenozoic history of polar ice sheets – Arctic vs. Antarctic <i>Kristen St. John</i>	IODP Expedition 403: Eastern Fram Strait Paleo-Archive: North Atlantic Water and Svalbard-Barents Sea Ice Sheet History <i>Renata Lucchi</i>	Shipboard simulation group activity Downhole Logging <i>Andrew McIntyre & Tim van Peer</i>	
12:45 - 14:00	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH	
14:00 - 15:00	IODP & ECORD: Structure & objectives <i>André Bornemann & Ulla Röhl</i>	presentations by participants	presentations by participants	presentations by participants	presentations by participants	
	Intro to Virtual Ship <i>Ulla Röhl</i>	Tea break	Tea break	Tea break	Tea break	
	Tea break	Shipboard simulation: Intro #1 <i>Heather Jones & Holger Kuhlmann</i>	Shipboard simulation: Three groups (A-B-C) of ~10 students rotate for three laboratory sessions #1: Shipboard techniques for physical properties (A) <i>Heather Jones & Holger Kuhlmann</i>	Shipboard simulation: Three groups (A-B-C) of ~10 students rotate for three laboratory sessions #1: Shipboard techniques for physical properties (B) <i>Heather Jones & Holger Kuhlmann</i>	Shipboard simulation: Three groups (A-B-C) of ~10 students rotate for three laboratory sessions #1: Shipboard techniques for physical properties (C) <i>Heather Jones & Holger Kuhlmann</i>	
16:00 - 17:00	IODP Core curation <i>Holger Kuhlmann</i>	Shipboard simulation: Intro #2 <i>Kristen St. John & Ruediger Stein</i>	#2: Sediment cores 1 - Sediment composition & provenance (B) <i>Kristen St. John & Ruediger Stein</i>	#2: Sediment cores 1 - Sediment composition & provenance (C) <i>Kristen St. John & Ruediger Stein</i>	#2: Sediment cores 1 - Sediment composition & provenance (A) <i>Kristen St. John & Ruediger Stein</i>	
17:00 - 18:00	Guided tour through MARUM & IODP Bremen Core Repository (BCR) <i>Dierk Hebbeln, Holger Kuhlmann</i>	Shipboard simulation: Intro #3 <i>Renata Lucchi</i>	#3: Sediment cores 2 - Sedimentary structures & depositional processes (C) <i>Renata Lucchi</i>	#3: Sediment cores 2 - Sedimentary structures & depositional processes (A) <i>Renata Lucchi</i>	#3: Sediment cores 2 - Sedimentary structures & depositional processes (B) <i>Renata Lucchi</i>	
18:00 - 20:00	ICEBREAKER					

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	Monday 11th Sep	Tuesday 12th Sep	Wednesday 13th Sep	Thursday 14th Sep	Friday 15th Sep
	<i>DSDP-ODP-IODP Legacy</i>	<i>Late Cenozoic Arctic climate history</i>		<i>North Atlantic/Arctic scientific drilling: Tectonics & Paleoclimate</i>	<i>Baffin Bay scientific drilling expeditions in 2022/2023</i>
9:00 - 9:15	Revision of previous day's material by the participants	Revision of previous day's material by the participants	Revision of previous day's material by the participants	Revision of previous day's material by the participants	Revision of previous day's material by the participants
9:15 - 10:45	Core splicing and time-series analysis <i>Heiko Pälike</i>	The mid-Pliocene cooling and intensification of Northern Hemisphere Glaciation <i>Jochen Knies</i>	Geophysics and plate tectonic evolution of the Arctic Ocean <i>Estella Weigelt</i>	BAFFDEEP Expedition: Pleistocene Greenland ice sheet collapses and oceanic circulation - a MeBo 200 drilling campaign in Baffin Bay <i>Michal Kucera</i>	How to write an IODP proposal <i>Ruediger Stein & Ulla Röhl</i>
10:45 - 11:15	Coffee break	Coffee break	Coffee break	Coffee break	Coffee break
11:15 - 12:45	The DSDP-ODP-IODP Legacy: (1) An astronomically dated record of Earth's Cenozoic climate <i>Heiko Pälike</i> (2) Neogene burial of organic carbon in the global ocean <i>Ziye Li</i>	Evidence of a glacial freshwater Arctic Ocean – pros and cons <i>Walter Geibert</i>	IODP Expedition 404: The opening of the Atlantic-Arctic Gateway: Tectonic, oceanographic and climatic dynamics <i>Wolfram Geissler</i>	IODP Expedition 400: Cenozoic evolution of the northern Greenland Ice Sheet exposed by transect drilling in northeast Baffin Bay <i>Kasia Sliwinska & Paul Knutz</i>	How to write an IODP proposal <i>Ruediger Stein & Ulla Röhl</i>
12:45 - 14:00	LUNCH	LUNCH	LUNCH	LUNCH	Summer School debriefing and farewell end approx. 13:30
14:00 - 15:00	presentations by participants	presentations by participants	presentations by participants	Summary discussion <i>Ruediger Stein et al.</i>	
15:00 - 15:30	Tea break	Tea break	Tea break	Tea break	
15:30 - 16:15	Shipboard simulation: Intro #4 <i>Edoardo Dallanave & Thomas Frederichs</i>	Shipboard simulation: Three groups (A-B-C) of ~10 students rotate for three laboratory sessions #4: Paleomagnetism (A) <i>Edoardo Dallanave & Thomas Frederichs</i> #5: Biostratigraphy of Arctic Ocean sediment records (B) <i>Jens Matthiesen & Oliver Esper</i> #6: XRD analysis, evaluation & data interpretation (C) <i>Christoph Vogt</i>	Shipboard simulation: Three groups (A-B-C) of ~10 students rotate for three laboratory sessions #4: Paleomagnetism (A) <i>Edoardo Dallanave & Thomas Frederichs</i> #5: Biostratigraphy of Arctic Ocean sediment records (B) <i>Jens Matthiesen & Oliver Esper</i> #6: XRD analysis, evaluation & data interpretation (C) <i>Christoph Vogt</i>	Shipboard simulation: Three groups (A-B-C) of ~10 students rotate for three laboratory sessions #4: Paleomagnetism (A) <i>Edoardo Dallanave & Thomas Frederichs</i> #5: Biostratigraphy of Arctic Ocean sediment records (B) <i>Jens Matthiesen & Oliver Esper</i> #6: XRD analysis, evaluation & data interpretation (C) <i>Christoph Vogt</i>	
16:15 - 17:00	Shipboard simulation: Intro #5 <i>Jens Matthiesen & Oliver Esper</i>				
17:00 - 18:00	Shipboard simulation: Intro #6 <i>Christoph Vogt</i>				
18:30 - ...				FAREWELL DINNER	