

## International Summer School on Climate of the Baltic Sea Region

Askö Laboratory, Trosa, Sweden, 20-27 August 2018

## co-organized by Leibniz Institute for Baltic Sea Research Warnemünde, University of Rostock and Helmholtz-Zentrum Geesthacht under the umbrella of Baltic Earth (www.baltic.earth)

Course agenda (arrival on Askö 10:30 on Monday 20 Aug, departure 10:00 on Monday 27 Aug)

Day	Monday 20/8	Tuesday 21/8	Wednesday 22/8	Thursday 23/8	Friday 24/8	Saturday 25/8	Sunday 26/8
General	Course	Fundamental	Climate	Regional	History of the	Future	Examination,
topic	introduction,	processes in the	modeling,	oceanography,	Baltic Sea, Past	projections,	students'
	student	climate system,	dynamical	land-sea	climate	hypoxia,	group
	presentations	large-scale	downscaling	interaction,	variability of	science	presentation,
		circulation		eutrophication,	the Baltic Sea	communication	resumé
		<u> </u>	Breakfa	earbon cycle	Region		<u> </u>
Speaker/title	Travel to	Markus Meier	Markus	Markus Meier	Markus Meier	Markus Meier	Markus
Morning	Askö	fundamental	Meier:	Physical	Physical	History of the	Meier:
session	1 ISITO	processes of the	Climate	Oceanography	Oceanography	Baltic Sea and	Future
09:00-10:30		climate system	Modeling –	of the Baltic	of the Baltic	past changes on	projections
(2 x 45 min)		II and large-	The global	Sea and other	Sea and other	millennial time	for the Baltic
		scale ocean	and regional	regional seas,	regional seas,	scales	Sea Region
		circulation	perspective,	part I	part III		
			part II				
11.00.10.00			Break	10:30-11:00		YZ 1 YZ 1' 1'	<b>D</b>
11:00-12:30	Markus	Anna	Markus	Markus Meier:	Markus Meier:	Karol Kulinski:	Examination
$(2 \times 45 \text{ min})$	Meler:	Climete state	Statistical	Physical	Physical	Grales in the	(90 minutes),
	introduction	and global	analysis of	of the Baltic	of the Baltic	Baltic Sea	Biogeochemi
	and	circulation	time series I	Sea and other	Sea and other	Battle Sea	cal cycles in
	fundamental	patterns in the		regional seas.	regional seas.		the Baltic Sea
	processes of	atmosphere,		part II	part IV		II by Karol
	the climate	part I		*	<u>^</u>		Kulinski
	system	- -					
Lunch 12:30-15:00							
Speaker/title	Short student	Anna	Excursion:	Tutorials and	Tutorials and	Tutorials and	Students'
Speaker/title Afternoon	Short student presentations	Anna Rutgersson:	Excursion: Visit Electra	Tutorials and exercises:	Tutorials and exercises:	Tutorials and exercises:	Students' group
Speaker/title Afternoon session:	Short student presentations of their thesis	Anna Rutgersson: Climate state	Excursion: Visit Electra (Markus	Tutorials and exercises: Statistical	Tutorials and exercises: Statistical	Tutorials and exercises: Wind-driven	Students' group presentations,
Speaker/title Afternoon session: 15:00-16:30 (2 x 45 min)	Short student presentations of their thesis work (5 min.	Anna Rutgersson: Climate state and global circulation	Excursion: Visit Electra (Markus Meier)	Tutorials and exercises: Statistical analysis of time series L (Markus	Tutorials and exercises: Statistical analysis of time series II	Tutorials and exercises: Wind-driven and thermohaline	Students' group presentations, resumé of the
Speaker/title Afternoon session: 15:00-16:30 (2 x 45 min)	Short student presentations of their thesis work (5 min. each)	Anna Rutgersson: Climate state and global circulation patterns in the	Excursion: Visit Electra (Markus Meier)	Tutorials and exercises: Statistical analysis of time series I (Markus Meier)	Tutorials and exercises: Statistical analysis of time series II (Markus Meier)	Tutorials and exercises: Wind-driven and thermohaline circulation of	Students' group presentations, resumé of the school
Speaker/title Afternoon session: 15:00-16:30 (2 x 45 min)	Short student presentations of their thesis work (5 min. each)	Anna Rutgersson: Climate state and global circulation patterns in the atmosphere,	Excursion: Visit Electra (Markus Meier)	Tutorials and exercises: Statistical analysis of time series I (Markus Meier)	Tutorials and exercises: Statistical analysis of time series II (Markus Meier)	Tutorials and exercises: Wind-driven and thermohaline circulation of the Baltic Sea	Students' group presentations, resumé of the school
Speaker/title Afternoon session: 15:00-16:30 (2 x 45 min)	Short student presentations of their thesis work (5 min. each)	Anna Rutgersson: Climate state and global circulation patterns in the atmosphere, part II	Excursion: Visit Electra (Markus Meier)	Tutorials and exercises: Statistical analysis of time series I (Markus Meier)	Tutorials and exercises: Statistical analysis of time series II (Markus Meier)	Tutorials and exercises: Wind-driven and thermohaline circulation of the Baltic Sea (Markus Meier)	Students' group presentations, resumé of the school
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Speaker/title Afternoon session: 15:00-16:30 (2 x 45 min) 17:00-18:30	Short student presentations of their thesis work (5 min. each)	Anna Rutgersson: Climate state and global circulation patterns in the atmosphere, part II Markus Meier:	Excursion: Visit Electra (Markus Meier) Break Markus	Tutorials and exercises: Statistical analysis of time series I (Markus Meier) 16:30-17:00 Christoph	Tutorials and exercises: Statistical analysis of time series II (Markus Meier) Markus Meier:	Tutorials and exercises: Wind-driven and thermohaline circulation of the Baltic Sea (Markus Meier)	Students' group presentations, resumé of the school Students'
Speaker/title Afternoon session: 15:00-16:30 (2 x 45 min) 17:00-18:30 (2 x 45 min)	Short student presentations of their thesis work (5 min. each) Short student presentations	Anna Rutgersson: Climate state and global circulation patterns in the atmosphere, part II Markus Meier: Climate	Excursion: Visit Electra (Markus Meier) Break Markus Meier:	Tutorials and exercises: Statistical analysis of time series I (Markus Meier) 16:30-17:00 Christoph Humborg:	Tutorials and exercises: Statistical analysis of time series II (Markus Meier) Markus Meier: Past climate	Tutorials and exercises: Wind-driven and thermohaline circulation of the Baltic Sea (Markus Meier) Markus Meier: Soft skills in	Students' group presentations, resumé of the school Students' group
Speaker/title Afternoon session: 15:00-16:30 (2 x 45 min) 17:00-18:30 (2 x 45 min)	Short student presentations of their thesis work (5 min. each) Short student presentations of their thesis	Anna Rutgersson: Climate state and global circulation patterns in the atmosphere, part II Markus Meier: Climate Modeling – The	Excursion: Visit Electra (Markus Meier) Break Markus Meier: Statistical	Tutorials and exercises: Statistical analysis of time series I (Markus Meier) 16:30-17:00 Christoph Humborg: Processes in the	Tutorials and exercises: Statistical analysis of time series II (Markus Meier) Markus Meier: Past climate variability of	Tutorials and exercises: Wind-driven and thermohaline circulation of the Baltic Sea (Markus Meier) Markus Meier: Soft skills in science	Students' group presentations, resumé of the school Students' group presentations,
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Speaker/title Afternoon session: 15:00-16:30 (2 x 45 min) 17:00-18:30 (2 x 45 min) Evening	Short student presentations of their thesis work (5 min. each) Short student presentations of their thesis work (5 min. each)	Anna Rutgersson: Climate state and global circulation patterns in the atmosphere, part II Markus Meier: Climate Modeling – The global and regional perspective, part I	Excursion: Visit Electra (Markus Meier) Break Markus Meier: Statistical analysis of time series II Break Dinne: Students'	Tutorials and exercises: Statistical analysis of time series I (Markus Meier) 16:30-17:00 Christoph Humborg: Processes in the Baltic Sea catchment area and eutrophication 18:30-19:00 r 19:00-20:00 Christoph	Tutorials and exercises: Statistical analysis of time series II (Markus Meier) Markus Meier: Past climate variability of the Baltic Sea on decadal to centennial time scales Students' group	Tutorials and exercises: Wind-driven and thermohaline circulation of the Baltic Sea (Markus Meier) Markus Meier: Soft skills in science	Students' group presentations, resumé of the school Students' group presentations, resumé of the school Social
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Speaker/title Afternoon session: 15:00-16:30 (2 x 45 min) 17:00-18:30 (2 x 45 min) Evening session 20:00-21:30	Short student presentations of their thesis work (5 min. each) Short student presentations of their thesis work (5 min. each) Social activities (ice breaker)	Anna Rutgersson: Climate state and global circulation patterns in the atmosphere, part II Markus Meier: Climate Modeling – The global and regional perspective, part I	Excursion: Visit Electra (Markus Meier) Break Markus Meier: Statistical analysis of time series II Break Dinner Students' group work supervised by	Tutorials and exercises: Statistical analysis of time series I (Markus Meier) 16:30-17:00 Christoph Humborg: Processes in the Baltic Sea catchment area and eutrophication 18:30-19:00 r 19:00-20:00 Christoph Humborg: Terrestrial and	Tutorials and exercises: Statistical analysis of time series II (Markus Meier) Markus Meier: Past climate variability of the Baltic Sea on decadal to centennial time scales Students' group work supervised by Markus	Tutorials and exercises: Wind-driven and thermohaline circulation of the Baltic Sea (Markus Meier) Markus Meier: Soft skills in science Marcus Reckermann: Baltic Earth –	Students' group presentations, resumé of the school Students' group presentations, resumé of the school Social activities (BBQ)
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<sup>1</sup> For all students that do not want to participate in the examination

## Baltic Earth Summer School 2018

Lectures	Hours	Contents
Prof. Markus Meier	28	Physical Oceanography
Prof. Anna Rutgersson	4	Meteorology
Prof. Christoph Humborg	4	Terrestrial biogeochemistry
Dr. Karol Kulinski	4	Marine biogeochemistry
Dr. Marcus Reckermann	2	Earth system science
Total	42	

Seminar	Hours	Contents	
Prof. Markus Meier	8	Students' presentations	
		supervised by Markus Meier	

Exercises and tutorials	Hours	Contents
Prof. Markus Meier	14	Exercises, tutorials and
		excursion with the research
		vessel Electra, students group
		work supervised by Markus
		Meier