



University of Tartu
ASTRA project PER ASPERA



EAC – PER ASPERA – NORDIC

Impacts and their role in the evolution of life

Kuressaare-Kaali, Estonia

25 July - 3 August 2017

Programme



Scientific programme

Monday, July 24, 2017			
14:00 - 18:30	Registration of participants		
Tuesday, July 25, 2017			
09:00 - 09:30	Registration		
09:30 - 10:00	Introduction and logistics <i>Wolf Geppert, Stockholm University</i>		
10:30 - 11:00	Parallel introduction lectures		
	<table border="0"> <tr> <td>Astronomy <i>Karen Meech, University of Hawai'i at Manoa, USA</i></td> <td>Geology <i>Anna Losiak, Polish Academy of Sciences, Poland (Hotel Meri)</i></td> </tr> </table>	Astronomy <i>Karen Meech, University of Hawai'i at Manoa, USA</i>	Geology <i>Anna Losiak, Polish Academy of Sciences, Poland (Hotel Meri)</i>
Astronomy <i>Karen Meech, University of Hawai'i at Manoa, USA</i>	Geology <i>Anna Losiak, Polish Academy of Sciences, Poland (Hotel Meri)</i>		
11:00 - 11:30	Coffee break		
11:30 - 12:30	Parallel introduction lectures		
	<table border="0"> <tr> <td>Biology <i>Chaitanya Gokhale, MPI Plön, Germany</i></td> <td>Geology <i>Anna Losiak, Polish Academy of Sciences, Poland (Hotel Meri)</i></td> </tr> </table>	Biology <i>Chaitanya Gokhale, MPI Plön, Germany</i>	Geology <i>Anna Losiak, Polish Academy of Sciences, Poland (Hotel Meri)</i>
Biology <i>Chaitanya Gokhale, MPI Plön, Germany</i>	Geology <i>Anna Losiak, Polish Academy of Sciences, Poland (Hotel Meri)</i>		
12:30 - 14:00	Lunch		
14:00 - 14:45	Impacts and the formation of the Solar System (I) <i>Alexis Brandeker, Stockholm University, Sweden</i>		
14:45 - 15:00	Discussion		
15:00 - 15:15	Break		
15:15 - 16:00	Impacts and the formation of the Solar System (II) <i>Alexis Brandeker, Stockholm University, Sweden</i>		
16:00 - 16:15	Discussion		
16:15 - 16:45	Coffee break		
16:45 - 18:00	Introduction for poster sessions		
18:30	Dinner at Georg Ots Spa Hotel		
20:00	Poster session		
Wednesday, July 26, 2017			
09:00 - 09:45	Impact crater physics <i>Kai Wünnemann, Natural History Museum, Berlin, Germany</i>		
09:45 - 10:00	Discussion		
10:00 - 10:30	Coffee break		
10:30 - 11:15	Modelling of impact craters <i>Kai Wünnemann, Natural History Museum, Berlin, Germany</i>		
11:15 - 11:30	Discussion		
11:30 - 11:45	Break		
11:45 - 12:30	Comets <i>Karen Meech, University of Hawai'i, USA</i>		
12:30 - 12:45	Discussion		
12:45 - 14:15	Lunch		
14:15 - 15:00	Cometary dust <i>Martin Hilchenbach, MPI for Solar System Research, Germany</i>		

15:00 - 15:15	Discussion
15:15 - 15:30	Break
15:30 - 16:15	Highlights from the Rosetta Mission <i>Martin Hilchenbach, MPI for Solar System Research, Germany</i>
16:15 - 16:30	Discussion
16:30 - 17:00	Coffee break
17:00 - 17:45	Theories of delivery of water on Earth <i>Karen Meech, University of Hawai'i, USA</i>
17:45 - 18:00	Discussion
18:15	Dinner at Georg Ots Spa Hotel

Thursday, July 27, 2017

09:00 - 09:45	Ecological consequences of impacts <i>Antoine Bercovici, CNRS, France</i>
09:45 - 10:00	Discussion
10:00 - 10:30	Coffee break
10:30 - 11:15	Impacts and mass extinctions <i>Antoine Bercovici, CNRS, France</i>
11:15 - 11:30	Discussion
11:30 - 11:45	Break
11:45 - 12:30	The Kaali impact <i>Jüri Plado, University of Tartu, Estonia</i>
12:30 - 12:45	Discussion
12:45 - 14:15	Lunch
14:15 - 15:00	Dating impact craters <i>Anna Łosiak, Polish Academy of Sciences</i>
15:00 - 15:15	Discussion
15:15 - 15:30	Break
15:30 - 16:30	Introduction into exercises <i>Anna Łosiak, Polish Academy of Sciences</i> <i>Antoine Bercovici, CNRS, France</i> <i>Argo Jõelet, University of Tartu, Estonia</i> <i>Jüri Plado, University of Tartu, Estonia</i> <i>Kalle Kirsimäe, University of Tartu,</i>
16:30	Planning of exercises in groups
20:00	Dinner at Veski Restaurant

Friday, July 28, 2017

09:00	Transfer to Kaali			
09:30 – 13:45	Group I Georadar profiling at Kaali Crater	Group II Electrometric mapping	Group III Excavation at Kaali crater	Group IV Search for meteo- rite fragments
13:45 - 14:45	Lunch at Kaali Trahter			
14:45 - 19:00	Group II Georadar profiling at Kaali Crater	Group I Electrometric mapping	Group IV Excavation at Kaali crater	Group III Search for meteo- rite fragments
19:00	Dinner at Kaali Trahter, return to Kuressaare			

Saturday, July 29, 2017			
09:00	Transfer to Kaali		
09:30 – 13:45	Group I + II Geological microscopy	Group III Georadar profiling at Kaali Crater	Group IV Eletrometric mapping
13:45 - 14:45	Lunch at Kaali Trahter		
14:45 – 19:00	Group III + IV Geological microscopy	Group I Excavation at Kaali crater	Group II Search for meteorite fragments
19:00	Dinner at Kaali Trahter, return to Kuressaare		
Sunday, July 30, 2017			
09:00	Transfer to Kaali		
09:30 – 13:45	Group I + II Palynologic microscopy	Group IV Georadar profiling at Kaali Crater	Group III Eletrometric mapping
13:45 - 14:45	Lunch at Kaali Trahter		
14:45 – 19:00	Group III + IV Palynologic microscopy	Group II Excavation at Kaali crater	Group I Search for meteorite fragments
19:00	Dinner at Kaali Trahter, return to Kuressaare		
Monday, July 31, 2017			
09:00 - 09:45	Organic matter in meteorites <i>Zita Martins, Imperial College, London</i>		
09:45 - 10:00	Discussion		
10:00 - 10:30	Coffee break		
10:30 - 11:15	Synthesis of complex organic molecules by impacts <i>Zita Martins, Imperial College, London</i>		
11:15 - 11:30	Discussion		
11:30 - 11:45	Break		
11:45 - 12:30	Transfer of biomolecules by impacts <i>Henning Haack, Maine Mineral and Gem Museum, USA</i>		
12:30 - 12:45	Discussion		
12:45 - 14:15	Lunch		
14:15 - 15:00	Impacts on Mars <i>Bethany Ehlmann, Caltech, USA</i>		
15:00 - 15:15	Discussion		
15:15 - 15:30	Break		
15:30 - 16:15	Highlights from the Curiosity Mission on Gale crater <i>Bethany Ehlmann, Caltech, USA</i>		
16:15 - 16:30	Discussion		
16:30 - 17:00	Coffee break		

17:00 - 17:45	Impact hydrothermal vents <i>Kalle Kirsimäe, University of Tartu, Estonia</i>
17:45 - 18:00	Discussion
18:15	Dinner at Georg Ots Spa Hotel
Tuesday, August 1, 2017	
09:00 - 09:45	Geological evidence for impact craters on Earth I <i>Ludovic Ferrière, Natural History Museum Vienna, Austria</i>
09:45 - 10:00	Discussion
10:00 - 10:30	Coffee break
10:30 - 11:15	Geological evidence for impact craters on Earth II <i>Ludovic Ferrière, Natural History Museum Vienna, Austria</i>
11:15 - 11:30	Discussion
11:30 - 11:45	Break
11:45 - 12:30	Discovery of a new crater in Greenland <i>Henning Haack, Maine Mineral and Gem Museum, USA</i>
12:30 - 12:45	Discussion
12:45 - 14:15	Lunch
14:15 - 18:30	Data analysis Preparation of presentantions
18:30	Dinner at Café Classic
Wednesday, August 2, 2017	
09:00 – 22:30	Excursion to geological and cultural sites on Saaremaa Lunch and dinners on the way
Thursday, August 3, 2017	
09:00 - 12:45	Preparation of presentations
12:45 - 14:00	Lunch
14:00 - 16:00	Presentations
16:00 - 16:30	Coffee break
16:30 – 17:30	Course evaluation and discussion
18:30	Visit to Kuressaare Castle Farewell Dinner

Summer school lecturers (list)

Name	Affiliation	Country	E-mail
Bercovici, Antoine	Smithsonian Institution	USA	aberco@free.fr
Brandeker, Alexis	Stockholm University	Sweden	alexis@astro.su.se
Ehlmann, Bethany	Caltech	USA	ehlmann@caltech.edu
Ferrière, Ludovic	Natural History Museum, Vienna	Austria	ludovic.ferriere@univie.ac.at
Geppert, Wolf	Stockholm University	Sweden	wgeppert@fysik.su.se
Haack, Henning	Maine Gem and Mineral Museum	USA	hhaack@mainemineralmuseum.org
Hilchenbach, Martin	MPI for Solar System Research	Germany	hilchenbach@mps.mpg.de
Jõelet, Argo	University of Tartu	Estonia	argo.joelet@ut.ee
Kirsimäe, Kalle	University of Tartu	Estonia	kalle.kirsimae@ut.ee
Łosiak, Anna	Polish Academy of Sciences	Poland	hhaack@mainemineralmuseum.org
Martins, Zita	Imperial College London	UK	z.martins@imperial.ac.uk
Meech, Karen	University of Hawai'i	USA	meech@ifa.hawaii.edu
Paavel, Kristiina	University of Tartu	Estonia	krpaavel@gmail.com
Plado, Jüri	University of Tartu	Estonia	juri.plado@ut.ee
Szyszka, Mateusz	University of Poznań	Poland	mateusz.szyszka@amu.edu.pl
Wünnemann, Kai	Museum of Natural History, Berlin	Germany	Kai.Wuennemann@mfn-berlin.de

