

MATHEMATICS FOR ATMOSPHERIC-BIOSPHERIC SCIENCE CONFERENCE

Levi (Finland) 20th-24th November, 2017

Programme

Monday 20th November

8:45	Flight from Helsinki to Kittilä. Departure 8:45 - Arrive 10:20
~10:30	Transfer by bus from Kittilä airport to Levi
11:30	Arrive to the hotel - Accommodation
12:30-13:30	Lunch
13:30-13:45	ATMATH kick-off meeting and project presentation (Antti Kupiainen)
13:45-14:00	Winter activities in Levi (Anna Shcherbacheva)
14:00-15:00	Johanna Tamminen (FMI) Atmospheric remote sensing and mathematics
15:00-15:45	Poster Session
15:45-16:00	Coffee break
16:00-17:00	Ronny Ramlau (JKU) Astronomical Imaging through Turbulent Atmosphere - Atmospheric Tomography & Adaptive Optics
17:00-18:30	Free time and ATMATH's Pls meeting
18:30-19:30	Dinner
19:30	From Vertigo to Blue Velvet – Connotations on films and climate change (Timo Vesala)
20:30	Movie projection

Tuesday 21st November

8:30	Breakfast
9:00-9:30	Tomography and Inverse Problems (Matti Lassas)
9:30-9:40	Grab your coffee
9:40-10:40	Tan Bui-Thanh (UT) Fast randomization methods for optimal experimental design
10:40-11:40	Free format interaction

11:40-15:15	Lunch and free time
15:15-15:45	Time-space dimension reduction for regularizing the CarbonTracker flux inversion system (Janne Hakkarainen)
15:45-16:00	Coffee break
16:00-17:00	Jochen Schenk (CSUF) The (im)possible transport of water under negative pressure in plants
17:00-17:30	Parameter uncertainty of chaotic systems (Heikki Haario)
17:30-18:00	The finite size analysis of chaotic systems (Angelo Vulpiani)
18:00-18:30	Free format interaction
18:30-19:30	Dinner
19:30	Culture and Physics of Sauna (Timo Vesala)
20:00	Sauna

Wednesday 22nd November

8:30	Breakfast
9:00-9:30	Studying particles forming out of thin air (Hanna Vehkamäki)
9:30-9:40	Grab your coffee
9:40-10:40	David Glowacki (UB) Non-equilibrium molecular reaction dynamics in atmospheric chemistry
10:40-11:40	Free format interaction
11:40-15:15	Lunch and free time
15:15-15:45	Towards resolved urban micrometeorology with LES (Mikko Auvinen)
15:45-16:00	Coffee break
16:00-17:00	Freddy Bouchet (ENS Lyon) Kinetic theory and large deviation theory applied to turbulent flows and climate physics
17:00-17:30	Water transport in trees (Teemu Hölttä)
17:30-18:00	Free time
18:00	Conference Dinner at Restaurant Saamen Kammi

Thursday 23rd November

8:30	Breakfast
9:00-9:30	Coagulation-fragmentation models (Juan Velázquez)
9:30-9:40	Grab your coffee
9:40-10:40	William Anderson Large-eddy simulation of environmental turbulence: Langmuir cells in the ocean and aeolian morphodynamics on Mars
10:40-11:40	Free format interaction
11:40-15:15	Lunch and free time
15:15-15:45	Turbulence and boundary layers: from basic science to the weather and climate-biosphere modelling (Sergej Zilitinkevich)
15:45-16:00	Coffee break
16:00-17:00	Eric Vanden-Eijnden (NYU) Extreme events, tail statistics, and large deviation theory in geophysical flows
17:00-17:30	Mixing Solutions for the Muskat Problem (Daniel Faraco)
17:30-18:30	Discussion / Closing words
18:30-19:30	Dinner
19:30	Sauna – Film or any social activities

Friday 24th November

8:00	Breakfast
9:20	Charter bus leaves from Levi (Hotel K5)

POSTERS

1. **Title:** COMSOL modeling of gas pressure and velocity in CI API-TOF
Author: Anna Shcherbacheva
2. **Title:** Modelling atmospheric autoxidation reactions
Author: Theo Kurtén
3. **Title:** Heterogeneous ice nucleation by mineral dusts in mixed phased clouds: molecular
Authors: Golnaz Roudsari and Olli Pakarinen
4. **Title:** Modelling the fragmentation of the clusters in time-of-flight mass spectrometer
Authors: Evgeni Zapadinsky, Monica Passananti and Hanna Vehkamäki
5. **Title:** Comparing different reagent ions in chemical ionization
Author: Noora Hyttinen
6. **Title:** Dimension reduction for Atmospheric Remote Sensing
Author: Otto Lamminpää
7. **Title:** Time-space dimension reduction for regularizing a flux inversion system
Author: Janne Hakkarainen
8. **Title:** Pre-asymptotic transport for inertial particles
Author: Simone Boi
9. **Title:** Atmospheric turbulence profiling with unknown power spectral density
Author: Jonatan Lehtonen
10. **Title:** Molecular dynamics simulations and isothermal homogeneous nucleation
Authors: Roope Halonen, Evgeni Zapadinsky and Hanna Vehkamäki
11. **Title:** Non-equilibrium cluster properties and non-isothermal nucleation
Authors: Roope Halonen, Evgeni Zapadinsky and Hanna Vehkamäki
12. **Title:** Pattern formation in Fitzhugh-Nagumo reaction-diffusion system
Author: Heikki Haario

Useful links and info:

Levi conference website: <https://wiki.helsinki.fi/display/AtMath/Levi+2017>

Contact: levi-2017-conference@helsinki.fi

Conference venue: Hotel K5, Kätkänrannantie 2, 99130 Levi, Finland (k5@golevi.fi, tel. +358 1663 91100)

Organizing Committee:

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AtMath project website: <https://wiki.helsinki.fi/display/AtMath/Atmospheric+Mathematics>

LIST OF PARTICIPANTS

	Affiliation	Accommodation	
Speakers			
1	Anderson William	University of Texas, Dallas	Hotel
2	Bouchet Freddy	ENS de Lyon and CNRS	Chalet-242-1 (Ground floor)
3	Bui-Thanh Tan	University of Texas, Austin	Chalet-242-3 (Ground floor)
4	Glowacki David	University of Bristol	Chalet-242-4 (Ground floor)
5	Ramlau Ronny	Johannes Kepler University, Linz	Hotel
6	Schenk Jochen	California State University Fullerton	Chalet-197-1 (1st Floor)
7	Tamminen Johanna	Finnish Meteorological Institute	Hotel
8	Vanden-Eijnden Eric	Courant Institute, NYU	Hotel
Participants			
9	Astala Kari	Aalto University	Hotel
10	Auvinen Mikko	University of Helsinki	Chalet -197-1 (1st Floor)
11	Balehowsky Tracey	University of Helsinki	Chalet -127-2 (2nd Floor)
12	Boi Simone	University of Helsinki	Chalet -242-2 (2nd Floor)
13	Faraco Daniel	Universidad Autonoma of Madrid	Hotel
14	Franco Eugenia	University of Helsinki	Chalet -127-2 (2nd Floor)
15	Grönholm Tiia	University of Helsinki	Chalet -127-1 (2nd Floor)
16	Iyer Siddharth	University of Helsinki	Chalet -281-1 (2nd Floor)
17	Haario Heikki	Lappenranta University of Technology	Hotel
18	Hakkarainen Janne	University of Helsinki	Chalet-242-3 (2nd Floor)
19	Halonon Roope	University of Helsinki	Chalet-281-1 (2nd Floor)
20	Helin Tapio	University of Helsinki	Chalet-242-3 (Ground floor)
21	Hellsten Antti	Finnish Meteorological Institute	Chalet-127-1 (2nd Floor)
22	Hölttä Teemu	University of Helsinki	Chalet-127-1 (2nd Floor)
23	Hyttinen Noora	University of Helsinki	Chalet-242-4 (2nd Floor)
24	Kubeka Jakub	University of Helsinki	Chalet-281-1 (2nd Floor)
25	Kujanpää Antti	University of Helsinki	Chalet-242-2 (2nd Floor)
26	Kupiainen Antti	University of Helsinki	Hotel
27	Kurten Theo	University of Helsinki	Chalet-281-1 (1st Floor)
28	Lamminpää Otto	University of Helsinki	Chalet-127-3 (2nd Floor)
29	Lassas Matti	University of Helsinki	Hotel
30	Lehtonen Jonatan	University of Helsinki	Chalet-127-3 (2nd Floor)
31	Lukkarinen Jani	University of Helsinki	Chalet-242-2 (Ground floor)
32	Mammarella Ivan	University of Helsinki	Chalet-197-1 (2nd Floor)
33	Mazzino Andrea	University of Genoa	Chalet-242-1 (Ground floor)
34	Muratore-Ginanneschi Paolo	University of Helsinki	Chalet-242-1 (2nd Floor)
35	Pakarinen Olli	University of Helsinki	Chalet-281-1 (2nd Floor)
36	Passananti Monica	University of Helsinki	Chalet-242-4 (1st Floor)

37	Piironen Petteri	University of Helsinki	Hotel
38	Roudsari Golnaz	University of Helsinki	Chalet–242-4 (2nd Floor)
39	Sahoo Ganapati	University of Helsinki	Chalet–197-1 (2nd Floor)
40	Saksman Eero	University of Helsinki	Hotel
41	Salmon Yann	University of Helsinki	Chalet–127-1 (2nd Floor)
42	Shcherbacheva Anna	University of Helsinki	Chalet–127-2 (1st Floor)
43	Stepanenko Victor	Lomonosov State University of Moscow	Chalet–127-3 (1st Floor)
44	Vehkamäki Hanna	University of Helsinki	Chalet–242-4 (Ground floor)
45	Velázquez Juan	University of Bonn	Chalet–242-2 (Ground floor)
46	Vesala Timo	University of Helsinki	Chalet–197-1 (1st Floor)
47	Vulpiani Angelo	Sapienza University of Rome	Chalet–242-1 (1st Floor)
48	Zapadinsky Evgeni	University of Helsinki	Chalet–281-1 (1st Floor)
49	Zhang Zhidong	University of Helsinki	Chalet–242-3 (2nd Floor)
50	Zhong Xiao	University of Helsinki	Chalet–242-2 (1st Floor)
51	Zilitinkevich Sergej	Finnish Meteorological Institute	Chalet–242-3 (1st Floor)