16th Geilo Winter School in eScience

Outline

- About the winter school

- Practical information

- This years topic and program

SINTEF

Winter Schools in eScience

- Started by Knut-Andreas Lie in 2001

- Held annually the end of January at Dr. Holms Hotel, Geilo

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
07:00 - 09:00		Breakfast				
09:00 - 10:30		Lecture	Lecture	Lecture	Lecture	Lecture
10:30 - 12:30		Break (lunch 12:30 - 14:00)				Lecture
12:30 - 14:45						Lunch, End
15:00 - 16:30		Lecture	Lecture	Lecture	Lecture	
16:30 - 17:00		Coffee				
17:00 - 18:30	Lecture	Lecture	Lecture	Lecture / Poster	Lecture	

- Typical schedule consists of 14 double lectures (1.5 hours)
  - The lectures targets Ph.D. students and young researchers
  - Long mid-day break for skiing and socializing
  - School topic chosen by scientific committee each year

Varied topics within eScience

2001: Cluster computing

2002: Methods for CFD

2003: Nonlinear PDEs

2004: Evolutionary PDEs

2005: Inverse problems

2006: Finite Element method

2007: Monte Carlo methods

2008: Parallel Computing

2009: Optimization

2010: Automatic Differentiation

2011: Multiscale methods

2012: Continuum Mechanics

2013: Reproducible Research

2014: Big data and statistics

2015: Uncertainty Quantification

Winter Schools in eScience

- Scientific committe 2016-2020:
  - Inga Berre, University of Bergen
  - Xing Cai, Simula / University of Oslo
  - Anne C. Elster, NTNU
  - Margot Gerritsen, Stanford
  - **Helwig Hauser, University of Bergen**
  - Knut-Andreas Lie, SINTEF / NTNU
  - Hans Ekkehard Plesser, Norwegian University of Life Sciences
  - Geir Storvik, University of Oslo
  - Ståle Walderhaug, SINTEF / University of Tromsø
  - Trond Kvamsdal, NTNU

Winter Schools in eScience

With funding from
The Research Council of Norway

- Funded by the Research Council of Norway
  - 2001-2004: *Winter schools in computational mathematics* (137461)
  - 2005-2006: *Winter schools in computational mathematics* (159868)
  - 2007-2010: *National Arena in eScience* (178774)
  - 2011-2015: *eVita Winter School* (203376)
  - 2016-2020: *Geilo Winter School in eScience* (249772)

Information about Dr. Holms

- Opened in 1909
  - Originally a place for asthmatic city dwellers to get fresh air (Relevant even today!)
  - Rebuilt and extended countless times.

- Meals for those staying at Dr. Holms
  - Breakfast from 7:30 to 9:00
  - Lunch from 12:30 to 14:00
  - Dinner at 19:30
  - Coffee breaks with light snacks
  - Please: no ski boots, shorts, sandals etc. in the dining hall
  - Allergies? Let the hotel know!

- Use the meals and breaks as an opportunity to meet someone new

- All beverages must be paid for separately

Dr. Ingebrikt Christian Holm

Ghost Woman, Nelson Soucasaux

Information about Dr. Holms

- Discounted ski passes can be bought at the reception
  - 2 hours for 150 NOK (50 NOK for a reusable keycard)
  - 4 hours for 200 NOK (50 NOK for a reusable keycard)

- Discounted ski passes with ski rental
  - 50% discount: Ask for information at the reception

- You may eat lunch in the slopes:
  - Get a coupon at the reception <u>before 10:00 AM</u>
  - You can also make your own packed lunch during breakfast

Information about Dr. Holms

- Bowl & Dine with bowling hall
  - 50 meters to the right when exiting the hotel by the reception.

- Swimming pool and spa department
  - Close to the lecture halls
  - Spa open for reservations

Weather forecast for Geilo

Long term forecast

Monday 18 January 12–18	Tuesday 19 January 12–18	Wednesday 20 January 13–19	Thursday 21 January 13–19	Friday 22 January 13–19
-7°	-14°	-14°	-10°	-10°
0 mm	0 mm	0 mm	0 mm	0 mm

🟩 Rather certain   🟨 Somewhat uncertain   🟥 Uncertain

SNØFORHOLD

SIST OPPDATERT: **17/1 09:26** | STATUS: **Åpent**
PLANLAGT LUKKING: **24/4** | SNØFORHOLD: **Meget bra**

	ARKIVERTE		SNØVARSEL
SNØFALL	**LØRDAG** 16/1	**IDAG** 17/1	**MANDAG** 18/1
	0cm	0cm	0cm

SNØDYBDE I NEDFARTENE	ØVRE OMRÅDE: 70cm	MIDTRE OMRÅDE: 70cm	NEDRE OMRÅDE: 60cm
	MASKINPREPA...		MASKINPREPA...
I TERRENG	ØVRE OMRÅDE: 70cm	MIDTRE OMRÅDE: 60cm	NEDRE OMRÅDE: 55cm
	VARIABELT		VARIABELT

VÆRET RAPPORTERT FRA SKIANLEGGET FOR 5 TIMER SIDEN	**TOPP | 1178M**	**BUNN | 800M**
	-10°C NV 5m/s Sikt: God	-14°C Ø 4m/s Sikt: God

Full værmelding

Yr.no, Skiinfo.no, 2016-01-17

Internet

Network name: Dr. Holms Hotel
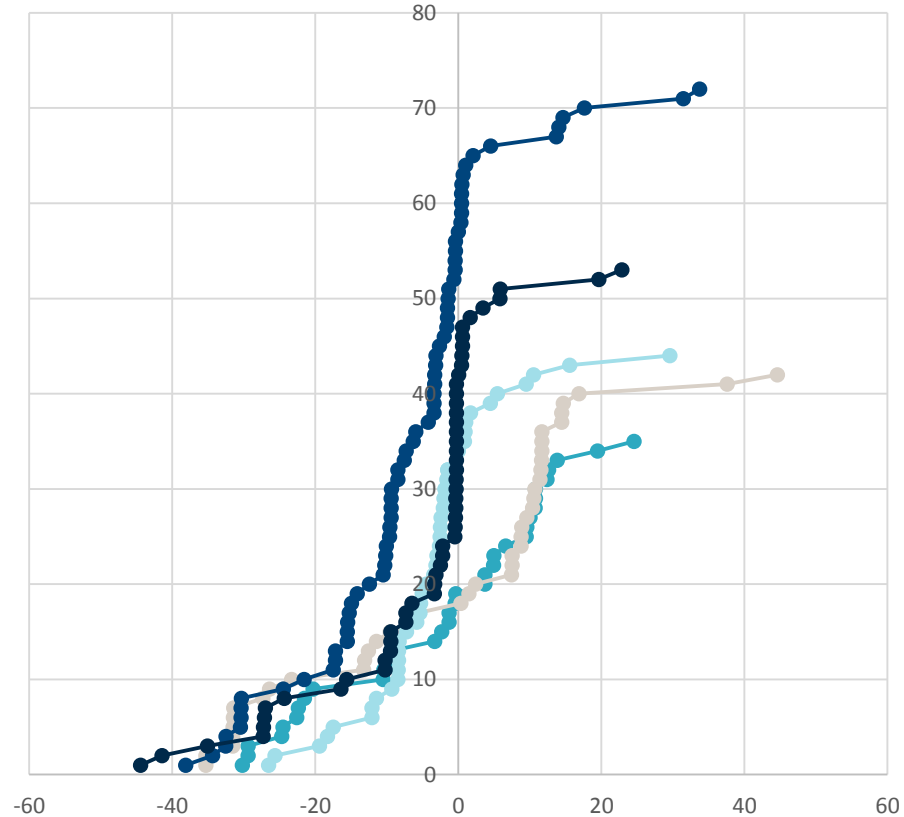Username: ---
Password: ---

With great power comes great responsibility

- Please show respect for our lecturers:
  use the internet responsibly and pay attention

- There's ample time during the breaks to check important emails etc.

This years topic: Scientific Visualization

- What do these numbers mean?

- How can we extract knowledge from data?

- How can we make new discoveries through "properly" exploring data?

Lorenz attractor: User Wikimol, Wikipedia [public domain]
Turbulent flow: User Jw2c, Wikipedia [cc-by-3.0], Colors changed

Lecturers

Andrea Brambilla

Torsten Möller

Ingrid Hotz

Hans-Jörg Schulz

Gordon L. Kindlmann

Winter School Program

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
07:30 - 09:00		Breakfast				
09:00 - 09:45		Gordon Kindlmann	Ingrid Hotz	Torsten Möller	Hans-Jörg Schulz	Ingrid Hotz
09:45 - 10:30						
10:30 - 11:00						Checkout
11:00 - 11:45		Break				Gordon Kindlmann
11:45 - 12:30						
12:30 - 15:00		(Lunch 12:30 - 14:00)				
15:00 - 15:45		Hans-Jörg Schulz	Hans-Jörg Schulz	Ingrid Hotz	Torsten Möller	
15:45 - 16:30						
16:30 - 17:00		Coffee				
17:00 - 17:45	Introduction (Multiple)	Andrea Brambilla	Andrea Brambilla	Gordon Kindlmann	Andrea Brambilla	
17:45 - 18:30						
				Poster		
19:30		Dinner				

- Lectures start <u>on the hour</u>, not quarter past.

- Show respect for our lecturers and be on time (also for the morning lectures)!

- Today we will have a lecture until about 19:15

Poster session

- From 18:30 - 19:15 on Wednesday

- Wide range of topics
  See program for list of presenters

- Hang posters during break on Wednesday

- Light refreshments (canapés)
  and a drink coupon