



Innsbruck Summer School of Alpine Research
Surface-Atmosphere Exchange over Mountainous Terrain



23 Aug - 29 Aug 2015

Program of the

**Innsbruck Summer School of Alpine Research on
Surface - Atmosphere Exchange over Mountainous Terrain**

organized by

Institute of Meteorology and Geophysics (IMGI)
University of Innsbruck, Austria

held at Grillhof (Innsbruck-Vill, Austria) during 23 - 29 August, 2015

by the following lecturers:

Martin Graus (IMGI, Austria)

Andreas Held (Univ. Bayreuth, Germany)

Thomas Karl (IMGI, Austria)

Georg Kaser (IMGI, Austria)

Lindsey Nicholson (IMGI, Austria)

Friedrich Obleitner (IMGI, Austria)

John Pomeroy (Univ. of Saskatchewan, Canada)

Mathias Rotach (IMGI, Austria)

Georg Wohlfahrt (Univ. of Innsbruck, Institute of Ecology, Austria)

Stephan de Wekker (Univ. Virginia, USA)

C. David Whiteman (Univ. Utah, USA)

See also: <http://www.uibk.ac.at/congress/innsar/>



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23 Aug - 29 Aug 2015

22 August 2015

13.00: Arrival and registration of participants at Grillhof

23 August 2015

08.30 - 09.00: Welcome and administrative announcements
(*M. Rotach and F. Obleitner*)

09.00 - 10.00: Role of Planetary Boundary Layer (*M. Rotach*)

09.45 - 10.15: Thermally driven wind systems (*C. D. Whiteman*)

10.15 - 10.45: Break

10.45 - 11.30: Energy balance in complex terrain (*F. Obleitner*)

11.30 - 12.15: Topographically forced flow (*C. D. Whiteman*)

12.15 - 14.15: Lunch

14.15 - 15.00: Possible approaches in complex terrain (*M. Rotach*)

15.00 - 15.45: Surface Layer Theory (*F. Obleitner*)

15.45 - 16.15: Break

16.15 - 17.00: Problems in complex terrain 1 (*M. Rotach*)

17.00 - 17.15: Break

17.15 - 18.00: Problems in complex terrain 2 (*M. Rotach*)

18.15: Dinner

20.00 - 21.00: Participants present themselves

24 August 2015

08.30 - 09.00: Cryosphere in the climate system (*G.Kaser*)

09.00 - 09.15: Break

09.15 - 10.00: Glacier mass balance (*L. Nicholson*)

10.00 - 10.30: Break

10.30 - 11.15: Radiative and turbulent transfer over snow (*J. Pomeroy*)

11.15 - 11.30: Break

11.30 - 12.15: Debris covered ice (*L. Nicholson*)

12.15 - 14.00: Lunch

14.00 - 14.45: Atmospheric chemistry. reactive trace gases and their surface-atmosphere exchange (*T. Karl*)

14.45 - 15.00: Break

15.00 - 15.45: Atmospheric chemistry. reactive trace gases and their surface-atmosphere exchange (*T. Karl*)

15.45 - 16.15: Break

16.15 - 17.00: Atmospheric chemistry. reactive trace gases and their surface-atmosphere exchange (*A. Held*)

17.00 - 17.15: Break

17.15 - 18.00: Atmospheric chemistry. reactive trace gases and their surface-atmosphere exchange (*A. Held*)

18.15 - 20.00: Dinner (common with MicMOR participants)

20.00 - 20.30: Presentations "InnSAR meets MicMOR" , excursion info

20.30 - 21.30: Evening lecture "Mountain rime mushrooms" (*C. D. Whiteman*)

25 August 2015

08.00 -18.00: Excursion to Schaufelferner with introduction by representative of Stubai glacier skiing resort (*D. Mersch*) and visit of an ice cave (Eisgrotte), participation in four experimental sites (*F. Obleitner resp. all lecturers*)

18.15 - 20.00 Dinner

20.150 - 21.00 Presentation of InnSAR Summer School student projects (*M. Rotach, M. Graus, J. Pomeroy*)

26 August 2015

08.30 - 09.15: Dynamically forced flow (*M. Rotach*)

09.15 - 09.30: Break

09.30 - 10.15: Numerical modelling 1 (*S. D. Wekker*)

10.15 - 10.45: Break

10.45 - 11.30: Numerical modelling 2 (*S. D. Wekker*)

11.30 - 11.45: Break

11.45 - 12.30: ABL / turbulence measurements (*G. Wohlfahrt*)

12.30 - 14.00: Lunch

14.00 - 15:00: Excursion to IMGI atmospheric chemistry labs

15:00 - 15:45: Atmospheric chemistry: Measurement techniques (*M. Graus*)

16:00 - 17:15: view IMGI atmospheric chemistry labs (*M. Graus, A. Held, T. Karl*)

18:15: Dinner resp. free to visit the city of Innsbruck



InnSAR 2015

Innsbruck, Austria

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27 August 2015

08.30 - 09.00: Thermally driven flow (*M. Rotach*)

09.00 - 09.15: Break

09.15 - 10.00: Blowing and intercepted snow (*J. Pomeroy*)

10.00 - 10.30: Break

10.30 - 11.15: Groupwise introduction to project work (*all lecturers*)

11.15 - 11.30: Break

11.30 - 12.15: Project work (groupwise)

12.15 - 14.00: Lunch

14.00 - 14.45: Project work (groupwise)

14.45 - 15.00: Break

15.00 - 15.45: Project work (groupwise)

15.45 - 16.15: Break

16.15 - 17.00: Project work (groupwise)

17.00 - 17.15: Break

17.15 - 18.00: Project work (groupwise)

18.15 - 20.00: Dinner

20.00 - 21.30: Excursion to i-Box measurements sites
(Boundary layer group only; *F. Obleitner and M. Rotach*)

28 August 2015

08.30 - 09.00: Project work (groupwise)

09.00 - 09.15: Break

09.15 - 10.00: Project work (groupwise)

10.00 - 10.30: Break

10.30 - 11.15: Project work (groupwise)

11.15 - 11.30: Break

11.30 - 12.15: Project work (groupwise)

12.15 - 14.00: Lunch

14.00 - 14.45: Project work (groupwise)

14.45 - 15.00: Break

15.00 - 15.45: Project work (groupwise)

15.45 - 16.15: Break

16.15 - 17.00: Project work (groupwise)

17.00 - 17.15: Break

17.15 - 18.00: Project work (groupwise)

18.15 - 20.00: Dinner

20.00 - 21.30: Evening lecture "Snow and forests" (*J. Pomeroy*)



29 August 2015

08.30 - 09.00: Project work (groupwise)

09.00 - 09.15: Break

09.15 - 10.00: Project work (groupwise)

10.00 - 10.30: Break

10.30 - 11.15: Project work (groupwise)

11.15 - 11.30: Break

11.30 - 12.15: Prepare final presentations (groupwise)

12.15 - 14.00: Lunch

14.00 - 14.45: final presentations and discussion (atmospheric chemistry group)

14.45 - 15.00: Break

15.00 - 15.45: final presentations and discussion (cryospheric group)

15.45 - 16.15: Break

16.15 - 17.00: final presentations and discussion (boundary layer group)

17.00 - 18.00: Summary, course evaluation, get certificates and farewell
(*M. Rotach, F. Obleitner*)

18.00: Departure of participants or dinner for those staying

30 August 2015

Departure of participants