

# International EISCAT Radar School

Kilpisjärvi, Finland, 14–18 August 2023



## Agenda

### Sunday, 13th August

17:00 Dinner (until 18:00, reserved in fridge for late arrivals)

17:50 Bus from Rovaniemi and Kittilä arrives at Kilpisjärvi Biological Station (own stop!)

### Monday, 14th August

*08:00 Breakfast*

10:31 Bus from Tromsø arrives at Kilpisjärvi Biological Station (own stop!)

Accommodating participants

11:00 Welcome (*Thomas Ulich, Axel Steuwer*)

Introductions, practicalities

11:15 EISCAT Scientific Association (*Axel Steuwer*)

*12:00 Lunch*

12:45 Introduction to Ionosphere (*Anita Aikio*)

13:30 Radar Data Examples (*Anita Aikio*)

13:45 Introduction to Radar (*Maxime Grandin*)

*14:30 Coffee Break*

15:00 Data Handling at EISCAT (*Carl-Fredrik Enell, Anders Tjulin*)

15:45 Group assignments (*Thomas Ulich*)

16:00 Group Work (*Carl-Fredrik Enell, Anders Tjulin*)

Using Madrigal to find analysed EISCAT data from historical events

*17:00 Dinner*

### Tuesday, 15th August

*08:00 Breakfast*

08:30 ISR-1: Introduction to Incoherent Scatter Radar (*Anja Strømme*)

09:30 Radar Data Examples: Answers and Discussion (*Anita Aikio*)

*10:00 Coffee Break*

10:30 Radar 2 - Pulse Coding, Compression, Statistical Signal Processing (*Ilkka Virtanen*)

*12:00 Lunch*

13:00 ISR-2 (*Ian McCrea*)

14:00 EISCAT Modes and Experiment Design Choices (*Anders Tjulin*)

*14:45 Coffee Break*

15:15 Group Work:

Experiment Design and Planning

17:00 Experiment Proposal **Submission Deadline**

*17:00 Dinner*

18:00 Radar Experiment

19:30 Radar Experiment

21:00 Radar Experiment

22:30 Radar Experiment

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### Wednesday, 16th August

08:00 *Breakfast*

08:30 Data Analysis and Fitting 1 (*Ilkka Virtanen*)

09:15 Data Analysis and Fitting 2: IS fitting and GUISDAP (*Carl-Fredrik Enell*)

10:00 *Coffee Break*

10:30 Phased Arrays and Interferometric Imaging (*Devin Huyghebaert*)

11:30 EISCAT\_3D (*Anders Tjulin*)

11:45 Processing and visualisation of EISCAT\_3D radar data (*Juan Carlos Araújo*)

12:00 *Lunch*

13:00 Data Retrieval, Q & A (*all*)

13:30 Group Work on Experiment Data

14:30 *Coffee Break*

15:00 Group Work on Experiment Data

17:00 *Dinner*

18:00 Group Work on Experiment Data

19:00 Sauna at shore / Female

20:30 Sauna at shore / Male

22:00 End of Sauna

### Thursday, 17th August

08:00 *Breakfast*

08:30 History of Radar (*Thomas Ulich*)

09:15 Interpreting Incoherent Scatter Radar Data (*Ian McCrea*)

10:00 *Coffee Break*

10:30 Pitfalls in Geophysical Data: Dealing with Errors (*Thomas Ulich*)

11:15 KAIRA - Kilpisjärvi Atmospheric Imaging Receiver Array (*Antti Kero*)

11:45 Prepare for excursion – prepare to be outside all afternoon

12:00 *Lunch*

13:00 **Excursion:**

Transport to KAIRA

13:15 Visit to KAIRA

14:00 Transport to Skibotn

14:45 Visit to Skibotn EISCAT\_3D site

15:45 Transport to Waterfall

16:00 Visit to Waterfall

16:30 Transport to Kilpisjärvi Biological Station

17:00 *Dinner*

18:00 Group Work on Experiment Data

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### Friday, 18th August

08:30 Q & A (*all*)

09:15 Active Ionospheric Heating (*Antti Kero*)

10:00 **Check Out Time**

*10:00 Coffee Break*

10:30 European Space Agency (*Anja Strømme*)  
SWARM Mission

11:15 ISR Science Highlights (*Ian McCrea et al.*)

*12:00 Lunch*

13:00 Finalising Group Work on Experiment Data

**Submission deadline** for presentation: 15:00 (end of coffee break)

*14:00 Coffee Break*

14:30 Group Presentation, randomly selected

15:00 Group Presentation, randomly selected

15:30 Group Presentation, randomly selected

16:00 Group Presentation, randomly selected

16:30 Wrap-up and closing

*17:00 Dinner*

17:50 **Bus departs** for Tromsø from Kilpisjärvi Biological Station

19:00 Sauna at shore / Male

20:30 Sauna at shore / Female

22:00 End of Sauna

### Saturday, 19th August

*08:00 Breakfast*

Departure of vans

10:00 **Check Out Time**

10:30 **Bus departs** for Kittilä and Rovaniemi from Kilpisjärvi Biological Station