

# WINDFOR S 2019 SCIENCE MEETING

KIT Campus Alpin, Garmisch-Partenkirchen, 26-28 February 2019

## MEETING THEME

**“WindForS bewegt”:** WindForS members are at the forefront of many different technologies and applications. This meeting will allow you to get to know each other and see what work is being done in WindForS projects and elsewhere.

## WHY TAKE PART?

Find out what WindForS members are up to, find solutions to the challenges you face, share ideas for new research, and enjoy the winter sun in Garmisch-Partenkirchen!

## AN UNCONFERENCE

This meeting is an [“unconference”](#), driven by you. This means that you get to decide what you want to talk about and what you want to achieve. To help make this happen we’ll have a bit of structure, but the choice of topics for the breakout sessions is with you.

Whatever you want to discuss can be discussed. Let’s say you have a challenge in your project or Ph.D. that you’d like to talk about: raise your hand and find people with similar problems or ideas, and use the time to work on what’s important to you. There will be lots of opportunities to propose ideas. If you want, you can write code, or cooperate on papers, or whatever works for you.

## OUTLINE

The meeting will take place over three days. The first two days (26.2 and 27.2) will be structured around themes that are important for wind energy and other scientific and engineering disciplines:

1. **Design and Optimization.** How do we design and optimize wind plants and other complex systems, and how are we working towards improving ideas, methods, or technologies?
2. **Integration.** How do we connect what we are developing with other technologies, groups, or applications?
3. **Acceptance and stakeholder engagement.** How do we help communities of all types become comfortable with new ideas?
4. **Teaching and training.** How do we transfer our experience to students, and professionals?

The last day (28.2) will be a WindForS planning day. We’ll be exploring ideas for the future and looking at how to implement them. Come along and help set our path!

## PRESENTATIONS AND POSTERS

Contributions are welcome from all WindForS members and could be about any aspect of their work (not just on wind energy!), including research, teaching, and stakeholder engagement. Please contact Andy Clifton on [clifton@windfors.de](mailto:clifton@windfors.de) if you’d like to discuss an idea for a presentation or poster.

## MEETING VENUE

The meeting will take place in the [KIT Campus Alpin in Garmisch Partenkirchen](#).

## BREAKOUT SESSIONS

We will make extensive use of breakout sessions to discuss the topics that interest you. You will have chance to suggest ideas when you register, and at the meeting. Topics suggested so far include:

- How to introduce “Systems Engineering” concepts into WindForS projects
- WINSSENT user agreement
- Windfield modeling in complex terrain
- How to teach optimization at a Master’s level
- Integration at the sub-second scale
- Noise from wind turbines
- Minimizing environmental impact
- Emission, propagation, and immission of sound
- How does sharing and openness help WindForS?
- Understanding and reducing the visual impact of wind energy
- Using education and engagement to change minds
- New approaches to trailing edge noise emission
- What else do we do with the WINSSENT site and facility?
- Ideas for other WindForS infrastructure
- Ideas for Topical Expert Meetings under IEA Wind Task 11
- Responses to BMWi “Digitalisation” call
- Is it time for EnergieForS?

## CONFERENCE DINNER

There will be a group dinner at the Garmisch [Bräustüberl](#) on Tuesday 26.2.2019 at 19:00. It’s a traditional Bavarian restaurant, right in the centre of Garmisch-Partenkirchen. There will be a limited menu including vegetarian options. Everyone will be responsible for their own bill.

# DAY 1: DESIGN, OPTIMIZATION, AND INTEGRATION

Tuesday, 26 February

*Main Hall:  
Science Track*

09:30	<b>Arrival + Poster Session</b> <ul style="list-style-type: none"> <li>• Badging</li> <li>• Poster setup</li> </ul> Collecting breakout session ideas
11:00	<b>Welcome and overview</b> <ul style="list-style-type: none"> <li>• Welcome from our hosts</li> <li>• Plans for the meeting</li> <li>• How to suggest breakout groups</li> <li>• Introductions</li> </ul>
11:30	<b>Design and Optimization</b> <ul style="list-style-type: none"> <li>• In-situ wind measurements over complex terrain using an UAS (Kjell zum Berge, EKUT)</li> <li>• <i>Guest presentation:</i> An overview of wind energy at HSR (Dr. Sarah Barber, HS Rapperswil)</li> <li>• ... Please feel free to suggest something!</li> </ul>
12:30	<b>LUNCH</b>
13:30	<b>Integration</b> <ul style="list-style-type: none"> <li>• Forecasting wind power at short terms using wind lidar and machine learning (Ines Würth)</li> <li>• First Identification and Quantification of Detached Tip Vortices Behind a WEC Using Fixed Wing UAS (Moritz Mauz, EKUT)</li> <li>• FlexiPower (Ines Würth)</li> <li>• Dynamometers &amp; electro-mechanical coupling (Fiona Lüdecke)</li> </ul>
14:30	<b>Breakout group proposals</b>
14:45	<b>COFFEE</b>
15:00	<b>Breakout groups</b>
16:00	<b>Breakout reporting</b>
16:45-17:00	Close
19:00	<b>Dinner at <a href="#">Bräustüberl in Garmisch.</a></b>

## DAY 2: MORE RENEWABLES

Wednesday, 27 February

<i>Main Hall: Science Track</i>	
09:30	<b>Keynote Address (Stefan Emeis)</b>
10:15	<b>The future of wind energy</b> <ul style="list-style-type: none"> <li>• Student-led airborne wind energy research at U. Stuttgart (Tim Hagemann)</li> <li>• McFloat (Po Wen Cheng)</li> <li>• Accessing data from the RAVE offshore wind plant and turbines (Ines Würth)</li> </ul>
11:15	<b>COFFEE</b>
11:30	<b>Acceptance and Stakeholder Engagement</b> <ul style="list-style-type: none"> <li>• Putting sounds into perspective (Esther Blumendeller)</li> <li>• In-situ evidence of the far-field from offshore wind farms (Jens Bange)</li> <li>• The Materialprüfungsanstalt (MPA) Universität Stuttgart (Anne Jungert)</li> </ul>
12:30	<b>LUNCH</b>
13:15	<b>Breakout group proposals</b>
13:30	<b>Breakout groups</b>
15:00	<b>COFFEE + REPORTING</b>
15:30	<b>Teaching and Training</b> <ul style="list-style-type: none"> <li>• Energy Meteorology (Stefan Emeis)</li> <li>• Informal exchange agreements between WindForS and DTU, NREL, and other groups (Andy Clifton)</li> <li>• ... <i>Please feel free to suggest something!</i></li> </ul>
16:15-16:45	<b>Close</b>

## DAY 3: LOOKING AHEAD

Thursday, 28 February 2019

	<i>Main Hall: Science Track</i>
09:00	<b>Update on the WINSENT project (Andreas Rettenmeier)</b>
09:30	<b>Internal WINSENT working session (Andreas Rettenmeier)</b>
10:15	<b>COFFEE</b>
10:30	<p><b>Project Proposals: ideas for 2019 and beyond</b></p> <p>Short presentations on ideas for WindForS' future</p> <ul style="list-style-type: none"> <li>• Treffpunkt WindForS (Andy Clifton)</li> <li>• Is it time for EnergieForS? (Andy Clifton)</li> <li>• WindForS responses to BMWi "Digitalisierung" call</li> <li>• ...</li> <li>• ...</li> </ul> <p><i>Please feel free to suggest something!</i></p>
11:30	<b>Breakout group proposals</b>
11:45	<b>Breakout sessions</b>
12:30	<b>Breakout reporting session</b>
13:00	<b>Close</b>
13:15	<b>LUNCH &amp; DEPART</b>

The WindForS spring meeting closes at 13:15.

## OPPORTUNITIES FOR FURTHER MEETINGS

13:30-16:30 **Meeting room available**

*The meeting room will be available on the afternoon of 28.2 if you would like to meet with your colleagues.*

*Please contact [clifton@windfors.de](mailto:clifton@windfors.de) if you'd like to reserve a space.*