A WIND ENERGY REVOLUTION IN SWITZERLAND?

THE NEW WIND ENERGY RESEARCH PROGRAMME AT HSR

**PRAGMATIC CHOICE OF WIND MODELS IN COMPLEX TERRAIN**

Developing a new process for the pragmatic choice of wind models in complex terrain, helping wind modellers choose the best model for a specific site.

**AEROSENSE**

Developing a novel mems-based surface pressure and acoustic smart measurement system for wind turbines.

**SKYPULL AERODYNAMICS**

Implementing a new aerodynamically optimised multi-wing design of the Skypull flight device using a novel aerodynamic simulation tool based on the Lattice Boltzmann Method.

**COMPARISON METRICS CHALLENGE**

Implementing a public "simulation challenge" for wind energy sites in complex terrain and developing transfer functions for the accurate prediction of tool suitability.

**MACHINE LEARNING POWER CURVE**

Applying regression tree methods to improve site-specific power predictions for more accurate wind farm planning and operation.

**RECYCLOBLADE**

Developing bio-materials based on flax plants for more environmentally-friendly rotor blades.

Expected results:

- Velocity field over Bolund Hill using Palabos LBM:

![Velocity field over Bolund Hill using Palabos LBM](image)

- Applying regression tree methods to improve site-specific power predictions for more accurate wind farm planning and operation:

![Applying regression tree methods to improve site-specific power predictions for more accurate wind farm planning and operation](image)

- Developing bio-materials based on flax plants for more environmentally-friendly rotor blades:

![Developing bio-materials based on flax plants for more environmentally-friendly rotor blades](image)

**R&D RESOURCES**

R&D project calls, funding information and wind energy experimental test facilities.

**DATABASE**

Find project partners, experts, customers, students, interns and more amongst members

**PROJECT PAGE**

Post and view your project ideas and requests as well those from other members

**EVENTS**

Attend our yearly forum, bi-monthly informal meet-ups or operators’ workshops.

**LEARNING RESOURCES**

Coordination of international collaborations and working group participation.

**TEACHING RESOURCES**

List of existing wind energy courses in Switzerland and abroad, online teaching resources.

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