Modeling, identification and control of kite dynamics for airborne wind power generation

The Automatic Control Laboratory (in the Department of Information Technology & Electrical Engineering) at ETH, Zürich has an open Ph.D. research position in the field of airborne wind power generation using large controlled kites. The focus of this project will be on the modeling and experimental identification of the kite dynamics, with the objective of developing models for subsequent use in feedback control design. The work will contain a strong experiment component, using the team’s existing and new kite test systems.

This Ph.D. project is a part of the European training network: MSCA-ITN-2014-ETN: Marie Skłodowska-Curie Innovative Training Network: “Airborne Wind Energy System Modelling, Control and Optimisation (AWESCO)”. The project network includes both academic and industrial partners and the Ph.D. researcher can expect to build up strong academic and industrial connections.

This project builds on the ETH research team’s prior experience in control of airfoils. The ETH group includes several Ph.D. students, post-docs. and faculty with experience in aerodynamics and control.

Qualifications:
A strong academic background is required in dynamical systems and control, together with solid mathematical skills. Prior experience in experimental work is an advantage, as is experience in programming and optimisation. A basic knowledge of aerodynamics is also useful.

PhD students at ETH Zürich must hold a Master’s degree from a recognised university. Those close to the completion of their Master’s degree are welcome to apply.

The starting annual salary for a Ph.D. student at the Automatic Control Laboratory is 70,300 CHF (gross) plus social costs. The working language is English.

To apply: Please email the following information to Prof. Roy Smith (in PDF format):

- A current curriculum vitae;
- A one page statement summarising your research and career interests;
- A copy of your undergraduate and masters grades (also list any current courses for which the grade is not yet assigned);
- The names and contact information for 2 or 3 references who are in a position to assess your research potential.

Deadlines: The position is open from October 2014 and will remain open until the ideal candidate is found. The preferred start date is January 2015 but this is negotiable.

For more information:
Automatic Control Laboratory: http://control.ee.ethz.ch
ETH: http://www.ethz.ch/en