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Update on Vaisala Support of THORPEX Fellowships

The skillful long-range prediction of high-impact weather is a significant scientific and societal challenge for the 21st century. THORPEX is a Global Atmospheric Research Programme that aims to study and improve the effectiveness of both earth-based and space-based atmospheric observing systems.

In support of the THORPEX Programme, Vaisala is co-sponsoring postdoctoral research fellowships aiming at improved global numerical weather prediction through advanced observations. The studies in this Programme seek to assess the value and effectiveness of:

- 1) earth-based atmospheric observing strategies;
- 2) existing and new earth-based in-situ observing systems and remote sensing systems; or
- 3) the interplay between earth-based and space-based observing systems.

Two new projects awarded

In January 2004, Vaisala announced a second co-sponsorship opportunity to candidates. Previously, two awards had been made in 2003, as reported in Vaisala News 164 (December 2003). The international evaluation panel for the awards has now accepted two additional proposals under the second announcement. One award goes to the European Centre for Medium-Range Weather Forecasts' (ECMWF) study "Advancing Targeted Observation Methodologies based on Singular Vectors, and Testing the Robustness of the 'Satellite Achilles Heel'". The research project of Florida State University, "Assessing the Added Value of Targeted Sound-

THORPEX seeks to improve forecasts of high-impact weather, including conditions that result in damaging floods.



ing Profiles for Snow Storm Prediction," has received the second award.

In the ECMWF project, Andrew Lawrence is the post-doctoral scientist, under the supervision of Dr. Timothy Palmer and Dr. Martin Leutbecher. Dr. Lawrence received a Ph.D. from Cambridge University in Middle Atmosphere Meteorology, through the British Antarctic Survey. Prior to his post-doctoral appointment at ECMWF, he was a post-doctoral associate at the Massachusetts Institute of Technology. The research seeks to assess if the advanced routine satellite observing network possesses a Satellite Achilles Heel. This potentially weak spot arises from the fact that little direct information

about sub-cloud layers can be inferred from satellite infra-red radiances. The question then arises: How important are accurate in-situ measurements of temperature, wind and humidity in such sub-cloud layers, for specifying the initial conditions of short- or medium-range weather forecasts? The research will include an evaluation of the impact of observations from the North Atlantic THORPEX Regional Campaign (NA-TReC, mid-October to mid-December 2003) on forecast skill.

The award made to Florida State University (FSU) is for support of postdoctoral scientist Kyunjeon Park. Dr. Park received his Ph.D. degree from the FSU and will work under the supervision of Professor Xiaolei

Zou. The research will assess the maximal impact of supplementary in-situ radiosonde, aircraft dropsonde and driftsonde soundings on snowstorm prediction. Two snowstorm cases that occurred in December 2003, over New York and New England will be studied. The value of targeted sounding observations obtained in sensitive regions during the NA-TReC regional field campaign to the prediction of these two storms will be assessed in the absence and presence of conventional radiosonde, satellite and radar observations.

Each award is for a period of up to two years. All awards require co-funding from the host institutions in addition to the support from Vaisala. ●