

## Ph.D. student position

### **Project: Configuring and Optimizing the Weather Research and Forecast (WRF) Model on Advanced Multi-core HPC for Electrifying the Mediterranean Breeze**

- Applying a state-of-the-art WRF model to Wind Farm
- Close collaboration between academia and the HPC team of Huawei's Smart Platforms Innovation Lab
- R&D position at the Haifa branch of Toga Networks, a Huawei company.

Regional meteorological models are becoming a generalized tool for wind resource forecasting due to their capacity to simulate local flow dynamics impacting wind farm production. This study focuses on the case of production forecast and validation for a real offshore wind farm using high horizontal and vertical resolution WRF (Weather Research and Forecasting) model simulations. The wind farm will be located around the Mediterranean basin, in a complex with wind resources. Utilizing the Fitch scheme, specific for wind forms, a period of 5 years will be simulated with a daily operational forecasting set-up. The aim of this project is to make advancements in the possibilities of how to model farms and the interaction of farms with each other. In addition, the aim is to expand our knowledge regarding limitations in different modeling methodologies. With better possibilities to assess these interactions, more optimized placement of wind turbines and operations can be achieved. The major computational aim is to reduce the concessions that are made between accuracy and required computational time of the WRF model. This subject can eventually serve to re-energize energy infrastructures.

The candidate should have a Masters level degree in exact sciences or engineering and experience in computer programming. A master degree in an area relevant to the subject, e.g. atmospheric sciences, physics, atmospheric chemistry is advantageous for this position. Experience working in a Linux environment and in shell scripting (e.g. sh, csh, perl, python) is an advantage.

For more information, please contact us via: Prof. Erick Fredj [fredj@jct.ac.il](mailto:fredj@jct.ac.il), Prof. Nathan Paldor [nathan.paldor@mail.huji.ac.il](mailto:nathan.paldor@mail.huji.ac.il) , Alex Margolin [alex.margolin@toganetworks.com](mailto:alex.margolin@toganetworks.com)