



## **Training the next generation of scientists in Weather Forecasting: new approaches with real models**

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The European Centre for Medium Range Weather Forecasts operationally produce medium range forecasts using what is internationally acknowledged as the world leading global weather forecast model. Future development of this scientifically advanced model relies on a continued availability of experts in the field of meteorological science and with high-level software skills. ECMWF therefore has a vested interest in young scientists and University graduates developing the necessary skills in numerical weather prediction including both scientific and technical aspects.

The OpenIFS project at ECMWF maintains a portable version of the ECMWF forecast model (known as IFS) for use in education and research at Universities, National Meteorological Services and other research and education organisations. OpenIFS models can be run on desktop or high performance computers to produce weather forecasts in a similar way to the operational forecasts at ECMWF.

ECMWF also provide the Metview desktop application, a modern, graphical, and easy to use tool for analysing and visualising forecasts that is routinely used by scientists and forecasters at ECMWF and other institutions. The combination of Metview with the OpenIFS models has the potential to deliver classroom-friendly tools allowing students to apply their theoretical knowledge to real-world examples using a world-leading weather forecasting model.

In this paper we will describe how the OpenIFS model has been used for teaching. We describe the use of Linux based 'virtual machines' pre-packaged on USB sticks that support a technically easy and safe way of providing 'classroom-on-a-stick' learning environments for advanced training in numerical weather prediction. We welcome discussions with interested parties.