



Press Release

Ash Cloud over Europe

Research Group at Department of Applied Mathematics Wins Prize for Interactive Computer Simulation

With “Dune Ash,” an interactive program for simulating how ashes spread over Europe after a volcanic eruption, a research group led by Prof. Dr. **Dietmar Kröner** at the Institute of Mathematics of the University of Freiburg placed second among 29 submitted proposals at the Competition of Modules for the Open Source MPE Exhibition. Worth 3,000 US dollars, the prize was awarded at the launch of the initiative Mathematics of the Planet Earth 2013 in Paris, France. The initiative is sponsored by the United Nations Educational, Scientific, and Cultural Organization (UNESCO), the International Mathematical Union (IMU), and the European Mathematical Society (EMS).

The award-winning software allows users to set the position of a volcano in Europe, the global wind speed, and the diffusion of the ash on a touchscreen. The program then needs a mere 30 seconds to calculate the temporal and spatial distribution of the ash transport over Europe and displays where the winds carry the ash on the touchscreen. Depending on the settings, the ash may remain concentrated in the region around the volcano or be spread evenly throughout the entire continent. Kröner came up with the idea for the software after the eruption of Grimsvötn, one of Iceland’s most active volcanos, in May 2011. The main contributors to the development of the software were Kröner’s assistants Dr. **Robert Klöfkorn**, **Tobias Malkmus**, **David Nies**, Dr. **Martin Nolte**, **Axel Pfeiffer**, and **Theresa Strauch** from the Department of Applied Mathematics.

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Information on “Dune Ash”:

<http://dune.mathematik.uni-freiburg.de/applications/dune-ash.html>

Demonstration Video:

<http://imaginary.org/program/dune-ash>

Information on the Initiative “Mathematics of the Planet Earth 2013”:

<http://mpe2013.org/>

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The University of Freiburg achieves top positions in all university rankings. Its research, teaching, and continuing education have received prestigious awards in nationwide competitions. Over 22,000 students from 100 nations are enrolled in 186 degree programs. Around 5,000 teachers and administrative employees put in their effort every day – and experience that family friendliness, equal opportunity, and environmental protection are more than just empty phrases here.