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EU FLAGSHIP

The SOE Members' Assembly has voted to support the FuturICT Flagship initiative that competes for a large-scale, multi-disciplinary research grant amounting to 100 Mio. EUR per year over a period of 10 years. It relates to complex (e.g. socio-economic-environmental) systems and to information communication technologies (covering computing, sensor networks, data, information, etc.). More information about the flagship initiative can be found at <http://www.futurict.ethz.ch>.

Dirk Brockmann receives Young Scientist Award DPG Spring Meeting 2010 in Regensburg

Dirk Brockmann, associate professor of engineering sciences and applied mathematics at the McCormick School of Engineering and Applied Science at Northwestern University, received the Young Scientist Award 2010 for Socio- and Econophysics from the Physics of Socio-Economic Systems Division of the German Physical Society.

The Young Scientist Award seeks to promote the work of young researchers and honors exceptional original contributions that use methods from physics to gain a better understanding of socio-economic problems. It has an endowment of EUR 5,000 that comes from a donation of d-fine. The prize is intended for young scientists not older than 40.

Brockmann is the ninth awardee of the prize.

Brockmann's research on complex systems spans from transportation networks to infectious diseases. He has developed computational models, new analytic and numerical techniques, and large-scale quantitative and predictive computer simulations to study various aspects of the dynamics of epidemics.

For example, he has used data from www.wheresgeorge.com—a site where users enter the serial numbers of their dollar bills—in order to track their travels. In this way, we could identify patterns and laws of human mobility. From that information, Brockmann was able to reconstruct the multi-scale human mobility network of the United States including small scale daily commuter traffic, intermediate traffic, and long distance air travel.

Based on this mobility network, Brockmann has modeled how diseases spread throughout the country, and he and his research group have also created a map of large scale community boundaries in the United States, which sometimes differ from administrative boundaries. These effective maps show that some states, like Missouri or Pennsylvania, are essentially cut into halves. Other boundaries coincide with geographic features,

such as the Appalachian mountains.

Brockmann also develops models for disease spreading via transportation networks, in order to quantify the susceptibility of various regions to epidemic threats and to develop more efficient

containment strategies. Last but not least, Brockmann has performed research on the complex dynamics of biological systems and on anomalous diffusion and fractional transport.

He received the award during the spring meeting of the German Physical Society in Regensburg on March 22, 2010.



Young Scientist Award for Socio- and Econophysics awarded to Dirk Brockmann in 2010.

