



UCD Research

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Prof. Dr. rer. nat. Dirk Helbing
ETH Zurich, Room CLU E1
Clausius Strasse 50
8092 Zurich
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28th October 2011

Re: FuturICT FET Flagship Proposal

Dear Prof Helbing

I wish to confirm that University College Dublin (UCD) is strongly supportive of the FuturICT FET Flagship Initiative.

The Future and Emerging Technologies Flagship Initiatives are vitally important to maintaining Europe's reputation as the leader in social and scientific innovation. Coordinating European and national institutions on such a scale will allow the serious challenges facing the world to be addressed in a coherent manner. FuturICT, one of these seven Flagship Initiatives, aims to bring a new level of understanding to the technological, social, economic and environmental sciences and their complex interactions.

At the heart of UCD's research strategy are four major themes: Earth Sciences, Energy and the Environment; Global Ireland; Health and Healthcare Delivery; Information, Computation and Communications. These major research themes span from basic disciplines and individual scholarship through to large-scale interdisciplinary programmes and on to more applied research, technology resources and engagement with industry. While these thematic research areas receive particular attention, UCD academics are engaged broadly across our entire range of disciplines in the humanities and the sciences.

Innovation is the third pillar of UCD's core mission as it relates both to economic development and to culture and society which it serves through the nurturing of the creative environment and the evidence-based design of better and more efficient social services. A key recent development has been the formation of the Innovation Alliance with Trinity College Dublin. UCD is also involved with a number of national and international partnerships


The breadth and interdisciplinary nature of the FuturICT initiative make it an ideal fit for the broad ICT research landscape of UCD. There are strong overlapping goals shared by FuturICT and several of UCD's Schools and Research Institutes including:

- The **UCD Complex Adaptive Systems Laboratory (CASL)**, UCD's institute for applied mathematics, computer science, informatics, and the computational sciences whose mission is to provide world-class leadership in the science of extracting value from data, and extrapolating predictions from simulation to provide insight and vision to drive innovation and address major global challenges in the areas of networks and data analysis, natural computing and optimization, security and trust, and simulation science and extreme events.
- The **UCD Earth Institute (EI)** focuses on Earth Systems: climate change, water and geohazards, sustainable bioresources; Energy Supply: renewable and sustainable energy; Emissions: reduction and control; Transport and infrastructure; and Economics and Policy Analysis. The UCD EI will play a pivotal role in connecting these multifaceted aspects of Earth Science with FuturICT initiatives, particularly in the area of demonstrator projects.
- The **UCD Geary Institute** is one of the leading social science research institutes in Ireland and is home to a number of research projects in areas of human development, behavioural and applied micro economics, computational social science, political science, public health and social statistics. In particular, its Dynamics Lab focuses on complex behaviour in social networks and group processes. It fosters an interdisciplinary approach in training and research in computational social science, including dynamic social network analysis, agent based social simulation, group social processes, group decision modelling and dynamic game approaches.
- **The UCD CLARITY Centre for Sensor Web Technologies** will play a critical role within FuturICT research. In particular it will offer expertise in the computational infrastructure necessary in supporting the ubiquitous sensing vision. In a world where sensed data is becoming ever more prevalent the need to manage the harvesting, filtering, correlation and analysis of such data together with the provision of recommendations or advice based upon such is crucial. In particular this demands the provision of a middleware that can support the autonomic function of such cyber physical wireless sensor networks.

These research institutes and centres at UCD will engage hundreds of researchers in the collaborative endeavours of the FuturICT initiative making UCD an invaluable partner and contributor.

In conclusion, UCD sees the FuturICT Flagship Initiative as a hugely significant research effort and will remain fully committed to and supportive of its aims and ambitions.

Yours sincerely,



Prof Desmond Fitzgerald
Vice-President for Research
University College Dublin