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6. Guimera, R, Sales-Pardo, M., Missing and spurious interactions and the reconstruction of complex networks, Proc. Natl. Acad. Sci. U. S. A. 106 , 22073 -22078 (2009).

List of related projects

1. Project: Statistical Mechanics for Modeling and Prediction of Human Behavior; Spanish Ministry of Economy and Competitiveness (FIS2016-78904-C3-1-P); Roger Guimerà PI, (2017-19)
2. Project: Multiplex: Foundational Research on MULTI-level comPLEX networks and systems; EU-FP7 (FET-Proactive 317532); full member of the consortium (2011-2016).
3. Project: Statistical Inference for the analysis of system wide perturbations in complex networks; Spanish Ministry of Economy and Competitiveness (FIS2015-71563-ERC); Roger Guimerà PI, (2015-16)
4. Activity: Organisation of the European Conference for Complex Systems (ECCS13) in Barcelona, Spain (<http://eccs13.eu>).
5. Project: Discovery, decomposition and dynamics of complex networks, James S. McDonnell Foundation Award (USA); Roger Guimerà and Marta Sales-Pardo PIs (2011-2016).

Resources to be committed

The SEES:lab owns a 96-node high performance IBM blade system and has access to a shared 500-node high-performance cluster within the URV. The blade system also hosts a database server for large datasets and a GPU server for massively parallel computations using GPUs. Additionally, the group has access to the facilities of the Barcelona Supercomputing Center (BSC-CNS, <https://www.bsc.es/>).

9, Stockholm Resilience Center (SRC)

Stockholm Resilience Centre (SRC) was tasked to “make a difference for sustainable development by building a world-leading research centre that would take the interdisciplinary research on linked ecological and social systems significant steps forward” and provide “insights and means for the development of management and governance practices in order to secure ecosystem services”. We took on this task with great excitement, asking new questions, collaborating across disciplinary borders, and generating new findings and insights of relevance for sustainability.

How do we do it? We regularly and flexibly adjust and restructure our research to stay at the frontier. Since the beginning this was essential because the science is moving rapidly. In our first ten years, research has accumulated on what it means to live in the Anthropocene – the age of humanity. Industrialised societies are shaping the Earth system at the planetary scale. Humanity has moved from being part of the biosphere – that thin sphere around the planet which supports all life on Earth – to the prime driver of change in the biosphere. Humanity is truly intertwined in biosphere processes from local to global scales. It is becoming clear that a resilient biosphere serves as the basis for just and sustainable development, for human health and well-being, and transformations towards global sustainability are necessary, definitely possible, and highly desirable.

Contribution to ROBHOOT

Prof. Jon Norberg’ (male) experience is in research on eco-evolutionary dynamics in ecosystems with special emphasis on global change. He combines stochastic and deterministic modeling. Jon Norberg will work in WP3 in ROBHOOT. He will implement the extended Eco-Evolutionary diversification-inspired models in federated networks processes to allow WP3 to implement this feature for discovery in federated networks.