Objective ICT-2011.9.7:

Dynamics of Multi-Level Complex Systems (DyM-CS)

ICT Proposers' Day 2011
19-20 May 2011, Budapest

Objective ICT-2011.9.7: Dynamics of Multi-Level Complex Systems (DyM-CS)

Rationale:

- Many artificial and natural systems are characterized by a high level of differentiation in structure and organization; they exist in areas as diverse as the Internet, energy management, climate, financial markets, infrastructures (including ICT), biology, transport, epidemics, meteorology, urban planning, social simulation and policy impact assessment.
- In order to describe and control these systems there is a need to observe and reconstruct their dynamics and make sense of large amounts of heterogeneous data gathered on various scales.

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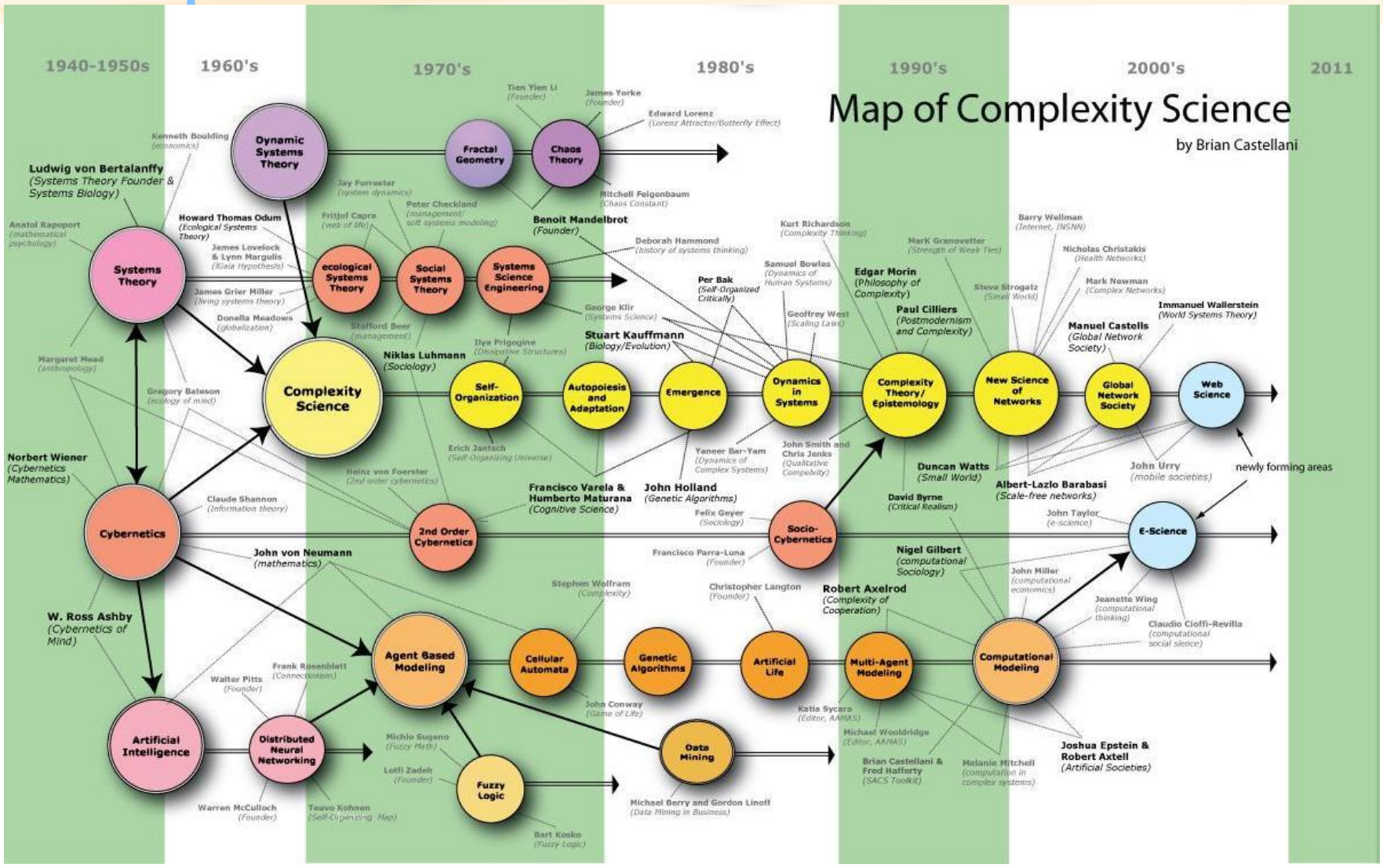

Objective ICT-2011.9.7: Dynamics of Multi-Level Complex Systems (DyM-CS)

Objectives:

- New mathematical and computational formalism on dynamics of multi-level systems developed and validated on real-world applications involving large and heterogeneous data sets
- World-class international research cooperation, global alliances in this research area, and links with similar actions outside Europe, in particular with participants from USA, Japan and China

Lesser emphasis on:

- Applications driven projects

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Target outcome a)

- Progress towards a general theory on complex systems
- New ICT-based methods and principles for the management of large scale systems, including ICT systems themselves
- Better understanding of structural patterns (e.g. resilience, sensitivity to failure) of complex systems in socio-economic and technological areas

Target outcome b)

- New EU and global collaborations between researchers in the disciplines involved in CSS

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Background:

- Objective ICT-2007.8.4: Science of complex systems for socially intelligent ICT (COSI-ICT) – 4 IPs and a CA
- CSS Expert Consultation Report: ftp://ftp.cordis.europa.eu/pub/fp7/ict/docs/fet-proactive/shapefetip-wp2011-12-06_en.pdf
- FuturICT FET flagship pilot (www.futurICT.eu)

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Extra considerations:

- The call is theory driven, not application driven.
- Extra CS call ICT-2011.9.14 'Science of Global Systems‘ 3.5 M Euro – emphasis on sustainability and policy narratives.
- European Conference on Complex Systems 2011 (ECCS11), 12 – 16 Sep 2011 – Funding session with position papers
- Internal Proposers’ Day - Brussels, October 2011 (tbc) – Ideas for proposals

Objective ICT-2011.9.7: Dynamics of Multi-Level Complex Systems (DyM-CS)

-Funding/Instruments:

22 MEuro, STREPs & IPs,

1 MEuro, CSAs

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European Commission
Information Society and Media