
Editorial

The present volume of the European Physical Journal Special Topics was conceived in the spirit of a “discussion and debate” issue – a still rather new venue for this journal, being only the second issue of this type – the general aim of which is the balanced and critical presentation and assessment of unsolved problems, controversial topics, rival approaches and alternative methodologies of interest at the cutting edge of scientific and technological development [1].

Viewed broadly, the topic under review concerns the deep understanding and management of complex systems, and more specifically techno-socio-economic ones on a truly global scale. Well beyond the expected insights to be gained into the intricate dynamics of social and economic systems, one of the challenges raised is the establishment of crisis observatories that might allow, in the not-too-distant future, short-term forecasts quite similar to those we humans are accustomed to relying on for weather systems, even though it is generally acknowledged that this cannot be easily extended to the long-term, large-scale forecast, i.e. the climate system, as a whole.

A particularly important, demanding but also rewarding aspect in the present case is the rapidly broadening interface of the hard, quantitative sciences (physics, applied mathematics, computer sciences, engineering, ...) with both the social and cognitive sciences and the concomitant necessity of taking complementary points of view into account.

The bulk of the material presented here is made up by the three white papers of the EU project Visioneer (*Envisioning a Socio Economic Knowledge Collider*) [2]. These are followed by six commentaries from distinguished researchers in the field of complex system sciences. The volume closes with a corresponding reply from the authors of the white papers. All in all, while no claim is made to put to rest all, or even the most significant issues at stake, a significant contribution is made towards a transparent discussion of both challenges and opportunities.

Clearly, even this modest achievement would not have been possible without the open-mindedness of all contributing authors – it is thus my great pleasure to thank the authors of the white papers, led by Prof. Dirk Helbing, as well as the commentary authors, Prof. Peter Allen, Prof. Bikas Chakrabarti, Prof. Péter Érdi, Prof. Juval Portugali, and Prof. Stefan Thurner, for their willingness to actively support this collaborative effort.

It is worth noting that this endeavor has, at the same time, also turned out to be an unusual but rewarding publishing experiment. Indeed, in times where traditional peer review is exposed to much criticism (a side aspect in fact addressed in one of the white papers), the approach pioneered in the context of this issue may hopefully

also be considered a small contribution to the exploration of alternative routes to meaningful scientific publishing.

Heidelberg, April 2011

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References

1. http://www.epj.org/submission_st_dd.html
2. <http://www.visioneer.ethz.ch>