

Editorial

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DCM'09 was the fifth installment of the DCM series of workshop on Developments in Computational Models. The workshop was held the 11th of July 2009 as a satellite event of the international conference ICALP in Rhodes (Greece). The DCM series, which is still ongoing, aims at exploring the variety of computational models.

As can be seen from the papers which were selected and reviewed for this special issue, a substantial part of this exploration draws on the interface between computational models and a large array of natural organizations which biology, chemistry, physics and the social sciences have investigated. Depending on the system of interest, organizations and their attendant information processing will play out at different levels, and weave in different time scales. For some of the contributions space plays a crucial role (as in the Konkoli review on diffusion-limited interactions). Some of the questions and approaches to finding the right formalism to capture the intended domain are of wider relevance. In a way, the ambition of DCM is precisely to contribute to constructing this higher vantage point where common questions and common logical ingredients can be better apprehended.

There seems to be an emerging lesson from this confrontation between the formal computational domain and the traditional application domains of physics and quantitative sciences in general. It is the following: it is sometimes worth making the language latent to a phenomenology of interest explicit. Clean and rigorously defined levels of description (as in the Bioglio et al, and the Feret et al contributions) are necessary steps allowing one to cast a syntactic net around complex behaviours. This is a basis on which one can establish notions of model equivalence and approximation which can tame somewhat the complexity and might eventually even shed light on the underpinning organizational principles.

This volume has been slow to come to fruition. This is partly because the reviewing process was difficult, but mostly because the second editor was very badly organized - for which he apologizes to the authors! We are now very happy that we can finally publish what we think is a rather exciting collection of papers. This is the place to thank all the reviewers who have taken time to amend and correct the submitted manuscripts, so that the interested reader can now enjoy a smoother

delivery of their contents. Of course, we thank heartily all the authors who have contributed to this special issue and wish DCM many happy returns.

Guest Editors:

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