
Editorial

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Biographical notes: Francesco Longo is an Assistant Professor and the Director of the Modelling and Simulation Center, Laboratory of Enterprise Solutions at DIMEG, University of Calabria. His research interests are the development of innovative and advanced simulation approaches in different domains, including industry, defence and logistics. He actively supports the organisation of the most important international conferences in the field of modelling and simulation, serving as the General/Programme Chair. He has published more than 170 scientific articles on international conferences and journals.

In a world where the boundaries between virtual and real are even more blurred, and web-based applications become increasingly pervasive, modelling and simulation hardly loses its attractiveness and its groundbreaking nature. More than ever before, its underpinning paradigms, concepts, and approaches offer a unique reference framework to deal with the inherent complexity of everyday systems and applications. As a result, simulation is even more subtle and deeply embedded in operational and management processes of manifold businesses/organisations. Ranging from planning, analysis, control and real-time monitoring to procedural training, simulation is (consciously and unconsciously) a daily practice to solve problems, find options and improve operational efficiency, and is established as one of the main instruments to understand and investigate systems behaviour. These possibilities are supported by multiple technical options that allow shaping the great variety of methodologies currently available in the literature and paving the way for even more pervasive as well as high-impact solutions.

Immersive environments, serious games, augmented reality, intelligent systems, mobile applications, and remote control are just few examples of new technical trends able to affect the variety of solutions and approaches that M&S offers. To this end, it is worth noticing that often tools and methodologies are seamlessly integrated, entailing interwoven conceptual and physical architectures rather complex in nature. This makes it increasingly difficult to compartmentalise the many facets of a simulation study and offer a well-outlined, marked characterisation of them all.

As a result, from the M&S-oriented perspective, there is a fine line between the concept of product and service. It happens, indeed, that from one side the existence of capital assets is the basic premise for developing high-impact solutions (i.e., simulation-based training systems) while, on the other side, it cannot but be recognised that the efficacy and validity of solutions as such require sound theoretical foundations. Furthermore, this intricate nature, which brings together theory and practice, abstraction and pragmatism, realism and utopia, opens the doors to endless possibilities for simulation solutions deployment and exploitation: among others the not unheard-of concept of simulation as a service that entails a new approach for results uptake and usability.

With this in mind, the main goal of this special issue on 'Modelling and applied simulation for the third millennium: enhancements in traditional approaches and moving toward simulation as service' is to portray M&S current and prospective trends. Therefore, the synergistic work of authors and editorial board members has been driven by the commitment to present groundbreaking contributions and encourage a critical review of future directions and developments. Hence, the papers that are part of this special issue are captivating research works that seek to give challenging solutions as well as to arouse curiosity and stimulate deep reflections.

The publication of this special issue is a joint effort and work of all the authors and reviewers as well as of the *IJSPM* EiC (Professor Feng Qiao) and all the editorial staff members: to all of them goes my sincere gratitude.