The manuscripts included in this special issue grew out from the 7th International Work-Conference on the Interplay Between Natural and Artificial Computation (IWINAC 2019), that was held in Almeria, Spain, June 3rd–June 7th, 2019. The conference received 191 submissions. Eighty-nine (89) papers were accepted for presentation and publication in the conference proceedings published by Springer series leading to an acceptance rate of near 50%. The authors of the 20 papers considered to be the most innovative and original in terms of computing and information technologies were invited to submit “substantially extended and updated manuscripts with additional original computational materials based on their most recent research” for possible publication in this issue. Each submitted extended manuscript underwent through at least two cycles of the journal’s rigorous review process using the journal review form. They received between 4 and 10 reviews. The seven manuscripts included in this issue are a selection of representative articles dealing with some recent advances in this field. We hope that they can serve to highlight the exciting work conducted in this area of research and can be also helpful to inspire enthusiastic young minds to join the quest.

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