## Introduction

The manuscripts included in this special issue grew out of the 9th International Conference on the Interplay Between Natural and Artificial Intelligence Computation, IWINAC, Tenerife, Canary Islands, Spain, May 31-June 3, 2022. Brain-inspired computation is one of these techniques that cover multiple applications in very different fields. Through IWINAC we provide a forum in which research in different fields can converge to create new computational paradigms that are on the frontier between neural and biomedical sciences and information technologies. The conference received 213 submissions. 122 papers were accepted for presentation and publication in the conference proceedings published by Springer series leading to an acceptance rate of nearly 57%. The authors of the 22 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 5 and 7 reviews. The six manuscripts included in this issue passed through the journal's rigorous review process. They are a selection of representative articles dealing with some recent advances in this field

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