This book is a collection of papers that were presented at the 8th International Workshop on Natural Computing (8th IWNC) at the YMCA in Hiroshima, Japan, during March 18–19, 2014. At the workshop, the following presentations were made: “Self-organized 3D-Printing Patterns Simulated by Cellular Automata” by Yasushi Kanada; “Cellular Automata Automatically Constructed from a Bioconvection Pattern” by Akane Kawaharada, Erika Shoji, Hiraku Nishimori, Akinori Awazu, Shunsuke Izumi and Makoto Iima; “A Comparison of Grouping Behaviors on Rule-Based and Learning-Based Multi-agent Systems” by Akihiro Ueyama, Teijiro Isokawa, Haruhiko Nishimura, and Nobuyuki Matsui; “Measurements of Negative Joint Probabilities in Optical Quantum System” by Masataka Inuma, Yutaro Suzuki, and Holger F. Hofmann; “Brownian Motion Applied to Macroscopic Group Robots Without Mutual Communication” by Teturo Itami; “Comparison of Tactile Score with Some Prescriptions in Artworks: From the Point of Media Transformation” by Fuminori Akiba; “Drawing as the Relative Movement Between Subject and Medium: Using a Robot to Show the Subjectivity in Dynamic Flows of Consciousness” by Miki Goan, Katsuyoshi Tsujita, Susumu Kihara and Kenjiro Okazaki; and “Evolution of Honest Signal and Cry Wolf Signal in an Ecological System” by Megumi Sakai and Yasuhiro Suzuki. IWNC 8 was supported by a Grant-in-Aid for Scientific Research for an Innovative Area (Molecular Robotics).

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