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Nota di contenuto	Invited Talks -- Computations Inspired from the Brain -- Algebras and Languages for Molecular Programming -- A Computational Journey into Nonlinearity -- Computable Scientists, Uncomputable World -- Regular Contributions -- Finite State Transducers with Intuition -- Reversibility and Determinism in Sequential Multiset Rewriting -- Synchronization in P Modules -- On Universality of Radius 1/2 Number-Conserving Cellular Automata -- DNA Origami as Self-assembling Circuit Boards

-- Tug-of-War Model for Multi-armed Bandit Problem -- Characterising Enzymes for Information Processing: Towards an Artificial Experimenter -- Majority Adder Implementation by Competing Patterns in Life-Like Rule B2/S2345 -- Solving Partial Differential Equation via Stochastic Process -- Postselection Finite Quantum Automata -- A New Representation of Chaitin ? Number Based on Compressible Strings -- Quantum Query Algorithms for Conjunctions -- Universal Continuous Variable Quantum Computation in the Micromaser -- Quantum Computation with Devices Whose Contents Are Never Read -- The Extended Glider-Eater Machine in the Spiral Rule -- Posters -- Formalizing the Behavior of Biological Processes with Mobility -- Quantum Finite State Automata over Infinite Words -- A Geometrical Allosteric DNA Switch -- Properties of “Planar Binary (Butchi Number)” -- Characterising Enzymes for Information Processing: Microfluidics for Autonomous Experimentation -- Inference with DNA Molecules -- A Network-Based Computational Model with Learning -- Image Processing with Neuron-Like Branching Elements (POSTER).

Sommario/riassunto

The 9th International Conference on Unconventional Computation, UC 2010, was organized under the auspices of EATCS and Academia Europaea, by the University of Tokyo (Tokyo, Japan), and the Center for Discrete Mathematics and Theoretical Computer Science (Auckland, New Zealand). It was held in Tokyoduring June 21–25,2010(seehttp: //arn.local.frs.riken.jp/UC10/). The venue was the Sanjo (Hilltop) Conference Hall at Hongo Campus of the University of Tokyo. Hongo Campus was formerly the residence of the Maeda family, one of the richest feudal lords in the Edo period of Japan. The Japanese garden in the residence is partially preserved, including the pond and the hill on which the conference hall is located. Within walking distance from Hongo Campus are Ueno park with many museums, the Akihabara area, which is now the center of Japanesepop culture, and the Korakuenamusement park/baseball stadium. The International Conference on Unconventional Computation (UC) series (seehttp: //www.cs.auckland.ac.nz/CDMTCS/conferences/uc/)isdevotedto all aspects of unconventional computation — theory as well as experiments and applications. Typical, but not exclusive, topics are: natural computing including quantum, cellular, molecular, membrane, neural, and evolutionary computing, as well as chaos and dynamical system-based computing, and various proposals for computational mechanisms that go beyond the Turing model.