

Workshop on Molecular Architectonics – Toward Realization of Neuromorphic Computing by Nanomaterials

Joint Hosting: ORDL Seminar Series 9

June 29-30, 2017

Osaka University, Toyonaka Campus

Invited talks

Wilfred G. van der Wiel (Twente Univ., The Netherlands)

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Saurabh Bose (Univ of Canterbury, New Zealand)

“Complex dynamics and promise for neuromorphic computation in self-assembled atomic-switch networks”

Florian Lebon (CEA, Univ. Paris-Saclay, France)

“Influence of the electrografting parameters on the growth of organic thin layers on patterned gold electrodes”

Contributed talks

Carolin Lutz, Tsuyoshi Hasegawa (Waseda Univ., Japan)

“Tug of War devices for interconnection of artificial synapses”

Gideon Issac Livshits (Osaka Univ., Japan)

“Conductivity of DNA and field-assisted programmable DNA networks”

Yuki Usami, Yasuhisa Naitoh, Yoich Otsuka, Takuya Matsumoto (Osaka Univ., Japan)

“Conjugated electrical properties of Au nanoparticles-polyaniline network”

Tsuyoshi Hasegawa (Waseda Univ., Japan)

“Learning ability of molecular-gap atomic switch”

Seiya Kasai (Hokkaido Univ., Japan)

“Amoeba-inspired electronic computing system: Fluctuation and solution searching capability”

Megumi Akai (Osaka Univ. Japan)

“On the Growing Polymer Neural Networks”

Hirofumi Tanaka (Kyusyu Institute of Technology, Japan)

“Neuron-like Pulse generation device by SWNT/POM complex”

Poster presentations

Kenta Saitoh, Masashi Aono, Seiya Kasai

“Impact of External Fluctuation on Solution Search in Amoeba-inspired Electronic Computing System”

Yuki Shigeoka, Tsuyoshi Hasegawa

“Rate limiting process of Cu/Ta₂O₅/Pt atomic switch”

Naoya Tanabashi, Tsuyoshi Hasegawa

“Atmosphere dependence of Ag/Ta₂O₅/Pt atomic switch”

Ayana Suzuki, Tsuyoshi Hasegawa

“STM-LTM-based learning of molecular-gap atomic switch”

Ai Kasai, Tsuyoshi Hasegawa

“Synaptic operation of molecular-gap atomic switch”

Satoshi Nishijima, Yoich Otsuka, Takuya Matsumoto

“Non-linear I-V characteristics of Ru complex layers with a double junction nanogap electrode”

Masaya Yamada, Yoichi Otsuka, Takuya Matsumoto

“Alignment of electronic states at ITO/Ru-complex/Au interfaces”

Kento Araki, Yutaka Ie, Yoshio Aso, Takuya Matsumoto

“Time-resolved electrostatic force microscopy of photo-induced charge migration”

Faisal Budiman, Hirofumi Tanaka (Kyushu Institute of Technology, Japan)

“Size Dependent Magnetic Properties of La₂CuO₄ and La_{2-x}Sr_xCuO₄ Nanoparticles Fabricated by Sol-Gel Method”

Hadiya Warman, Hirofumi Tanaka (Kyushu Institute of Technology, Japan)

“Ag-Ag₂S core-shell nanoparticles synthesis and random network fabrication for reservoir computing

Hideaki Furuki, Hirofumi Tanaka (Kyushu Institute of Technology, Japan)

“Fabrication of graphene nanoribbon by unzipping single-walled carbon nanotubes and investigating the suitable condition by Design of Experiments

Minoru Fukumori, Hirofumi Tanaka (Osaka University, Japan)

“Unzip of Single- and Double-walled Carbon Nanotubes to Synthesize Single-Layer Graphene Nanoribbon Using Radical Initiator

Detiza Goldianto Octensi Hernowo, Hirofumi Tanaka (Kyushu Institute of Technology, Japan)

“Molecular Electronic Devices of Random Single-Walled Carbon Nanotubes Network Adsorbed with SV2W10O40[H₄t-BuTPP]”

Yurina Hidaka, Hirofumi Tanaka (Kyushu Institute of Technology, Japan)

“Fabrication of Ag/Ag₂S structure and measurement of electrical property”