Theoretical Computer Science and Its Applications

RIMS workshop

Organizer: Kazuo Iwama (Kyoto University)

Date and Time: February 2 (Monday), 2009, 13:00 – February 4 (Wednesday), 12:00

Venue: Room 420, Research Institute for Mathematical Sciences, Kyoto University
Shirakawa-Oiwake Cho, Sakyo-ku, Kyoto, Japan

Program (Updated: Jan. 5)

February 2 (Monday)

Session 1 13:00--14:20

[1] An Algorithm Which Generates the Linear Extensions of a d-Complete Poset with Uniform Probability

*Kento Nakada (Kyoto U.), Shuji Okamura (OPCT)

[2] Collisions in Balls-and-Bins

*Toshio Nakata (Fukuoka U. of Education)

[3] Privacy-Preserving Datamining Based on Linear Transformation and Random Matrix Theory

*Chunhua Su, Kouichi Sakurai (Kyushu U.)

[4]Evolutionary Dynamics on Graph Using Random Walk Theory

*Yizhi Ren (Kyushu U., Dalian U. of Technology), Mingchu Li (Dalian U. of Technology), Kouichi Sakurai (Kyushu U., ISIT)

Session 2 14:40--16:00

[5] A Note on Characterizations of Context-Free Languages Using Insertion and Locality

*Kaoru Onodera (Tokyo Denki U.)

[6] On the Power of Generalized Categorial Grammars

*Shunichi Matsubara (The U. of Electro-Communications)

[7] Modeling, Specification and Verification of Embedded systems based on Probabilistic Timed Game Theory

*Masashi Hayashi, Satoshi Yamane (Kanazawa U.)

[8] Probabilistic Timed CEGAR

*Atsushi Morishita, Satoshi Yamane (Kanazawa U.)

Session 3 16:20--17:40

[9] Enumerating Polyominoes of p4 Tiling by the Reverse Search

*Takashi Horiyama, Masato Samejima (Saitama U.)

[10] How to Make a Picturesque Maze

*Yoshio Okamoto (Tokyo Inst. of Technology), Ryuhei Uehara (JAIST)

[11] Complexity of Pleats Foldings
Tsuyoshi Ito (McGill U.), Masashi Kiyomi (JAIST), Shinji Imahori (U. of Tokyo), *Ryuhei Uehara (JAIST)

[12] The Hospitals/Residents Problem with Quota Lower Bounds
*Kouki Hamada, Shuichi Miyazaki, Kazuo Iwama (Kyoto U.)

February 3 (Tuesday)

Session 4　9:00--10:20

[13] A Heuristic Method for Finding Run-Rich Strings
*Wataru Matsubara, Kazuhiko Kusano (Tohoku U.), Hideo Bannai (Kyushu U.), Akira Ishino, Ayumi Shinohara (Tohoku U.)

[14] DNA Model Associate to Chomsky Language
*Osamu Suzuki (Nihon U.)

[15] Formal Language Associate to Knots
*Yuichi Uetani, Yosiko Okada, Syun Horiguti, Tatuya Maekawa, Osamu Suzuki (Nihon U.)

[16] On Formalizing Infinite Processes of Distinction and Explanation in Formal Languages
*Jin Uemura (Aletheia U.)

Session 5　10:40--12:00

[17] Chaitin's Halting Probability ¥Omega and Halting Problems
*Kohtaro Tadaki (Chuo U.)

[18] A Note on Automorphisms of Cellular Automata
*Hidenosuke Nishio (ex. Kyoto U.), Thomas Worsch (U. of Karlsruhe)

[19] An Improvement of the Soundness of a 3-Bit PCP
*Naoki Kinoshita, Suguru Tamaki, Kazuo Iwama (Kyoto U.)

[20] Online Learning Based on Maximum Entropy Principle
*Takafumi Ohta, Kohei Hatano, Masayuki Takeda (Kyushu U.)

Session 6　13:30--14:50

[21] The Carving-Width of Cartesian Powers of Regular Graphs
*Kyohei KOZAWA, Yoya OTACHI, Koichi YAMAZAKI (Gunma U.)

[22] Weighted Alliances in Graphs
*Kenji Kimura (The U. of Electro-Communications), Masayuki Koyama, Akira Saito (Nihon U.)

[23] On Approximating a Minimum Directed Tree Cover in a Layered Graph
*Tetsuma Tada, Toshihiro Fujito (Toyohashi U. of Technology)

[24] A Tight Upper Bound on the Cover Time for Metropolis Walks
*Yoshiaki Nonaka, Hirotaka Ono, Kunihiko Sadakane, Masafumi Yamashita (Kyushu U.)

Students Session 1　15:10--16:10

[S1] A Simple Characterization of Serially Constructible Episodes
*Takashi Katoh, Hiroki Arimura (Hokkaido U.), Koichi Hirata (Kyushu Inst. of Technology)

[S2] On the Complexity of Teaching with a Time Limit
*Hayato Kobayashi, Ayumi Shinohara (Tohoku U.)

[S3] Linear Time Algorithm with O(nloglogn) Bit Space for Ranking of Permutations
*Fumiya Suto, Ayumi Shinohara (Tohoku U.)

[S4] Average Analysis of Repetitions in a String
*Kazuhiko Kusano, Wataru Matsubara, Akira Ishino, Ayumi Shinohara (Tohoku U.)

Students Session 2　16:30--17:30

[S5] Another Reduction from Graph Isomorphism to Ring Isomorphism
*Tomoyuki Hayasaka (Tokyo Inst. of Technology)

[S6] Derivation of New Hierarchical Structures on H-coloring by Anti-Webs
*Masakazu Shoji (Osaka Electro-Communication U.), Hiroshi Konishi (FX Platform Co, Ltd.), Akihiro Uejima (Osaka Electro-Communication U.)

[S7] Faster Random Walks on Series-Parallel Biconnected Graphs
*Yusuke Hosaka, Masafumi Yamashita, Kunihiko Sadakane, Hirotaka Ono (Kyushu U.)

[S8] Approximation of the Minimum Manhattan Network Problem
*Yasuyuki Yamasaki, Eiji Miyano (Kyushu Inst. of Technology)

February 4 (Wednesday)

Session 7　9:00--10:20

[25] A New Cryptographic System Based on the Difficulty of Automata Identification Problem
*Seiya Okubo (U. of Shizuoka), Tetsuro Nishino, Mitsuo Wakatsuki (The U. of Electro-Comunications)

[26] NFALSE: Another Ring-Based Public Key Cryptosystem with Faster Encryption
*Keita Xagawa, Keisuke Tanaka (Tokyo Inst. of Technology)

[27] On Encryption Functions and their Properties
*Takato Hirano, Keisuke Tanaka (Tokyo Inst. of Technology)

[28] A Random Oracle Model with Setting and Watching Queries
*Mario Larangeira, Akira Numayama, Keisuke Tanaka (Tokyo Inst. of Technology)

Session 8　10:40--12:00

[29] On Existence and Uniqueness of Distance k-Sector and Zone Diagram of Objects
Keiko Imai (Chuo U.), Akitoshi Kawamura (Toronto U.), Yu Muramatsu (Chuo U.), *Takeshi Tokuyama (Tohoku U.)

[30] Square and Rectangle Covering with Outliers
Hee-Kap Ahn (POSTECH), Sang Won Bae (KAIST), Sang-Sub Kim (POSTECH), *Matias Korman (Tohoku U.), Iris Reinbacher (KAIST)

[31] An Efficient Algorithm for the Nearest Larger Neighbors Problem on Matrices
*Keita Nogi, Tetsuo Asano, Masashi Kiyomi (JAIST)

[32] An Exact Algorithm Computing the Longest Path Length Distribution on DAG with Exponentially Distributed Edge Weights
*Ei Ando, Hirotaka Ono, Kunihiko Sadakane, Masafumi Yamashita (Kyushu U.)