Report from the Japanese Chapter

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EATCS-JP/LA Workshop on TCS

As announced in the previous report, the *Fifth EATCS-JP/LA Workshop on Theoretical Computer Science* will be held at Research Institute of Mathematical Sciences, Kyoto Univ., January 28 ~ 30, 2008. The workshop will be jointly organized with *LA*, Japanese association of theoretical computer scientists. Its purpose is to give a place for discussing topics on all aspects of theoretical computer science. Please check the program at the end of this report.

On TCS Related Activities in Japan:

TGCOMP Meetings, September ~ December, 2007

The *IEICE*, Institute for Electronics, Information and Communication Engineers of Japan, has a technical committee called *TGCOMP*, Technical Group on foundation of COMPuting. During September ~ December of 2007, *TGCOMP* organized 3 meetings and about 24 papers (including 1 tutorial) were presented there. Topics presented are, very roughly, classified as follows.

Algorithm: On Graphs (5)
Algorithm: On Strings (1)
Algorithm: On Other Objects (3)
Combinatorics / Probabilistic Analysis (4)
Computational Complexity and

Cryptography (6)

Distributed Computing (2)

Formal Languages and Automata (2)

Semantics and Term Rewriting System (1)

See our web page for the list of presented papers (title, authors, key words, email).

EATCS-JP/LA Workshop on TCS Program

NOTICE: EATCS-JP/LA Workshop is an unrefereed meeting; that is, all submissions are accepted for the presentation. Thus there should be no problem of presenting these papers in refereed conferences and/or journals.

Mon, 28th Jan.
Session 1 (13:00-14:20)

1. An Efficient Algorithm for the Inclusion Problem of a Subclass of DPDAs Ryo Yoshinaka (Hokkaido University)

2. Approximating Maximum Edge 2-Coloring in Simple Graphs via Local Improvement Zhi-Zhong Chen and Ruka Tanahashi (Tokyo Denki University)

3. An Approximation Algorithm for

Partitioning a Graph into Clusters of Size at Most 3 Ruka Tanahashi, Zhi-Zhong Chen, and Momoko Kawano (Tokyo Denki University)

4. On constraints of rotation-symmetry of number-conserving cellular automata on their state numbers Naonori Tanimoto, Katsunobu Imai, Chuzo Iwamoto, and Kenichi Morita (Hirosima University)

Session 2 (14:35-15:35)

5. Semirigid equivalence relations on a finite domain M. Miyakawa (Tsukuba University of Technology), M. Pouzet (Universite Claude-Bernard), I. G. Rosenberg (Universite de Montreal), and H. Tatsumi (Tsukuba University of Technology)

6. Improved Approximation Algorithms for Reconstructing the History of Tandem Repeats Zhi-Zhong Chen (Tokyo Denki University)

7. Specification and Bounded Model Checking of Preemptive Scheduling Systems using Stopwatch Automata Shingo Takinai, Yamane Satoshi (Kanazawa University)

Tuesday, January 29

Session 3 (8:50-10:30)

8. Analysis of the number of necessary examples for learning DFA in the limit Kenji Hayashi (Tokyo Institute of Technology)

9. Local Structure of Cellular Automata Hidenosuke Nisio (ex.

Kyoto University), Thomas Worsch (University of Karlsruhe)

10. Reconstruction of Unicolored Domino Tilings of Degree Five from Orthogonal Projections Chuzo Iwamoto, Reijiro Mikamo, Kenichi Morita, and Katsunobu Imai (Hirosima University)

11. Rule of 70+.3r Akira Ito (Graduate School of Science and Engineering, Yamaguchi University)

12. Improvement of Thermodynamic DNA Sequences Design by Local Search Algorithm Suguru Kawashimo, Hirotaka Ono, Kunihiko Sadakane, and Masafumi Yamashita (Kyushu University)

Session 4 (10:45-12:05)

13. On majority and other polynomials generating minimal clones Hajime Machida (Hitotsubashi University) and Tamas Waldhauser (University of Szeged)

14. Approximation of concept lattices Leonard Kwuida (Bern University)

15. Concept differentiation on formal languages by nontrivial laws Jin Uemura (Aletheia University)

16. Load Balancing and Weight Minimizing for Edge Covers on Weighted Graphs Yuta Harada, Hirotaka Ono, Kunihiko Sadakane, and Masafumi Yamashita (Kyushu University)

Session 5 (13:00-14:20)

17. Symmetricity of the Protocols Related to Oblivious Transfer

Daisuke Inoue and Keisuke Tanaka (Tokyo Institute of Technology)

18. High speed random walks on finite graphs Yoshiaki Nonaka, Hirotaka Ono, Kunihiko Sadakane, and Masafumi Yamashita (Kyushu University)

19. k-Factors in regular graphs and edge-connectivity Kenji Kimura (The University of Electro-Communications) and Robert E.L. Aldred (University of Otago)

20. A statistical mechanical interpretation of algorithmic information theory Kohtaro Tadaki (Chuo University)

Session 6 (14:35-15:55)

21. A constitution method of 4-state reversible Turing machines Mitsuya Morimoto and Kenichi Morita (Hiroshima University)

22. Indistinguishability and First-Order Logic Skip Jordan and Thomas Zeugmann (Hokkaido University)

23. On the number of patterns of threshold circuit Kei Uchizawa and Eiji Takimoto (Tohoku University)

24. $XOR^2=90$ – On the structures of the degree Boolean algebra from transition rules Mitsuhiko Fujio (Kyushu Institute of Technology)

Session 7 (16:10-17:30)

25. Some additional remarks on grammatical characterizations of alternating PDAs Etsuro Moriya (Waseda University) and Friedrich Otto (Kassel University)

26. An implementation of the sparse Fourier representation algorithm Masashi Yagitani and Yoshinori Takei (Nagaoka University of Technology)

27. On the path distance width of the complete k-ary trees Kazuyuki Ukegawa, Kazumasa Aoki, Kyohei Kozawa, Yota Otachi, and Koichi Yamazaki (Gunma University)

28. Exploring Undirected Graphs with Local Degree Information Yuichi Kurumida, Hirotaka Ono, Kunihiko Sadakane, and Masafumi Yamashita (Kyushu University)

Wednesday, January 30

Session 8 (8:50-10:30)

29. Estimating correlation between modulo function and polynomial by Gowers uniformity Hidetoki Tanaka and Akinori Kawachi (Tokyo Institute of Technology)

30. Approximation Algorithms for Constructing Evolutionary Trees from Rooted Triplets, and Analyses of Approximation Ratios Kazuya Maemura, Hirotaka Ono, Kunihiko Sadakane, and Masafumi Yamashita (Kyushu University)

31. On listing, sampling, and counting chordal sandwiches Shuji Kijima (RIMS), Masashi Kiyomi (JAIST), Yoshio Okamoto (TITECH), and Takeaki Uno (NII)

32. Online Learning of Approximate Maximum p-Norm Margin Classifiers with Bias Kosuke Ishibashi, Kohei Hatano, and

Masayuki Takeda (Kyushu University)

33. Algorithm for Enumeration of Element Sets in a Sperner Family and Its Application to Attribute Value Partition Atsuyoshi Nakamura and Mineichi Kudo (Hokkaido University)

Session 9 (10:45-12:25)

34. Minimal Weight Representation for Polygonal Complex Number Representation Suppakitpaisarn Vorapong (The University of Tokyo) and Surarerks Athasit (Chulalongkorn University)

35. A Consideration on Calculating the Analytic Distribution of the Longest Path Length in Directed Acyclic Graphs with Exponentially

Distributed Edge Weights Ei Ando, Hirotaka Ono, Kunihiko Sadakane, and Masafumi Yamashita (Kyushu University)

36. Hexadecimal Grid Graph Representation of Multilayer Rectangular Dissections Akira Kureha, Takeo Yaku (Nihon University), and Kensei Tsuchida (Toyo University)

37. Optimal Polygon Search by a Boundary 1-searcher Hirokazu Fukami, Hirotaka Ono, Kunihiko Sadakane, and Masafumi Yamashita (Kyushu University)

38. The Effect of Collusion in Competitive Auctions Takayuki Ichiba and Kazuo Iwama (Kyoto University)

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The Japanese Chapter

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V.Chair: Kazuo Iwama
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