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 29 ∼ 31, 2007. 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, July ∼ December, 2006

The *IEICE*, Institute for Electronics, Information and Communication Engineers of Japan, has a technical committee called *TGCOMP*, Technical Group on foundation of COMPuting. During July ∼ December of 2006, *TGCOMP* organized 3 meetings and about 28 papers (including 3 tutorials) were presented there. Topics presented are, very roughly, classified as follows.

Algorithm: On Graphs (7)
Algorithm: On Strings (1)
Algorithm: On Other Objects (3)
Combinatorics / Probabilistic Analysis (5)
Computational Complexity and Cryptography (5)

Computational Learning / Knowledge Discovery (1)

Distributed Computing (4)

Formal Languages and Automata (1)

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, 29th Jan.

1. A method for abstracting timed behavior of communicating process model with time - H. Kuwabara, S. Yuen, K. Agusaạạ(Nagoya Univ.)

2. Learning intersections of regular pattern languages from positive data and its time complexity J. Uemura (Aletheia Univ.)

3. On extensions of alternating

context-free grammars E. Moriya (Waseda Univ.), F. Otto, Hartmut Messerschmidt (Univ. Kassel)

4. Neighborhood function for CA H. Nishio (ex. Kyoto Univ.), T. Worsch (The Univ. of Karlsruhe)

5. Variations on neighborhoods in CA T. Worsch (The Univ. of Karlsruhe), H. Nishio (ex. Kyoto Univ.)

6. Tricodes and modified RSA cryptosystems - F. Ding, S. Jimbo, K. Hashiguchi (Okayama Univ.)

7. A lattice-based cryptosystem and proof of knowldge on its secret key - K. Xagawa, A. Kawachi, K. Tanaka (Tokyo Inst. of Tech.)

8. Private Approximation of the Set Cover Problem - M. Yashiro, Keisuke Tanaka (Tokyo Inst. of Tech.)

9. An approximation algorithm for pricing American-Asian option using computational geometry techniques - A. Shibuya, T. Tokuyama, A. Shioura (Tohoku Univ.)

10. A Lagrangean heuristic algorithm for the R-rooted cycle cover problem - A. Hada (Tohoku Univ.)

11. 11. Approximation Algorithms for Maximum Triangle Packing and Metric Maximum Clustering Zhi-Zhong Chen, Ruka Takahashi, ąûTatsuyuki Sekiyama (Tokyo Denki University)

12. An improved approximation algorithm for maximum edge 2-coloring in simple graphs - Z.-Z.

Chen, R. Takahashi (Tokyo Denki Univ.)

13. Threshold circuits with small energy complexity - K. Uchizawa, E. Takimoto (Tohoku Univ.)

Tue, 30th Jan.

14. Orthogonal drawings for plane graphs with specified face areas - A. Kawaguchi, H. Nagamochi (Kyoto Univ.)

15. An efficient algorithm for the MPQ-tree from an interval representation - T. Saitoh, M. Kiyomi, R. Uehara (JAIST)

16. Optimality and algorithms for balancing edge cover problem - Y. Harada, H. Ono, K. Sadakane, M. Yamashita (Kyushu Univ.)

17. On computing longest paths and related problems in ptolemaic graphs - Y. Takahara, S. Teramoto, R. Uehara (JAIST)

18. Quantum asymmetric-key cryptosystems secure against computationally unbounded adversaries - A. Kawachi, C. Portmann (Tokyo Inst. of Tech.y)

19. On the relationships between quantum circuit complexity and the number of controled-NOT gates - S. Okubo, T. Aoki, Y. Kakishita, T. Nishino (The Univ. of Elec.-Comm.)

20. Negation-limited complexity of parity and inverters - H. Morizumi (Kyoto Univ.), J. Tarui (The Univ. of Elec.-Comm.), K. Iwama (Kyoto Univ.)

21. A SUDOKU coloring of a fractal 2-dimensional solid - H. TsuikiąÊKyoto Univ.ąË

22. Searching a polygon by two boundary 1-searcher - H. Fukami, H. Ono, K. Sadakane, M. Yamashita (Kyushu Univ.)

23. Exact algorithms for the traveling salesman problem on cubic graphs - T. Nakashima, K. Iwama(Kyoto Univ.)

24. A fast algorithm for computing Jones polynomials of montesinos links - M. Murakami (Nihon Univ.), M. Hara (Tokai Univ.), Makoto Yamamoto (Chuo Univ.), Seiichi Tani (Nihon Univ.)

25. Multitoning by the direct binary search - Y. Hirano, K. NakanoąÊHiroshima Univ.ąË

26. Decidability of Innermost Termination for Semi-Constructor Term Rewriting Systems - K. Uchiyama, M. Sakai, N. Nishida, T. Sakabe, K. Kusakari (Nagoya Univ.)

27. Confluence of length preserving string rewriting systems is undecidable - Y. Wang, M. Sakai, N. Nishida, T. Sakabe, K. Kusakari (Nagoya Univ.)

28. On theorem-proving for higher-order TRSs using proof-by-consistency - H. Okamura, M. Oyamaguchi, T. Yamada (Mie Univ.)

29. Synthesis of scheduler of soft real-time systems based on value function - S. Kano, S. Yamane (Kanazawa Univ.)

30. Automatic verification of real-time programs based on predicate abstraction and its refinement - R. Komagata, S. Yamane (Kanazawa Univ.)

31. A consideration for approximation estimation for minimum spanning tree cost on graphs with randomly distributed edge weights - E. Ando, H. Ono, M. Yamashita (Kyushu Univ.)

32. An approximation algorithm for task scheduling of DAGs of height not exceeding four - K. Shimizu, M. Oyamaguchi, T. Yamada, T. Yanagimoto, K. Komatsu (Mie Univ.)

33. Online learning of linear threshold functions with large biases - K. Ishibashi, K. Hatano, M. Takeda (Kyushu Univ.)

34. A lower bound for the path distance width of the complete binary tree - K. Ukegawa, K. Aoki, K. Kozawa, Y. Otachi, K. Yamazaki (Gunma Univ.)

35. Branchlength and treelength - K. Umezawa, N. Naohiro, K. Yamazaki (Gunma Univ.)

Wed, 31st Feb.

36. Approximation algorithm for constructing phylogenetic tree using bottom-up method - K. Maemura, H. Ono, K. Sadakane, M. Yamashita (Kyushu Univ.)

37. Simple Linear-Time Off-Line Text Compression by Longest-First Substitution - R. Nakamura, H.

Bannai, S. Inenaga, M. Takeda (Kyushu Univ.)

38. Simple compressed data structure for fast decoding substrings - T. Goto, H. Ono, K. Sadakane, M. Yamashita (Kyushu Univ.)

39. Local search based algorithm for DNA sequence design - S. Kawasimo, H. Ono, K. Sadakane, M. Yamashita (Kyushu Univ.)

40. Confluence of left-linear term rewriting systems - M. Iwami (Shimane Univ.)

41. Data power-saving and relaiable data transmission on sensor network - K. Sanagi, M. Yamashita, K. Sadakane, H. Ono (Kyushu Univ.)

42. Applying TrustRank on P2P networks - K. Yonezawa, Y. Tanaka (Hokkaido Univ.)

43. A failure detector to solve k-set agreement - A. Sakata, H. Ono, K. Sadakane, M. Yamashita (Kyushu Univ.)

44. An efficient algorithm for trust negotiation strategy - Y. Yamamoto, Y. Takata, H. Seki (Nara Inst. of Sci. and Tech.)

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The Japanese Chapter

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