

1st Workshop on Algorithms and Computation

(WALCOM 2007)

**Dhaka, Bangladesh
12 February 2007**

ISBN: 978-1-63439-377-5

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2007) by Bangladesh Academy of Sciences
All rights reserved.

Printed by Curran Associates, Inc. (2014)

For permission requests, please contact Bangladesh Academy of Sciences
at the address below.

Bangladesh Academy of Sciences
National Sciences & Technology Museum Bhaban
Agargaon, Dhaka-1207, Bangladesh

Phone: 880-2-9110425

Fax: 880-2-8117049

saidurrahman@cse.buet.ac.bd

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2634
Email: curran@proceedings.com
Web: www.proceedings.com

Table of Contents

Plenary Talk

Inner Rectangular Drawings of Plane Graphs: Application of Graph Drawing to VLSI Layouts	1
<i>Takao Nishizeki</i>	

Invited Talk

Orthogonal Drawings of Series-Parallel Graphs with Minimum Bends . . .	3
<i>Xiao Zhou and Takao Nishizeki</i>	
Methods for Searching Mutual Visible Intervals on Moving Objects	13
<i>Yoshiyuki Kusakari, Yuta Sugimoto, Junichi Notoya and Masao Kasai</i>	

Graph Drawings and Graph Algorithms

Upward Planar Drawings of Series-Parallel Digraphs with Maximum Degree Three	28
<i>Md. Abul Hassan Samee and Md. Saidur Rahman</i>	
Computing β -Drawings of 2-Outerplane Graphs	46
<i>Mohammad Tanvir Irfan and Md. Saidur Rahman</i>	
Minimum Face-Spanning Subgraphs of Plane Graphs	62
<i>Md. Mostofa Ali Patwary and Md. Saidur Rahman</i>	

Data Structures

DiskTrie: An Efficient Data Structure Using Flash Memory for Mobile Devices	76
<i>N.M. Mosharaf Kabir Chowdhury, Md. Mostofa Akbar and M. Kaykobad</i>	
A New Data Structure for Heapsort with Improved Number of Comparisons	88
<i>Md. Shahjalal and M. Kaykobad</i>	

Algorithms

An Approximation Algorithm for Sorting by Reversals and Transpositions . . .	97
<i>Atif Rahman, Swakhar Shatabda and Masud Hasan</i>	

Pattern Matching in Degenerate DNA/RNA Sequences	109
<i>M. Sohel Rahman, Costas S. Iliopoulos and L. Mouchard</i>	
A Quorum Based Distributed Mutual Exclusion Algorithm for Multi-Level Clustered Network Architecture	121
<i>Mohammad Ashiqur Rahman and Md. Mostofa Akbar</i>	
Distribution of Distinguishable Objects to Bins: Generating All Distributions	136
<i>Muhammad Abdullah Adnan and Md. Saidur Rahman</i>	
Invited Talk	
Variations of Base Station Placement Problem on the Boundary of a Convex Region	151
<i>Gautam K. Das, Sasanka Roy, Sandip Das and Subhas C. Nandy</i>	
Constant Time Generation of Linear Extensions	153
<i>Akimitsu Ono and Shin-ichi Nakano</i>	
Partitioning Graphs of Supply and Demand	162
<i>Takehiro Ito</i>	