The Fifth

SCANDINAVIAN WORKSHOP on ALGORITHM THEORY

July 3–5, 1996
Reykjavík, Iceland

Supported by:
Nordic Academy for Advanced Study (NorFA),
City of Reykjavík,
and Ministry of Education of Iceland.

http://www.hi.is/swat96

Registration Form

Please direct all registration (conference, accommodation, and optionally transportation) to our travel agent:

Urval-Utsyn Travel
ATTN: SWAT 96 Registration
Lagmula 4, IS-128 Reykjavik, Iceland
tel: +354–569 9312 (also 569 9300)
fax: +354–568 5033
email: `urval@skima.is`

Registration Fee	Before June 5	After June 5
Standard fee	$ 235 ☐	$ 285 ☐
Student fee	$ 100 ☐	$ 140 ☐

Last name .... First name ....

Affiliation ....

Address ....

....

Country ....

Phone ....

Fax ....

Email ....

Special requirements or dietary restrictions ....

Hotel registration	Single		Double	
Hotel Loftleidir	$115	☐	$150	☐
Hotel Gardur	$65	☐	$82	☐

Name of accompanying person(s) ....

Sharing room with ....

Arrival day .... Time ....

Departure day .... Time ....

Other	
Extra banquet tickets	$ 70 ☐
Extra proceedings	$ 40 ☐

Payment form
☐ Check
☐ Bank deposit
Bank: Landsbanki Islands, Lagmula 9, 108 Reykjavik
SWIFT code: LAISISRE
Account: 139-38-380920, Urval-Utsyn Travel
☐ Credit/charge card

Card# .... Exp.date ....

Cardholder ....

Signature ....

Registration Information

Fees are given in US dollars. The registration fee includes the Wednesday reception, Thursday conference dinner, Friday excursion, lunches, coffee breaks, and one copy of the proceedings.

The student fee includes all of the above except the conference dinner. Students must include a note from their department or supervisor verifying student status.

Extra tickets for the banquet and/or excursion can be purchased at the workshop.

To avoid the late fee, payment must be received by June 5. A fee of $50 will be required for cancelling registrations after June 5.

Hotel Information

Hotel Gardur is a dormitory on campus converted to a summer hotel. It is centrally located both for the conference and for the city center. It offers simple yet comfortable rooms furnished with wash basin. Bath and shower facilities can be found on each floor, and a TV lounge stands at guests' disposal.

Hotel Loftleidir is a full-service conference hotel, with private bath or shower, minibar, phone, and other modern conveniences. The rooms have TVs with both local and foreign channels. The hotel has four restaurants, inside swimming pool, jacuzzi, sauna, massage, solarium, hairdresser service, an exercise room, and a souvenir shop and newsstand. City center can be reached by foot or by bus. The hotel stands both by south seaside and by Oskjuhlid Hill park, with walking paths leading to panoramic views.

Blocks of rooms has been reserved at the hotels from July 2 to July 6. These are ensured until June 5; after that time, room reservations are subject to space and rate availability. If you plan to stay longer, please note that hotel space on summer weekends is very tight, thus we may need to arrange for a different accommodation.

Arrivals after 6:00 pm must guarantee the first night's accomodations with check, international money order, or major credit card. Room rates include breakfast buffet.

Transportation

Given Iceland's geographic location, the default mode of transportation is air travel. The country is served by direct flights from over two dozen destinations by eleven airlines this summer.

Please make your reservations as soon as possible! July and August is the main tourist season, so flight seats and hotel rooms disappear quickly.

The majority of flights are by Icelandair, which uses the Keflavik airport as a hub across the North-Atlantic ocean. Destinations with daily connections include: Copenhagen, Oslo, Stockholm, London, Luxembourg, New York, Baltimore, Halifax. Other destinations include: Frankfurt, Düsseldorf, Amsterdam, Zürich, Barcelona, Paris, Glasgow, Helsinki.

Take particular notice of the possibility of a stop-over in Reykjavík for attending SWAT on voyage to the other side of the N-Atlantic. In particular, those coming from N-America may continue onwards to ICALP in Germany in the following week.

Our travel agent offers the following special fares for the conference:

Baltimore/NY: $650, Copenhagen: $595, Oslo: $590, Stockholm: $585, Helsinki: $835

Additional taxes, currently about $43, apply to the US destinations. These rates match the lowest fares on the books at the corresponding destinations, but do not have the usual restriction of a Saturday night stay. For an additional $100, the trip from Baltimore/NY trip can be extended to the Europe mainland with a stopover in Iceland.

The contact information of the travel agent is given on the registration page. An agency in Copenhagen that can also be contacted for these and other airfares is: Islandia Travel, ATTN: Gunnar, tel:+45-3333-0330, fax:+45-3333-0180.

The Keflavik airport is about 40 minutes by car from city center. The Flybus ($9) goes straight to Hotel Loftleidir, and then by request to Hotel Gardur. Taxi fare would be about $70.

Other connections: SAS also has daily flights from Copenhagen, and may be a good choice from farther destinations.

Several airlines/agencies have non-regular tours this summer from various destinations, especially in mainland Europe. We suggest that you contact your travel agent for possibilities and special fares available in your country.

There are biweekly tours to/from Amsterdam available for about $370. The flights leave Amsterdam late night on Monday and Wednesday, and return past midnight. Reservation with $80 must be done 1 month in advance. Please direct all correspondence and queries to: ISTravel Travel Agency, tel:+354-568-6255, fax:+354-568-8518,

Finally, surface travel is a possibility, if time is not an issue.

Conference Information

Location: The Workshop will be held at the Oddi building on the campus of University of Iceland in Reykjavik. It is a short walk from city center along the city pond.

Reykjavik is the northernmost capital in the world and the westernmost capital of Europe. It is the administrative, cultural and economic center of the country, as well as of all things Icelandic.

Proceedings: Springer-Verlag will publish the proceedings. One copy is included in the registration fee; additional copies may be ordered or purchased at the workshop.

Excursion: On Friday afternoon, we will head out of the city to see some of the unique nature in Iceland. We visit the original geyser Geysir and its constantly spewing brother; the marvelous Gullfoss falls; the fault and fissure separated lava fields at Thingvellir national park, the location of the world's first parliament; the remnant of an exploded volcano; and the geothermal heat plant at Nesjavellir, where we can relax in a tub of mineral-rich hot water.

If weather allows, we hope to do some light hiking, so bring a wind-proof jacket and a sweater. The relative lack of trees and forests allows for excellent scenic views, so exploring by foot is really the must enjoyable way of experiencing the country. We create our own tour, so the actual schedule will be decided on-line.

There will be an "open air problem session" during the excursion. We shall bring our supper with us, with beer and beverages.

Banquet: The conference dinner will be held on Thursday at a historic site on the small island Videy just outside Reykjavík. On a good day, circling the island makes for a lovely promenade, with views of the city and the bay. Participant are encouraged to present homebrew entertainment or music afterwards.

Climate: The Gulf stream keeps the climate more temperate than the northernly position of the country suggests. It seldom gets hot in summer, however, with an average July temperature of comfortable, dry 11C. The weather is however unpredictable and visitors should be prepared for the unexpected. A wind and water-resistent jacket would be useful, and a sweater for the hiking. Don't forget a swimsuit, for the numerous geothermally heated outdoors pools.

Tourism: If you have time for sightseeing and interest in unspoiled nature, there are countless possibilities. Horse riding, trekking, snowmobiling on glaciers, canoeing, midnight golfing, safari riding across rivers and lunar-like terrain.

Suggested tours and information about available sightseeing will be available at the registration desk. For general tourist information see pointers on the Web page.

Program

Wednesday, July 3, 1996

Invited Lecture

9:00 *Derandomization via Small Sample Spaces.* Noga Alon (Tel-Aviv).

Session 1: 9:50–10:40 am

9:50 *The Randomized Complexity of Maintaining the Minimum.* Gerth S. Brodal (Aarhus), Shiva Chaudhuri (Max-Planck-Institut), Jaikumar Radhakrishnan (Tata Institute).

10:45 *Faster Algorithms for the Nonemptiness of Streett Automata and for Communication Protocol Pruning.* Monika Rauch Henzinger (Cornell), Jan Arne Telle (Bergen).

Coffee Break 10:40–11:00 am

Session 2: 11:00–12:40 noon

11:00 *Service-Constrained Network Design Problems.* Madhav V. Marathe (Los Alamos), R. Ravi (Carnegie-Mellon), Ravi Sundaram (MIT).

11:25 *Approximate Hypergraph Coloring.* Pierre Kelsen, Sanjeev Mahajan, and Hariharan Ramesh (Max-Planck-Institut).

11:50 *Facility Dispersion and Remote Subgraphs.* Barun Chandra (Rice), Magnús M. Halldórsson (Iceland).

12:15 *The Constrained Minimum Spanning Tree Problem.* R. Ravi (Carnegie-Mellon), M.X. Goemans (MIT).

Lunch Break 12:40–2:00 pm

Session 3: 2:00–3:40 pm

2:00 *Randomized Approximation of the Constraint Satisfaction Problem.* Hoong Chuin Lau and Osamu Watanabe (Tokyo I.Tech).

2:25 *On the Hardness of Global and Local Approximation.* Hartmut Klauck (Frankfurt).

2:50 *Approximation Algorithms for the Maximum Satisfiability Problem.* Takao Asano (Chuo), Takao Ono and Tomio Hirata (Nagoya).

3:15 *On the Hardness of Approximating the Minimum Consistent OBDD Problem.* Kouichi Hirata, Shinichi Shimozono, and Ayumi Shinohara (Kyushu).

Coffee Break 3:40–4:00 pm

Session 4: 4:00–6:05 pm

4:00 *Computing the Unrooted Maximum Agreement Subtree in Sub-quadratic Time.* T.W. Lam, W.K. Sung, and H.F. Ting (Hong Kong).

4:25 *Greedily Finding a Dense Subgraph.* Yuichi Asahiro and Kazuo Iwama (Kyushu), Hisao Tamaki and Takeshi Tokuyama (IBM Tokyo).

4:50 *Using Sparsification for Parametric Minimum Spanning Tree Problems.* David Fernández-Baca and Giora Slutzki (Iowa State), David Eppstein (UC Irvine).

5:15 *Vertex Partitioning Problems On Partial k-Trees.* Arvind Gupta and Damon Kaller (Simon Fraser), Sanjeev Mahajan (Max-Planck-Institut), Tom Shermer (Simon Fraser).

5:40 *Making an Arbitrary Filled Graph Minimal by Removing Fill Edges.* Jean R.S. Blair (West Point), Pinar Heggernes and Jan Arne Telle (Bergen).

Reception: 7:00 pm, City Hall.

Thursday, July 4, 1996

Invited Lecture

9:00 *Sorting and Searching Revisited.* Arne Andersson (Lund).

Session 5: 9:50–10:40 am

9:50 *Lower Bounds for Dynamic Transitive Closure, Planar Point Location, and Parentheses Matching.* Thore Husfeldt, Theis Rauhe, and Søren Skyum (Aarhus).

10:45 *Optimal Pointer Algorithms for Finding Nearest Common Ancestors in Dynamic Trees.* Stephen Alstrup and Mikkel Thorup (Copenhagen).

Coffee Break 10:40–11:00 am

Session 6: 11:00–12:40 noon

11:00 *Neighborhood Graphs and Distributed $\Delta + 1$-Coloring.* Pierre Kelsen (Max-Planck-Institut).

11:25 *Communication Complexity of Gossiping by Packets.* Luisa Gargano, Adele A. Rescigno, and Ugo Vaccaro (Salerno).

11:50 *Optimal Cost Sensitive Distributed Minimum Spanning Tree Algorithms.* Teresa Przytycka (Maryland), Lisa Higham (Calgary).

12:15 *A Linear Time Algorithm for the Feasibility of Pebble Motion on Trees.* Vincenzo Auletta (Salerno), Angelo Monti (Roma), Mimmo Parente and Pino Persiano (Salerno).

Lunch Break 12:40–2:00 pm

Session 7: 2:00–3:40 pm

2:00 *Linear-Time Heuristics for Minimum Weight Rectangulation.* Christos Levcopoulos and Anna Östlin (Lund).

2:25 *Visibility with Multiple Reflections.* Boris Aronov (Polytechnic, Brooklyn), Alan R. Davis (St. Johns), Tamal K. Dey, Sudebkumar P. Pal, and D. Chithra Prasad (IIT Kharagpur).

2:50 *A Fast Heuristic for Approximating the Minimum Weight Triangulation.* Christos Levcopoulos and Drago Krznaric (Lund).

3:15 *Neighbours on a Grid.* Andrej Brodnik (Ljubljana), Ian Munro (Waterloo).

Coffee Break 3:40–4:00 pm

Session 8: 4:00–6:05 pm

4:00 *On Two Dimensional Packing.* Yossi Azar and Leah Epstein (Tel-Aviv).

4:25 *Optimal Orthogonal Drawings of Triconnected Plane Graphs.* Therese C. Biedl (Rutgers).

4:50 *Walking Streets Faster.* Alejandro López-Ortiz (Waterloo), Sven Schuierer (Freiburg).

5:15 *Safe and Efficient Traffic Laws for Mobile Robots.* Sonne Preminger (Weizmann), Eli Upfal (IBM Almaden).

Business Meeting: 5:40 pm, Oddi

Conference Banquet: 7:00 pm, Videy

Friday, July 5, 1996

Invited Lecture

9:00 *Progress in Selection.*
Mike Paterson (Warwick).

Session 9: 9:50–10:40 am

9:50 *Probabilistic Ancestral Sequences and Multiple Alignments.* Gaston H. Gonnet and Steven A. Benner (ETH).

10:15 *Efficient Algorithms for Lempel-Ziv Encoding.*
Leszek Gąsieniec (Max-Planck-Institut), Marek Karpinski (Bonn), Wojciech Plandowski and Wojciech Rytter (Warsaw).

Coffee Break 10:40–11:00 am

Session 10: 11:00–12:40 noon

11:00 *The Deterministic Complexity of Parallel Multisearch.*
Armin Bäumker and Wolfgang Dittrich (Paderborn), Andrea Pietracaprina (Padova).

11:25 *Priority Queues on Parallel Machines.*
Gerth S. Brodal (Aarhus).

11:50 *Binary Search Trees: How Low Can You Go?*
Rolf Fagerberg (Odense).

12:15 *Boolean Analysis of Incomplete Examples.*
Endre Boros (Rutgers), Toshihide Ibaraki and Kazuhise Makino (Kyoto).

Lunch Break 12:40–2:00 pm

Excursion and Open-Air Problem Session:

Depart: 2:00 pm
Return: Midnight

Conference Organizers

Organizing Committee:
Hjálmtýr Hafsteinsson and
Magnús M. Halldórsson (University of Iceland)

Program Committee:
Susanne Albers (Max-Planck-Institut für Informatik)
Bengt Aspvall (University of Bergen)
Ricardo Baeza-Yates (University of Chile)
Svante Carlsson (Luleå Technical University)
Magnús M. Halldórsson (University of Iceland)
Rolf Karlsson (co-chair, Lund University)
Andrzej Lingas (co-chair, Lund University)
Joe Mitchell (SUNY Stony Brook)
Takao Nishizeki (Tohoku University)
Pekka Orponen (University of Helsinki)
Jörg-Rüdiger Sack (Carleton University)
Erik M. Schmidt (University of Aarhus)
Eli Upfal (IBM Almaden)
Moti Yung (IBM Research)

SWAT Steering Committee:
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Svante Carlsson (Luleå Technical University)
Hjálmtýr Hafsteinsson (University of Iceland)
Rolf Karlsson (Lund University)
Andrzej Lingas (Lund University)
Erik M. Schmidt (University of Aarhus)
Esko Ukkonen (University of Helsinki)

For further information about the workshop, check out the WWW page:

`http://www.hi.is/swat96/`

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