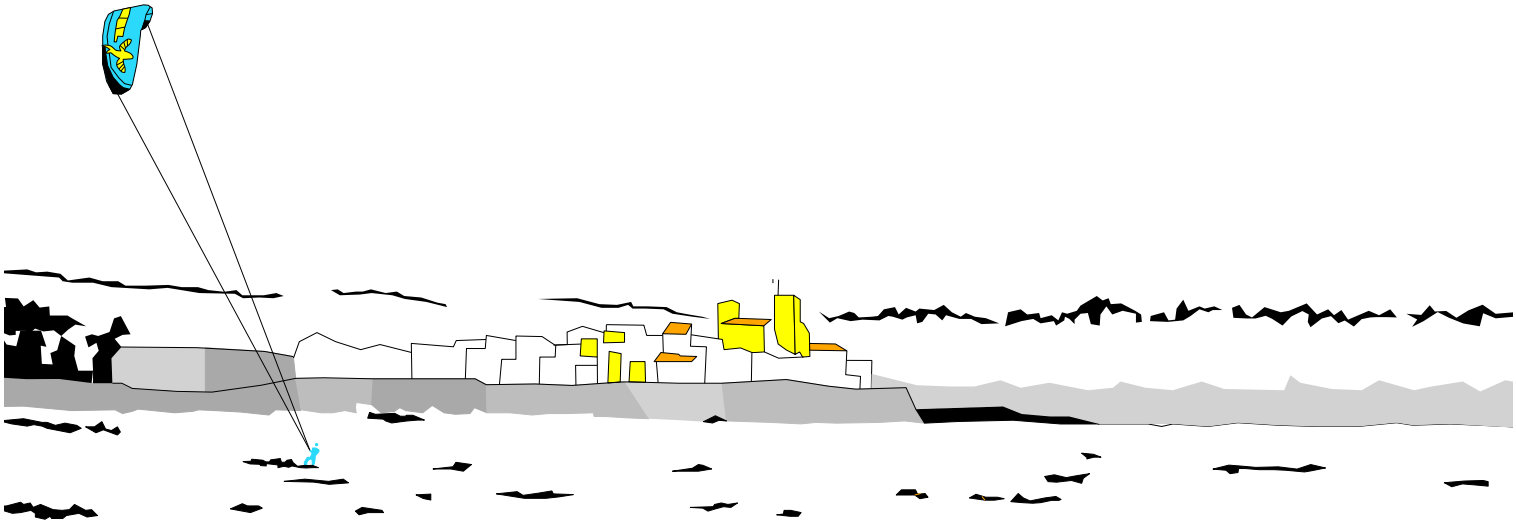
ESA WABI IPEC WAOA ALGOSENSORS ATMOS MASSIVE

ALGO 2013

Sophia Antipolis, September 2-6, 2013



http://algo2013.inria.fr/

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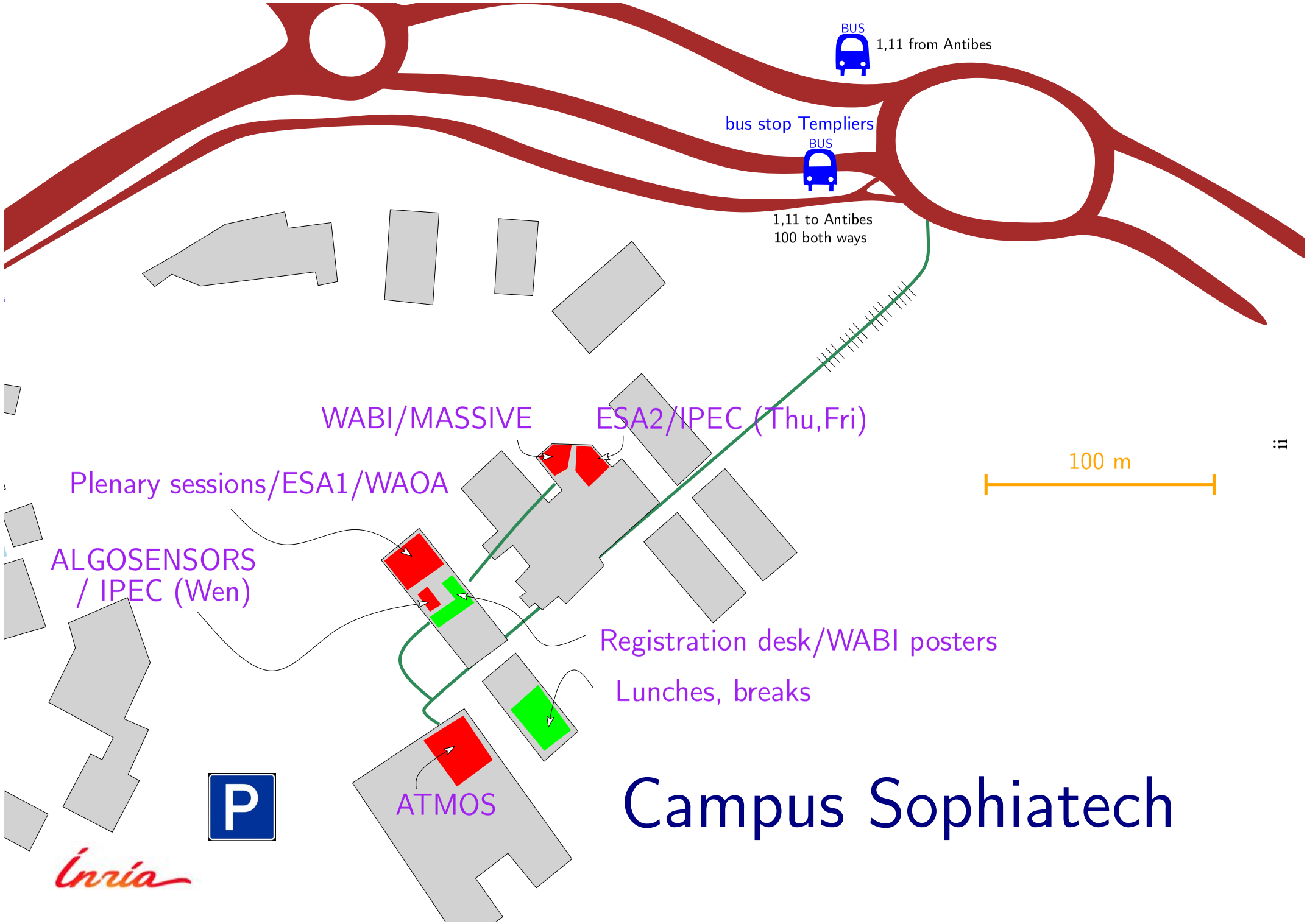
BUS
1,11 from Antibes
bus stop Templiers
BUS
1,11 to Antibes
100 both ways
WABI/MASSIVE
ESA2/IPEC (Thu,Fri)
Plenary sessions/ESA1/WAOA
ALGOSENSORS
/ IPEC (Wen)
Registration desk/WABI posters
Lunches, breaks
ATMOS
100 m
P
Inria
Campus Sophiatech

ESA WABI IPEC WAOA ALGOSENSORS ATMOS MASSIVE

ALGO 2013

Sophia Antipolis, September 2-6, 2013

http://algo2013.inria.fr/

Contents

ALGO is the major European venue for researchers and students in algorithms, bringing together several hundred participants.

ALGO 2013 comprises the "European Symposium on Algorithms (ESA)", the "Workshop on Algorithms for Bioinformatics (WABI)", the "International Symposium on Parameterized and Exact Computation (IPEC)", the "Workshop on Approximation and Online Algorithms (WAOA)", the "International Symposium on Algorithms for Sensor Systems, Wireless Ad Hoc Networks and Autonomous Mobile Entities (ALGOSENSORS)", the "Workshop on Algorithmic Approaches for Transportation Modeling, Optimization, and Systems (ATMOS)", and the "Workshop on Massive Data Algorithmics (MASSIVE)".

ALGO 2013 is hosted on the new campus SophiaTech of the University Nice Sophia Antipolis (UNS), and has been organized by the Inria research center of Sophia Antipolis - Méditerranée in collaboration with the Laboratoire d'Informatique, Signaux et Systèmes de Sophia Antipolis (I3S, UMR 7271 UNS CNRS).

Sophia Antipolis is a science and technology park located on the French Riviera. It is named after Sophie, the first name of the wife of French Senator Pierre Laffitte, founder of the park in 1968. *Sophia* is the Greek word for wisdom, and *Antipolis* is the ancient Greek name of Antibes, the city closest to Sophia Antipolis.

Welcome!
We wish you an exciting conference!

Venue Information

Car access, Parking

Get out the A8 highway at Antibes exit (exit number 44). See map on page 30.

Buses from Antibes, Nice and the airport

The new Campus SophiaTech is connected to Antibes by bus lines 1, 11, and 100, and to Nice city and the airport by bus 230. Get out the bus at stop «Templiers».

See `http://www.envibus.fr/` and `http://www.lignesdazur.com/`.

 make signs to bus drivers. Otherwise they will not stop.

Bus stops close to the campus are indicated on map page ii; pay attention to the fact that bus 100 uses the same bus stop in both ways (1 and 11 use different stops, depending on the direction).

September 2 will be the first day of the new school year, the corresponding new timetable is not yet known when we are preparing this booklet. When looking at websites, be careful not to use vacation timetables. A rough schedule follows:

ANTIBES TO SOPHIA	
Envibus Line 1 direction *gare routière Sophia Antipolis* (do not take bus 1 to *Foyer le Roc*)	
	Departures from *Antibes train station* every 20 minutes from 6:35 till 21:05 Arrival at *Templiers* bus stop 30 mins later.
Envibus Line 11 direction *Pré du lac* or *Le riou*	
	Departures from *Antibes train station* every hour from 6:45 till 18:05 Arrival at *Templiers* bus stop 20 mins later.
Envibus Line 100 direction *gare routière Sophia Antipolis*	
	Departures from Antibes *Place de Gaulle* every 10 minutes from 7:45 till 9:15 Arrival at *Templiers* bus stop 30 mins later.

SOPHIA TO ANTIBES	
Envibus from *Templiers* to Antibes. Lines 1, 11, & 100	
	many buses from 17:00 to 19:45; about every 30 mins after 20:00, last bus at 21:19.

NICE & AIRPORT TO SOPHIA	
Lignes d'azur Line 230 direction *Sophia Antipolis*	
	Departures from Nice *lycée Massena* every 15 minutes from 7:20 till 9:30 and then every 30 minutes from 10:00 till 20:00 Stop at *Airport Promenade*, close to Terminal 1 (Nice to airport $\simeq$ 20 mins) Arrival at *Templiers* (Airport to Sophia $\simeq$ 30 mins)

SOPHIA TO NICE & AIRPORT	
Lignes d'azur Line 230 direction *Nice* (not *Nice-Nord*)	
	Departures from *Templiers* every 10 to 15 minutes from 16:40 till 18:40; every 30 mins from 18:40 to 20:20.

Taxi

Transfert Service (English spoken)	+33 (0) 6 09 50 92 53
Taxi Sophia	+33 (0) 6 27 51 01 51
Centrale Orange Taxi	+33 (0) 820 906 960
Motorbike transport	+33 (0) 6 58 79 81 31
see also	`http://www.cote-azur.com.fr`

Campus and Rooms

ALGO is hosted by the Campus SophiaTech, in different buildings. Please see the room assignments on map page ii.

Registration and Information desk

The registration desk is located in the entrance hall of the Forum Building and will be open as follows:

Monday	8:00 - 18.30
Tuesday	8.30 - 16.30
Wednesday	8.30 - 18:00
Thursday	8.30 - 18.00
Friday	8.30 - 18.00

The congress documentation will be available at the Registration Desk for pre-registered delegates and for anyone wishing to register on site.

Name Badge

A name badge will be provided with your registration documents on site. Please wear your badge at all times. Only ALGO 2013 participants wearing an official badge will be allowed to access the conference site and to attend the scientific and social programs.

Official language

All presentations will be given in English.

Internet access

Wifi access is available on the campus for all delegates from September 2 to September 6 2013. Access codes will be precised on site.

The campus is also involved in Eduroam. If your institution is an Eduroam member, initializing your Eduroam account before the conference will allow you to easily access the internet.

Technical support

Local volunteers are wearing colored shirts and distinctive neckwear. If you have technical questions or difficulties, our staff will be happy to help you.

Catering

Lunches and breaks are included in the registration fees and served on site.

Visitor Information

Money and Currency

Credit cards are accepted in many shops, hotels and restaurants (there is usually a minimum amount of between 7€ and 15€). For cash, you will find cash-points in many places in Sophia and Antibes (24 hours a day). Bank branches, exchange office and some post offices handle currency exchange transactions and traveller's cheques. Whatever you are buying, prices are inclusive of service and all taxes.

Calling

To call France in France:	0 + number (9 digits)
To call France from abroad:	00 + 33 + number (9 digits)
To call abroad from France:	00 + country code + number

Opening Hours

Shops are usually open from 9 am to 7 pm from Monday to Saturday. Department stores may stay open until 9 pm. Banks are open from 8.30 to 12 noon and 2 to 4.30 pm, Monday to Friday, with some branches opening on Saturday mornings.

A few tips for a pleasant trouble-free stay

You are not allowed to smoke in indoor public places. You are strongly recommended to respect smoking/ no smoking signs.
It is always useful to have cash on you at all times for expenses like taxi, drinks, etc. A service charge is included in the price of each item on the menu in any cafe or restaurant as required by French law. In theory, no further tipping is expected. However, it is pretty common to leave something after a bite to eat or drink. But it's never expected and is only given for good or attentive service, or at a place you attend frequently. Extra generosity will never hurt.
If you are driving, park only where authorised and respect speed limits on highways and motorways.

Health Insurance and Health Emergencies

The Organizers will accept no liability for personal injuries sustained by or for loss or damage to property belonging to Congress participants, either during or as a result of the Congress or during all events. Participants are strongly recommended to seek insurance coverage for health and accident, lost luggage and trip cancellation.

Emergency phone numbers

Dial the following numbers (toll-free)

SAMU (medical emergencies):	15	Police emergency:	17
European emergency call:	112	Fire-brigade:	18

Organization

Session organization

Sessions are synchronized with COSESY. A screen in each room keeps you informed of the planning.

Regular talks are scheduled every 25 minutes, which means:
- **18 mins** for the talk
- **4 mins** for questions
- **3 mins** for change of speaker, and to let attendees move to another parallel session.

Speakers, please bring a copy of your file (in pdf or ppt) on a USB stick, and install your presentation on the computer in the room **before your session starts**. Computers under MacOS running Preview (pdf reader) and Office will be available.

If you have videos, animation or other fancy stuff, please check **before your session starts** that everything works well. Using your own laptop will be possible (make sure that you bring potentially necessary connectors) but it is not encouraged, so that setup time be kept minimal. No extension of slots will be possible.

Organizing Committee

- Frédéric Cazals
- Agnès Cortell (event manager)
- David Coudert
- Olivier Devillers
- Joanna Moulierac
- Monique Teillaud (chair)

Thanks

Local Volunteers:

- Deepesh Agarwal
- Pierre Alliez
- Tom Dreyfus
- Guillaume Ducoffe
- Simon Giraudot
- Frédéric Giroire
- Ross Hemsley
- Alix Lhéritier
- Clément Maria
- Fatima Moataz
- Bi Li
- Sven Oesau
- Christine Andrea Roth
- Rémy Thomasse

We want to thank all Program Committee Chairs for kindly answering our requests to provide information on time, which allowed our organization to be as smooth as possible.

Eric Berberich is acknowledged for the development of the Conference Session Synchronization software COSESY, which is of great use for such a venue.


Negresco
old city of Nice
colline du château
promenade des Anglais
quai des états-unis
1.5 km

place Garibaldi
rue de la Boucherie
Tramway
Le Paillon
pl. Rossetti
pl. du Jésus
colline du château
Cours Saleya
quai des états-unis
staircase and elevator to
colline du château

Social Event

Please wear your delegate badge at all times. Access by voucher and badge.

time schedule :
16:25 buses leave Sophia to Nice
17:15 Free Tour in Nice City
19:30 Gala Dinner at the Negresco. **Meeting point: salon Royal**
23:00 buses leave Negresco to Antibes and Sophia

Before dinner at the Negresco, you can have a swim or a nap on the beach, visit the old city of Nice, or climb the «colline du château» and have a nice view on Nice and the sea (be aware that there is actually no castle on the «colline du château», but it is a nice park).

Old city of Nice

Between the *baie des Anges* and the *Paillon* river lies the old city of Nice. The *Paillon* river has been progressively covered between 1868 and 1972, so do not look for water! *La baie des anges* has been named that way since there were a lot of sharks called *smoothback angelsharks*.

The *cours Saleya* is the market place with vegetables and flowers in the morning.

If you are hungry, and cannot wait for the banquet, you can buy some *socca*, a typical pancake made from chickpea flour and olive oil.

The side map proposes some itineraries, but feel free to make your own.

The old city is **1.5 kilometers** from the Negresco, by a nice walk on the *Promenade des Anglais*. **Don't forget** to plan the necessary time (30 mins?) **to be on time** for dinner.

Negresco

Dinner will be in *Hotel Negresco*, the most famous palace of Nice. Created in 1913 by Henri Negresco, it is one of the few remaining palaces of the beginning of the last century. With the current owner Jeanne Augier, who has been leading the hotel since 1957, the Negresco is almost a museum.

Conferences

European Symposium on Algorithms – ESA

The European Symposium on Algorithms, organized in collaboration with EATCS, the European Association for Theoretical Computer Science, is devoted to fostering and disseminating the results of high quality research on the design and evaluation of algorithms and data structures.

The Symposium covers research in computer science, discrete applied mathematics, operations research, and mathematical programming. Submissions are solicited in all areas of algorithmic research, both theoretical and experimental, including but not limited to: algorithm engineering, algorithmic aspects of networks, algorithmic game theory, approximation algorithms, computational biology, computational finance, computational geometry, combinatorial optimization, data compression, data structures, databases and information retrieval, distributed and parallel computing, graph algorithms, hierarchical memories, heuristics and meta-heuristics, mathematical programming, mobile computing, on-line algorithms, parameterized complexity, pattern matching, quantum computing, randomized algorithms, scheduling and resource allocation problems, and streaming algorithms.

Submissions are then selected by two Program Committees:

- Design and Analysis Track,
  devoted to design and mathematical analysis of algorithms
- Engineering and Application Track
  devoted to real-world applications, engineering and experimental analysis of algorithms

Each year, ESA usually confers a best student paper award, and a best paper award. The prizes acknowledge the best contributed ESA paper in these two categories, as judged by the program committees.

Keynote speakers

- ← **Claire Mathieu**,
  CNRS, École Normale Supérieure, France, & Brown University, USA (Monday).
  Hierarchies of semi-definite programming relaxations for approximation algorithms.
- → **Hannah Bast**,
  University of Freiburg, Germany (Wednesday).
  Algorithmic Problems in Semantic Search.

Program committees

Design and Analysis (Track A)
- Sebastian Böcker, Friedrich-Schiller-Universität Jena
- **Hans Bodlaender**⋆, Utrecht University
- Emanuele G. Fusco, Sapienza University of Rome
- MohammadTaghi Hajiaghayi, University of Maryland
- Tobias Harks, Maastricht University
- Iyad Kanj, DePaul University
- Petteri Kaski, Aalto University
- Ken-ichi Kawarabayashi, National Inst. of Informatics
- Guy Kortsarz, Rutgers
- Jan Kratochvil, Charles University in Prague
- Nicole Megow, Technische Universität Berlin
- Sang-il Oum, KAIST
- Konstantinos Panagiotou, University of Munich
- Andrzej Pelc, Université du Québec en Outaouais
- Jeff Phillips, University of Utah
- Pascal Schweitzer, JAIST/ ETH Zürich
- Sagi Snir, University of Haifa
- Kavitha Telikepalli, Tata Inst. of Fundamental Research
- Denis Trystram, Grenoble Institute of Technology
- Ronald de Wolf, CWI & University of Amsterdam
- Alexander Wolff, Universität Würzburg
- Norbert Zeh, Dalhousie University

Engineering and Applications (Track B)
- David Bader, Georgia Tech
- Cathy McGeoch, Amherst College
- Loukas Georgiadis, University of Ioannina
- Roberto Grossi, University of Pisa
- **Giuseppe F. Italiano**⋆, Univ. of Rome "Tor Vergata"
- Jyrki Katajainen, University of Copenhagen
- Marc van Kreveld, Utrecht University
- Leo Liberti, LIX, École Polytechnique
- Bernard Moret, EPFL
- Gabriel Moruz, University of Frankfurt
- Matthias Muller-Hannemann, Martin Luther University Halle-Wittenberg
- Kunihiko Sadakane, National Inst. of Informatics
- Martin Skutella, Technische Universität Berlin
- Dorothea Wagner, Karlsruhe Institute of Technology
- Renato Werneck, Microsoft Research

⋆chair

Steering committee

- Hans Bodlaender, Utrecht University
- Alan Borodin, University of Toronto
- Mark de Berg, TU Eindhoven (chair)
- Camil Demetrescu, University of Rome "La Sapienza"
- Leah Epstein, University of Haifa
- Paolo Ferragina, University of Pisa
- Magnus Halldorsson, Reykjavik University
- Giuseppe Italiano, Università di Roma "Tor Vergata"
- Samir Khuller, University of Maryland
- Rasmus Pagh, IT University of Copenhagen
- Alexander Wolff, Universität Würzburg

(web page: http://esa-symposium.org/)

Workshop on Algorithms in Bioinformatics – WABI

WABI is organized in collaboration with EATCS, the European Association for Theoretical Computer Science, and sponsored by ISCB, the International Society for Computational Biology.

The workshop covers research in all aspects of algorithmic work in bioinformatics. The emphasis is on discrete algorithms and machine-learning methods that address important problems in molecular biology, that are founded on sound models, that are computationally efficient, and that have been implemented and tested in simulations and on real datasets. The goal is to present recent research results, including significant work-in-progress, and to identify and explore directions of future research.

Original research papers (including significant work-in-progress) or state-of-the-art surveys concern all aspects of algorithms in bioinformatics, including, but not limited to:

- Exact, approximate, and machine-learning algorithms for sequence analysis, gene and signal recognition, alignment and assembly, molecular evolution, structure determination or prediction, gene expression, gene networks, proteomics, functional and comparative genomics, and drug design.
- Methods, software, and dataset repositories for development and testing of such algorithms and their underlying models.
- High-performance computing approaches to computationally hard learning and optimization problems in bioinformatics.

Keynote speaker

- **Bernard Moret**,
  EPFL Lausanne (Tuesday).
  Extending the Reach of Phylogenetic Inference.

Program committee

- Mohamed Abouelhoda, Cairo University
- Tatsuya Akutsu, Kyoto University
- Anne Bergeron, University of Quebec at Montreal
- Sebastian Böcker, Friedrich Schiller University Jena
- Paola Bonizzoni, University of Milano-Bicocca
- Guillaume Bourque, McGill University
- Marilia D. V. Braga, Inmetro
- C. Titus Brown, Michigan State University
- Daniel Brown, University of Waterloo
- David Bryant, University of Otago
- Philipp Bucher, Swiss Inst. for Exp. Cancer Research
- Rita Casadio, UNIBO
- Cedric Chauve, Simon Fraser University
- Benny Chor, Tel Aviv University
- Lachlan Coin, The University of Queensland
- Lenore Cowen, Tufts University
- Keith Crandall, George Washington University
- **Aaron Darling***, University of Technology Sydney
- Nadia El-Mabrouk, University of Montreal
- Eleazar Eskin, University of California, Los Angeles
- Liliana Florea, Johns Hopkins University
- Martin Frith, CBRC, AIST
- Anna Gambin, Warsaw University
- Olivier Gascuel, CNRS - University Montpellier 2
- Nicholas Hamilton, The University of Queensland
- Barbara Holland, University of Tasmania
- Katharina Huber, University of East Anglia
- Carl Kingsford, Carnegie Mellon University
- Jinyan Li, University of Technology Sydney
- Zsuzsanna Lipták, University of Verona
- Stefano Lonardi, UC Riverside
- Veli Mäkinen, University of Helsinki
- Ion Mandoiu, University of Connecticut
- Giovanni Manzini, University of Eastern Piedmont
- Paul Medvedev, Pennsylvania State University
- Joao Meidanis, U. of Campinas / Scylla Bioinformatics
- Istvan Miklos, Renyi Institute
- Satoru Miyano, University of Tokyo
- Bernard Moret, EPFL
- Burkhard Morgenstern, University of Goettingen
- Vincent Moulton, University of East Anglia
- Gene Myers, MPI Cell Biology and Genetics
- Luay Nakhleh, Rice University
- Nadia Pisanti, University of Pisa & Leiden University
- Teresa Przytycka, NIH
- Sven Rahmann, University of Duisburg-Essen
- Ben Raphael, Brown University
- Knut Reinert, FU Berlin
- Marie-France Sagot, Inria & Université de Lyon 1
- S. Cenk Sahinalp, Simon Fraser University
- David Sankoff, University of Ottawa
- Russell Schwartz, Carnegie Mellon University
- Joao Setubal, University of Sao Paulo
- Saurabh Sinha, University of Illinois
- **Jens Stoye***, Bielefeld University
- Krister Swenson, Univ. de Montréal / McGill Univ.
- Jijun Tang, University of South Carolina
- Eric Tannier, Inria
- Glenn Tesler, University of California, San Diego
- Lusheng Wang, City University of Hong Kong
- Yuzhen Ye, Indiana University
- Louxin Zhang, National University of Singapore
- Michal Ziv-Ukelson, Ben Gurion Univ. of the Negev

*chair

Steering committee

- Bernard Moret, EPFL
- Vincent Moulton, University of East Anglia
- Jens Stoye, Bielefeld University
- Tandy Warnow, The University of Texas at Austin

International Symposium on Parameterized and Exact Computation – IPEC

The International Symposium on Parameterized and Exact Computation (IPEC), previously International Workshop on Parameterized and Exact Computation (IWPEC), covers research in all aspects of parameterized and exact algorithms and complexity.

The central challenge of theoretical computer science is to deploy mathematics in ways that serve the creation of useful algorithms. In recent years there has been a growing interest in the two-dimensional framework of parameterized complexity, where, in addition to the overall input size, one also considers a parameter, with a focus on how these two dimensions interact in problem complexity. A major goal of IPEC is to disseminate the latest research results, including significant work-in-progress, and to identify, define and explore directions for future study.

Papers presenting original research in the area are sought, including but not limited to: new techniques for the design and analysis of parameterized and exact algorithms, fixed-parameter tractability results, parameterized complexity theory, relationship between parameterized complexity and traditional complexity classifications, applications of parameterized and exact computation, and implementation issues of parameterized and exact algorithms. In particular, studies on parameterized and exact computations for real-world applications and algorithmic engineering are especially encouraged.

Keynote speaker

- **Ramamohan Paturi,** EATCS-IPEC Nerode Prize 2013,
  California Institute for Telecommunications and Information Technology (Thursday).
  Exact Complexity and Satisfiability.

Invited tutorials

- ← **Marek Cygan**,
  Wydział Matematyki, Informatyki i Mechaniki Uniwersytetu Warszawskiego, Poland (Wednesday).
  Graph Problems Parameterized by Treewidth.

- → **Daniel Lokshtanov**,
  Department of Informatics University of Bergen, Norway (Friday).
  Efficient Computation of Representative Sets with Applications in Parameterized and Exact Algorithms.

photo: Lene Solvang

Program committee

- Faisal Abu-Khzam, Lebanese American University
- Andreas Björklund, Lund University
- Rod Downey, Victoria University of Wellington
- Mike Fellows, Charles Darwin University
- Serge Gaspers, University of New South Wales
- **Gregory Gutin**⋆, Royal Holloway Univ. of London
- Pinar Heggernes, University of Bergen
- Eun Jung Kim, Paris Dauphine University
- Christian Komusiewicz, TU Berlin
- Daniel Lokshtanov, University of Bergen
- Venkatesh Raman, The Institute of Mathematical Sciences
- Peter Rossmanith, RWTH Aachen
- **Stefan Szeider**⋆, Vienna University of Technology
- Anders Yeo, University of Johannesburg

⋆chair

Steering Committee

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- Gregory Gutin, Royal Holloway University of London
- Gerhard Woeginger, Eindhoven Univ. of Technology
- Hans Bodlaender, Utrecht University (chair)
- Rolf Niedermeier, TU Berlin
- Peter Rossmanith, RWTH Aachen
- Dimitrios Thilikos, National and Kapodistrian University of Athens
- Stefan Szeider, Vienna University of Technology
- Thore Husfeldt, Lund University

International Symposium on Algorithms for Sensor Systems, Wireless Ad Hoc Networks and Autonomous Mobile Entities – ALGOSENSORS

Wireless ad-hoc sensor networks have recently become a very active research subject due to their high potential of providing diverse services to numerous important applications, including remote monitoring and tracking in environmental applications and low maintenance ambient intelligence in everyday life. The effective and efficient realization of such large scale, complex ad-hoc networking environments requires intensive, coordinated technical research and development efforts, especially in power aware, scalable, robust wireless distributed protocols, due to the unusual application requirements and the severe resource constraints of the sensor devices. On the other hand, a solid foundational background is necessary for sensor networks to achieve their full potential. It is a challenge for abstract modelling, algorithmic design and analysis to achieve provably efficient, scalable and fault-tolerant realizations of such huge, highly dynamic, complex, non-conventional networks. Features including the extremely large number of sensor devices in the network, the severe power, computing and memory limitations, their dense, random deployment and frequent failures, pose new interesting abstract modelling, algorithmic design, analysis and implementation challenges.

Originally focused solely on sensor networks, ALGOSENSORS now covers more broadly algorithmic issues arising in all wireless networks of computational entities, both from a theoretical and an experimental perspective; its scope includes sensor networks, sensor-actuator networks, and systems of autonomous mobile robots. In particular, ALGOSENSORS focuses on the design and analysis of discrete and distributed algorithms, on models of computation and complexity, on experimental analysis, in the context of wireless networks, sensor networks, and robotic networks. The goal is to reinforce the foundational and algorithmic aspects of the research in these areas.

Keynote speaker

- **Magnus Halldorsson**,
  Reykjavik University (Friday),
  Modeling reality algorithmically: The case of wireless communication.

Opening talk

- **Giuseppe Prencipe**,
  Dipartimento di Informatica, Università di Pisa (Thursday),
  Autonomous Mobile Robots: A Distributed Computing Perspective.

Program committee

- Christian Blum, Ikerbasque & U. of the Basque Country
- Prosenjit Bose, Carleton University
- Ioannis Chatzigiannakis, U. of Patras & CTI
- Shantanu Das, Aix-Marseille University
- Shlomi Dolev, Ben-Gurion University
- Alon Efrat, University of Arizona
- Sandor Fekete, Technische U. Braunschweig
- **Paola Flocchini**⋆, University of Ottawa
- Hannes Frey, University of Koblenz
- **Jie Gao**⋆, Stony Brook University
- Maria Gradinariu Potop-Butucaru, Paris 6
- Himanshu Gupta, Stony Brook University
- Qiangsheng Hua, Tsinghua University
- Taisuke Izumi, Nagoya Institute of Technology
- Ralf Klasing, CNRS & U. Bordeaux
- Dariusz Kowalski, U. Liverpool & IMDEA Networks
- **Evangelos Kranakis**⋆, Carleton University
- Danny Krizanc, Wesleyan University
- Alexander Kröller, Technische U. Braunschweig
- Pierre Leone, University of Geneva
- Xiangyang Li, Illinois Institute of Technology
- Mingyan Liu, University of Michigan
- Zvi Lotker, Ben-Gurion University
- **Friedhelm Meyer auf der Heide**⋆, Univ. of Paderborn
- Lata Narayanan, Concordia University
- Alfredo Navarra, University of Perugia
- Amiya Nayak, University of Ottawa
- Dennis Pfisterer, University of Lübeck
- Giuseppe Prencipe, University of Pisa
- Michael Rabbat, McGill University
- Rik Sarkar, University of Edinburgh
- Elad Michael Schiller, Chalmers Univ. of Technology
- Christian Schindelhauer, University of Freiburg
- Subhash Suri, UC Santa Barbara
- My Thai, University of Florida
- Andrea Vitaletti, Sapienza University Rome
- Masafumi Yamashita, Kyushu University

⋆chair

Steering Committee

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- Magnús M. Halldórsson, Reykjavik University
- Bhaskar Krishnamachari, U. of Southern California
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- Sotiris Nikoletseas, U. of Patras & CTI (chair)
- Jose Rolim, University of Geneva
- Paul Spirakis, University of Patras & CTI
- Adam Wolisz, Technische Universität Berlin

Workshop on Approximation and Online Algorithms – WAOA

The workshop on approximation and online algorithms (WAOA) covers fundamental tools to deal with computationally hard problems and problems in which the input is gradually disclosed over time. Both kinds of problems have a large number of applications, arising from a variety of fields.

The workshop focuses on the design and analysis of approximation and online algorithms. Papers are solicited in all research areas related to approximation and online algorithms, including, but not limited to: algorithmic game theory, algorithmic trading, coloring and partitioning, competitive analysis, computational advertising, computational finance, cuts and connectivity, geometric problems, graph algorithms, inapproximability results, mechanism design, natural algorithms, network design, packing and covering, paradigms for the design and analysis of approximation and online algorithms, parameterized complexity, real-world applications, and scheduling problems.

Keynote speaker

- **Ola Svensson**,
  EPFL (Friday),
  New Approaches for Approximating TSP.

Program committee

- Vincenzo Bonifaci, IASI-CNR
- Niv Buchbinder, Tel Aviv University
- Matthias Englert, University of Warwick
- Leah Epstein, University of Haifa
- Bruno Escoffier, Université Paris Dauphine
- Dimitris Fotakis, National Technical U. of Athens
- Fabrizio Grandoni, University of Lugano
- Anupam Gupta, Carnegie Mellon University
- Łukasz Jeż, U. of Wrocław & Sapienza U.
- Sungjin Im, Duke University
- **Christos Kaklamanis**⋆, U. of Patras & CTI
- Bodo Manthey, University of Twente
- Luca Moscardelli, University of Chieti-Pescara
- Benjamin Moseley, Toyota Tech. Inst. at Chicago
- Viswanath Nagarajan, IBM Research
- Debmalya Panigrahi, Duke U. & Microsoft Research
- **Kirk Pruhs**⋆, University of Pittsburgh
- Adi Rosen, CNRS & U. Paris Diderot
- Anastasios Sidiropoulos, UIUC
- Rene Sitters, Vrije Universiteit Amsterdam
- Kavitha Telikepalli, Tata Inst. of Fund. Research
- Kasturi Varadarajan, University of Iowa

⋆chair

Workshop on Algorithmic Approaches for Transportation Modelling, Optimization, and Systems – ATMOS

Since 2000, the series of ATMOS workshops brings together researchers and practitioners who are interested in all aspects of algorithmic methods and models for transportation optimization and provides a forum for the exchange and dissemination of new ideas and techniques.

Transportation networks give rise to very complex and large-scale network optimization problems requiring innovative solution techniques and ideas from mathematical optimization, theoretical computer science, and operations research. Applicable tools and concepts include those from graph and network algorithms, combinatorial optimization, approximation and online algorithms, stochastic and robust optimization.

The scope of the workshop comprises all modes of transportation.

Keynote speaker

- **Tobias Harks**,
  Maastricht University, The Netherlands (Thursday).
  Modeling and Optimizing Traffic Networks .

Program committee

- Ralf Borndörfer, Zuse-Institut & FU Berlin
- Daniel Delling, Microsoft Research Silicon Valley
- **Daniele Frigioni**⋆, University of L'Aquila
- Laura Galli, University of Pisa
- Spyros Kontogiannis, University of Ioannina
- Christian Liebchen, Deutsche Bahn
- Gabor Maroti, U. Amsterdam & Netherlands Railways
- Frederic Meunier, Ecole des Ponts ParisTech
- Dario Pacciarelli, Roma Tre University
- Marc Pfetsch, TU Darmstadt
- Robert Shorten, IBM Research & The Hamilton Institute
- **Sebastian Stiller**⋆, TU Berlin

⋆chair

Steering Committee

- Alberto Marchetti-Spaccamela, Università di Roma "La Sapienza"
- Rolf Möhring, Technische Universität Berlin
- Dorothea Wagner, Karlsruhe Institute of Technology
- Christos Zaroliagis, University of Patras

Workshop on Massive Data Algorithmics – MASSIVE

Tremendous advances in our ability to acquire, store and process data, as well as the pervasive use of computers in general, have resulted in a spectacular increase in the amount of data being collected. This availability of high-quality data has led to major advances in both science and industry. In general, society is becoming increasingly data driven, and this trend is likely to continue in the coming years.

The increasing number of applications processing massive data means that in general focus on algorithm efficiency is increasing. However, the large size of the data, and/or the small size of many modern computing devices, also means that issues such as memory hierarchy architecture often play a crucial role in algorithm efficiency. Thus the availability of massive data also means many new challenges for algorithm designers.

The aim of the workshop on massive data algorithmcs is to provide a forum for researchers from both academia and industry interested in algorithms for massive dataset problems. The scope of the workshop includes both fundamental algorithmic problems involving massive data, as well as algorithms for more specialized problems in, e.g., graphics, databases, statistics and bioinformatics. Topics of interest include, but are not limited to: I/O-efficient algorithms, Cache-oblivious algorithms, Memory hierarchy efficient algorithms, Streaming algorithms, Sublinear algorithms, Parallel algorithms for massive data problem, and Engineering massive data algorithms.

Program committee

- **Peyman Afshani**⋆, Aarhus and MADALGO
- Pankaj Agarwal, Duke
- Lars Arge, Aarhus and MADALGO
- Guy E. Blelloch, CMU
- Gerth S. Brodal, Aarhus and MADALGO
- Ken Clarkson, IBM Almaden
- Graham Cormode, AT&T Research
- Michael Goodrich, UC Irvine
- John Iacono, NYU Polytechnic
- Piotr Indyk, MIT and MADALGO
- Christian Jensen, Aarhus and MADALGO
- Alejandro Lopez-Ortiz, Waterloo
- Andrew McGregor, Massachusetts, Amherst
- Meyer Ulrich, Frankfurt and MADALGO
- Nodari Sitchinava, Karlsruhe
- Sergei Vassilvitskii, Stanford
- Suresh Venkatasubramanian, Utah
- Jeffrey Scott Vitter, Kansas
- Ke Yi, HKUST
- Norbert Zeh, Dalhousie

⋆chair

Organizing committee

Lars Arge, Gerth Stølting Brodal, Peyman Afshani, Else Magård, and Matie Bach Søgaard (Aarhus and MADALGO).

For your notes

Schedule

8:00 Registration — 9:00 Welcome

9:02 ESA Keynote.
Hierarchies of semi-definite programming relaxations for approximation algorithms.
Claire Mathieu, CNRS, École Normale Supérieure, and Brown Univ.

10:00 Coffee break

	ESA 1, Computational geometry 1	ESA 2, Graph algorithms 1	WABI, Protein and Metabolome Analysis
10:30	Mark de Berg & Dirk H.P. Gerrits. *Labeling Moving Points with a Trade-Off Between Label Speed and Label Overlap.*	Fedor Fomin & Petr Golovach. *Long Circuits and Large Euler Subgraphs.*	Ramanuja Simha & Hagit Shatkay. *Protein (Multi-)Location Prediction: Using Location Inter-Dependencies in a Probabilistic Framework.*
10:55	Kevin Buchin, Olivier Devillers, Wolfgang Mulzer, Okke Schrijvers & Jonathan Shewchuk. *Vertex Deletion for 3D Delaunay Triangulations.*	Shiri Chechik, Matthew Johnson, Merav Parter & David Peleg. *Secluded Connectivity Problems.*	Xuefeng Cui, Shuai Cheng Li, Dongbo Bu, & Ming Li. *Towards Reliable Automatic Protein Structure Alignment.*
11:20	William Evans, Stefan Felsner, Michael Kaufmann, Stephen Kobourov, Debajyoti Mondal, Rahnuma Islam Nishat & Kevin Verbeek. *Table Cartograms.*	Lelia Blin, Janna Burman & Nicolas Nisse. *Exclusive Graph Searching.*	Arnon Mazza, Irit Gat-Viks, Hesso Farhan, & Roded Sharan. *A Minimum-Labeling Approach for Reconstructing Protein Networks across Multiple Conditions.*
11:45	Kai Xiao, Danny Z. Chen, X. Sharon Hu & Bo Zhou. *Shell: A Spatial Decomposition Data Structure for 3D Curve Traversal on Many-core Architectures.*	Christoph Berkholz, Paul Bonsma & Martin Grohe. *Tight Lower and Upper Bounds for the Complexity of Canonical Colour Refinement.*	Kai Dührkop, Markus Ludwig, Marvin Meusel, & Sebastian Böcker. *Faster Mass Decomposition.*

12:10 Lunch

	ESA 1, Pattern matching	ESA 2, Graph algorithms 2	WABI, Genome & Transcriptome Analysis
13:30	Travis Gagie, Danny Hermelin, Gad M. Landau & Oren Weimann. *Binary Jumbled Pattern Matching on Trees and Tree-Like Structures.*	Martin Nöllenburg & Roman Prutkin. *Euclidean Greedy Drawings of Trees.*	Evgeny Kapun & Fedor Tsarev. *On NP-Hardness of the Paired de Bruijn Sound Cycle Problem.*
13:55	Tomasz Kociumaka, Jakub Radoszewski & Wojciech Rytter. *Efficient Indexes for Jumbled Pattern Matching with Constant-Sized Alphabet.*	Subhash Suri, Kevin Verbeek & Hakan Yıldız. *On the Most Likely Convex Hull of Uncertain Points.*	Denisa Duma, Mary Wootters, Anna Gilbert, Hung Q. Ngo, Atri Rudra, Matthew Alpert, Timothy J. Close, Gianfranco Ciardo, & Stefano Lonardi. *Accurate Decoding of Pooled Sequenced Data Using Compressed Sensing.*
14:20	Davide Bilò, Luciano Gualà & Guido Proietti. *A Faster Computation of All the Best Swap Edges of a Shortest Paths Tree.*	Panos Giannopoulos, Christian Knauer & Daniel Werner. *On the Computational Complexity of Erdős-Szekeres and Related Problems in $\mathbb{R}^3$.*	Alexandru I. Tomescu, Anna Kuosmanen, Romeo Rizzi, & Veli Mäkinen. *A Novel Combinatorial Method for Estimating Transcript Expression with RNA-Seq: Bounding the Number of Paths.*

14:45 Short break

Monday, september 2, 2013

	ESA 1, Graph Algorithms 2	ESA 2, Cache-oblivious, IO-efficient	WABI, RNA Sequence and Structure
15:00	Merav Parter & David Peleg. *Sparse Fault-Tolerant BFS Trees.*	Paolo Ferragina & Rossano Venturini. *Compressed Cache-Oblivious String B-tree.*	Gustavo Sacomoto, Marie-France Sagot, & Vincent Lacroix. *A Polynomial Delay Algorithm for the Enumeration of Bubbles with Length Constraints in Directed Graphs and its Application to the Detection of Alternative Splicing in RNA-seq Data.*
15:25	George Mertzios. *The Recognition of Simple-Triangle Graphs and of Linear-Interval Orders is Polynomial.*	Lars Arge, Gerth Stølting Brodal, Jakob Truelsen & Constantinos Tsirogiannis. *An Optimal and Practical Cache-oblivious Algorithm for Computing Multiresolution Rasters.*	Rolf Backofen, Markus Fricke, Manja Marz, Jing Qin, & Peter F. Stadler. *Graph-Distance within RNA Secondary Structure Ensembles.*
15:50	Michael Crouch, Andrew McGregor & Daniel Stubbs. *Dynamic Graphs in the Sliding-Window Model.*	Andreas Beckmann, Ulrich Meyer & David Veith. *An Implementation of I/O-efficient Dynamic Breadth-First Search using level-aligned hierarchical Clustering.*	Balaji Venkatachalam, Dan Gusfield, & Yelena Frid. *Faster Algorithms for RNA-folding using the Four-Russians Method.*
16:15	Coffee break		
	ESA 1, Graphs and geometry	ESA 2, Data structures 1	WABI Business meeting
16:45	Lucas Bueno & Jorge Stolfi. *Economic 3-Colored Subdivision of Triangulations.*	Roberto Grossi, John Iacono, Gonzalo Navarro, Rajeev Raman & Srinivasa Rao Satti. *Encodings for Range Selection and Top-k Queries.*	
17:10	Oswin Aichholzer, Wolfgang Mulzer & Alexander Pilz. *Flip Distance Between Triangulations of a Simple Polygon is NP-Complete.*	Yakov Nekrich & Jeffrey Scott Vitter. *Optimal Color Range Reporting in One Dimension.*	
17:35	Short break		
17:45	ESA Business meeting		
19:15			

Monday, september 2, 2013

8:30	Registration	9:00 Welcome	
9:02	WABI Keynote. *Extending the Reach of Phylogenetic Inference.* Bernard Moret, EPFL.		
10:00	Coffee break		
	ESA 1, Parameterized and exact algorithms	ESA 2, Data structures 2	WABI, Phylogenetic Trees
10:30	Fedor Fomin & Michał Pilipczuk. *Subexponential Parameterized Algorithm for Computing the Cutwidth of a Semicomplete Digraph.*	Clément Maria, Jean-Daniel Boissonnat & Tamal Dey. *The Compressed Annotation Matrix: an Efficient Data Structure for Computing Persistent Cohomology.*	Jesper Jansson, Chuanqi Shen, & Wing-Kin Sung. *Algorithms for the Majority Rule (+) Consensus Tree and the Frequency Difference Consensus Tree.*
10:55	Ramanujan M. S., Saket Saurabh, Daniel Lokshtanov, Ondrej Suchy & Mark Jones. *Parameterized Complexity of Directed Steiner Tree on Sparse Graphs.*	Sharma V. Thankachan, Rahul Shah, Cheng Sheng & Jeff Vitter. *Top-k Document Retrieval in External Memory.*	Sebastian Böcker, Stefan Canzar, & Gunnar W. Klau. *The Generalized Robinson-Foulds Metric.*
11:20	Ivan Bliznets, Fedor Fomin, Michał Pilipczuk & Yngve Villanger. *Largest Chordal and Interval Subgraphs Faster than 2^n.*	Djamal Belazzougui, Fabio Cunial, Juha Kärkkäinen & Veli Mäkinen. *Versatile Succinct Representations of the Bidirectional Burrows-Wheeler Transform.*	Constantinos Tsirogiannis & Brody Sandel. *Computing the Skewness of the Phylogenetic Mean Pairwise Distance in Linear Time.*
11:45	Michael Fellows, Danny Hermelin, Frances A. Rosamond & Hadas Shachnai. *Tractable Parameterizations for the Minimum Linear Arrangement Problem.*	Shin-Ichi Minato. *Z-Skip-Links for Fast Traversal of ZDDs Representing Large-Scale Sparse Datasets.*	Sudheer Vakati & David Fernández-Baca. *Characterizing Compatibility and Agreement of Unrooted Trees via Cuts in Graphs.*
12:10	Lunch		
	ESA best paper awards		WABI, Comparative Genomics
13:30	Best student paper	Radu Curticapean & Marvin Künnemann. *A Quantization Framework for Smoothed Analysis on Euclidean Optimization Problems.*	Nicolas Wieseke, Matthias Bernt, & Martin Middendorf. *Unifying Parsimonious Tree Reconciliation.*
13:55	Best paper	Rajesh Chitnis, Laszlo Egri & Daniel Marx. *List H-Coloring a Graph by Removing Few Vertices.*	Son Pham, Ilya Minkin, Nikolay Vyahhi, Anand Patel, & Mikhail Kolmogorov. *Sibelia: A Scalable and Comprehensive Synteny Block Generation Tool for Closely Related Microbial Genomes.*
14:20	Best paper	Sander P. A. Alewijnse, Quirijn W. Bouts, Alex P. ten Brink & Kevin Buchin. *Computing the Greedy Spanner in Linear Space.*	João Paulo Pereira Zanetti, Priscila Biller, & João Meidanis. *On the Matrix Median Problem.*
14:45	Short break		

Tuesday, september 3, 2013

	ESA 1, Kernels	ESA 2, Computational geometry 3	WABI, poster session
15:00	Marek Cygan, Fabrizio Grandoni & Danny Hermelin. *Tight Kernel Bounds for Problems on Graphs with Small Degeneracy.*	Joachim Gudmundsson & Michiel Smid. *Fréchet Queries in Geometric Trees.*	Posters
15:25	Stefan Kratsch. *On Polynomial Kernels for Integer Linear Programs: Covering, Packing and Feasibility.*	Kevin Buchin, Maike Buchin, Rolf van Leusden, Wouter Meulemans & Wolfgang Mulzer. *Computing the Fréchet Distance with a Retractable Leash.*	
15:50	Jakub Gajarský, Petr Hliněný, Jan Obdržálek, Sebastian Ordyniak, Felix Reidl, Peter Rossmanith, Fernando Sánchez & Somnath Sikdar. *Kernelization Using Structural Parameters on Sparse Graph Classes.*	Gerth Stølting Brodal, Pooya Davoodi & Andrej Brodnik. *The Encoding Complexity of Two Dimensional Range Minimum Data Structures.*	
16:15	Nice old town visit. Gala dinner. **Buses leave at 16:25**		

Tuesday, september 3, 2013

8:30	Registration 9:00 Welcome			
9:02	ESA Keynote. *Algorithmic Problems in Semantic Search.* Hannah Bast, University of Freiburg.			
10:00	Coffee break			
	ESA1, Approximation	ESA1, Network models	WABI, Biosequence Analysis	IPEC, Tree-width
10:30	Hu Ding & Jinhui Xu. *PTAS for Minimizing Earth Mover's Distance under Rigid Transformations.*	Moritz Kobitzsch. *An Alternative Approach to Alternative Routes: HiDAR.*	Laurent Bulteau, Guillaume Fertin, Christian Komusiewicz, & Irena Rusu. *Fixed-Parameter Algorithm for Minimum Common String Partition with Few Duplications.*	Fafianie Stefan, Hans L. Bodlaender & Jesper Nederlof. *Speeding-up Dynamic Programming with Representative Sets - An Experimental Evaluation of Algorithms for Steiner Tree on Tree Decompositions.*
10:55	Jannik Matuschke, Andreas Bley & Benjamin Müller. *Approximation Algorithms for Facility Location with Capacitated and Length-Bounded Tree Connections.*	Frederic Cazals, Deepesh Agarwal, Julio-Cesar Silva Araujo, Christelle Caillouet, David Coudert & Stephane Perennes. *Connectivity Inference in Mass Spectrometry based Structure Determination.*	Michał Modzelewski & Norbert Dojer. *MSARC: Multiple Sequence Alignment by Residue Clustering.*	Bart M. P. Jansen. *On Sparsification for Treewidth Computations.*
11:20	Jochen Konemann, Sina Sadeghian & Laura Sanita. *Better Approximation Algorithms for Technology Diffusion.*	Wolfgang Dvořák, Monika Henzinger & David Williamson. *Maximizing a Submodular Function with a Non-Downward Closed Constraint.*	Limor Leibovich & Zohar Yakhini. *Mutual Enrichment in Ranked Lists and the Statistical Assessment of Position Weight Matrix Motifs*	Hans Bodlaender, Paul Bonsma & Daniel Lokshtanov. *The fine details of fast dynamic programming over tree decompositions.*
11:45	Amotz Bar-Noy, Dror Rawitz & Peter Terlecky. *Maximizing Barrier Coverage Lifetime with Mobile Sensors.*	Andrea Clementi, Pierluigi Crescenzi, Carola Doerr, Pierre Fraigniaud, Marco Isopi, Alessandro Panconesi, Francesco Pasquale & Riccardo Silvestri. *Rumor Spreading in Random Evolving Graphs.*	Michal Nánási, Tomáš Vinař, & Broňa Brejová. *Probabilistic Approaches to Alignment with Tandem Repeats.*	Antonis Thomas & Jan van Leeuwen. *Treewidth and Pure Nash Equilibria.*
12:10	Lunch			
	ESA1, Online games & auctions.	ESA1, Parallel algorithms & streaming.	WABI, Understanding the Cell	IPEC, Tutorial
13:30	Vincenzo Auletta, Diodato Ferraioli, Francesco Pasquale, Paolo Penna & Giuseppe Persiano. *Logit Dynamics with Concurrent Updates for Local Interaction Games.*	Timo Bingmann & Peter Sanders. *Parallel String Sample Sort*	Darya Filippova, Robert Patro, Geet Duggal, & Carl Kingsford. *Multiscale Identification of Topological Domains in Chromatin.*	Marek Cygan. *Graph problems parameterized by treewidth.*
13:55	Pasin Manurangsi & Dana Moshkovitz. *Improved Approximation Algorithms for Projection Games.*	Deepak Ajwani & Nodari Sitchinava. *Empirical Evaluation of the Parallel Distribution Sweeping Framework on Multicore Architectures.*	Charalampos Tsourakakis. *Modeling Intratumor Gene Copy Number Heterogeneity using Fluorescence in Situ Hybridization data.*	

Wednesday, september 4, 2013

14:20	Bart De Keijzer, Evangelos Markakis, Guido Schaefer & Orestis Telelis. *Inefficiency of Standard Multi-Unit Auctions.*	Hendrik Fichtenberger, Marc Gillé, Melanie Schmidt, Chris Schwiegelshohn & Christian Sohler. *BICO: BIRCH meets Coresets for k-means.*	Nishanth Nair, Yu Lin, Philipp Bucher, & Bernard M. E. Moret. *Phylogenetic Analysis of Cell Types using Histone Modifications.*	Marek Cygan. *Graph problems parameterized by treewidth. (continued)*
14:45	Short break			
	ESA1, Online games and auctions 2.	ESA1, Fundamental problems	WABI, Genome Assembly	IPEC, Structural Parameters
15:00	Thomas Kesselheim, Klaus Radke, Andreas Tönnis & Berthold Vöcking. *An Optimal Online Algorithm for Weighted Bipartite Matching and Extensions to Combinatorial Auctions.*	Prosenjit Bose, Jean-Lou De Carufel & Stephane Durocher. *Revisiting the Problem of Searching on a Line.*	Taku Onodera, Kunihiko Sadakane, & Tetsuo Shibuya. *Detecting Superbubbles in Assembly Graphs.*	Lukas Mach & Tomas Toufar. *Amalgam width of matroids.*
15:25	Ioannis Caragiannis, Christos Kaklamanis & Maria Kyropoulou. *Limitations of Deterministic Auction Design for Correlated Bidders.*	Jop Briet, Daniel Dadush & Sebastian Pokutta. *On the Existence of 0/1 Polytopes with high Semidefinite Extension Complexity.*	Viraj Deshpande, Eric D.K. Fung, Son Pham, & Vineet Bafna. *A Hybrid Assembly using High Throughput Short and Long Reads.*	Mateus de Oliveira Oliveira. *Subgraphs Satisfying MSO Properties on z-Topologically Orderable Digraphs.*
15:50	Linda Farczadi, Jochen Koenemann & Konstantinos Georgiou. *Network Bargaining with General Capacities.*	Nadia Fawaz, S Muthukrishnan & Aleksandar Nikolov. *Nearly Optimal Private Convolution.*	Kamil Salikhov, Gustavo Sacomoto, & Gregory Kucherov. *Using Cascading Bloom Filters to Improve the Memory Usage for de Brujin Graphs.*	Jakub Gajarsky, Michael Lampis & Sebastian Ordyniak. *Parameterized Algorithms for Modular-Width.*
16:15	Coffee break			
	ESA1, Online algorithms & approximation.	ESA1, Matching & networks		IPEC, Exact Algorithms
16:45	David Adjiashvili, Gianpaolo Oriolo & Marco Senatore. *The Online Replacement Path Problem.*	Elliot Anshelevich, Onkar Bhardwaj & Martin Hoefer. *Friendship and Stable Matching.*		Fedor Fomin, Daniel Lokshtanov, Rajesh Chitnis, Pranabendu Misra, Ramanujan M. S. & Saket Saurabh. *Faster Exact Algorithms for Some Terminal Set Problems.*
17:10	Nir Halman, Giacomo Nannicini & James Orlin. *A Practical FPTAS for Convex Stochastic Dynamic Programs.*	Megha Khosla. *Balls into Bins made Faster.*		Dieter Kratsch & Stefan Kratsch. *The Jump Number Problem: Exact and Parameterized.*
17:35	Kim Thang Nguyen. *Lagrangian Duality in Online Scheduling with Resource Augmentation and Speed Scaling.*	Sándor Laki & Tamás Lukovszki. *Balanced Neighbor Selection for BitTorrent-like Networks.*		Fedor Fomin, Archontia Giannopoulou & Michal Pilipczuk. *Computing Tree-depth Faster Than 2^n.*
18:00	Jeremy Barbay, Ankur Gupta, Seungbum Jo, Srinivasa Rao Satti & Jonathan Sorenson. *Theory and Implementation of Online Multiselection Algorithms.*	Giorgio Ausiello, Paolo Giulio Franciosa, Giuseppe Francesco Italiano & Andrea Ribichini. *On Resilient Graph Spanners.*		Yuri Rabinovich, Jan Arne Telle & Martin Vatshelle. *Upper Bounds on Boolean-width with Applications to Exact Algorithms.*

Wednesday, september 4, 2013

8:30	Registration 9:00 Welcome				
9:02	IPEC Keynote. *Exact Complexity and Satisfiability.* Ramamohan Paturi, EATCS-IPEC Nerode Prize 2013 California Institute for Telecommunications & Information Technology				
10:00	Coffee break				
	IPEC, Edge-Contraction	WAOA	ALGOSENSORS	ATMOS, Robust Planning	MASSIVE
10:30	Sylvain Guillemot & Daniel Marx. *A faster FPT algorithm for Bipartite Contraction.*	Matus Mihalak, Rastislav Sramek, & Peter Widmayer. *Counting approximately-shortest paths in directed acyclic graphs*	Opening talk: Giuseppe Prencipe. *Autonomous Mobile Robots: A Distributed Computing Perspective.*	Marc Goerigk, Sascha Heße, Matthias Müller-Hannemann, Marie Schmidt & Anita Schöbel. *Recoverable Robust Timetable Information.*	TBA
10:55	Leizhen Cai & Chengwei Guo. *Contracting Few Edges to Remove Forbidden Subgraphs.*	Ofer Neiman. *Low Dimensional Embeddings of Doubling Metrics*		Donatella Firmani, Giuseppe F. Italiano, Luigi Laura & Federico Santaroni. *Is Timetabling Routing Always Reliable for Public Transport?*	TBA
11:20	Daniel Lokshtanov, Neeldhara Misra & Saket Saurabh. *On the hardness of eliminating small induced subgraphs by contracting edges.*	Yuichi Asahiro, Jesper Jansson, Eiji Miyano, & Hirotaka Ono. *Degree-Constrained Graph Orientation: Maximum Satisfaction and Minimum Violation*	Gianlorenzo D'Angelo, Alfredo Navarra, Daniele Diodati & Cristina M. Pinotti. *Approximation Bounds for the Minimum k-Storage Problem.*	Katerina Bohmova, Matus Mihalak, Tobias Pröger, Rastislav Sramek & Peter Widmayer. *Robust Routing in Urban Public Transportation: How to Find Reliable Journeys Based on Past Observations.*	TBA
11:45	Rémy Belmonte, Petr Golovach, Pim van 'T Hof & Daniel Paulusma. *Parameterized Complexity of Two Edge Contraction Problems with Degree Constraints.*	Oded Lachish, Alexandru Popa, & Trevor Fenner. *Min-Sum 2-Paths Problems*	Amir Bannoura, Christian Ortolf, Christian Schindelhauer & Leonhard Reindl. *The Wake Up Dominating Set Problem.*	Hannah Bast, Jonas Sternisko & Sabine Storandt. *Delay-Robustness of Transfer Patterns in Public Transportation Route Planning.*	TBA
12:10	Lunch				
13:45	ATMOS Keynote. *Modeling and Optimizing Traffic Networks.* Tobias Harks, Maastricht University.				
14:45	Short break				
	IPEC, FPT Algorithms I	WAOA	ALGOSENSORS	ATMOS, Railway Optimization	MASSIVE
15:00	Jaroslaw Blasiok & Marcin Kaminski. *Chain minors are FPT.*	Hemant Tyagi & Bernd Gartner. *Continuum armed bandit problem of few variables in high dimensions*	Gokarna Sharma & Costas Busch. *Optimal Nearest Neighbor Queries in Sensor Networks*	Ruslan Sadykov, Alexander Lazarev, Vitaliy Shyryaev & Alexey Stratonnikov. *Solving a Freight Railcar Flow Problem Arising in Russia.*	TBA

Thursday, september 5, 2013

15:25	Bernhard Bliem, Reinhard Pichler & Stefan Woltran. *Declarative Dynamic Programming as an Alternative Realization of Courcelle's Theorem.*	Marek Cygan & Lukasz Jez. *Online Knapsack Revisited*	Laszlo Blazovics & Tamas Lukovszki. *Fast Localized Sensor Self-Deployment for Focused Coverage*	Ralf Borndörfer, Heide Hoppmann & Marika Karbstein. *A Configuration Model for the Line Planning Problem.*	TBA
15:50	Edouard Bonnet, Bruno Escoffier, Vangelis Paschos & Emeric Tourniaire. *Multi-parameter complexity analysis for constrained size graph problems: using greediness for parameterization.*	Anna Adamaszek, Rob van Stee, Marc P. Renault, & Adi Rosen. *Re-ordering Buffer Management with Advice*	Antonio Fernandez Anta, Dariusz Kowalski, Miguel A. Mosteiro & Prudence W.H. Wong. *Station Assignment with Applications to Sensing.*	Emilio Carrizosa, Jonas Harbering & Anita Schöbel. *The Stop Location Problem with Realistic Traveling Time.*	TBA
16:15	Coffee break				
	IPEC, Parameterized Complexity I	WAOA	ALGOSENSORS	ATMOS, Diversity in Routing	MASSIVE
16:45	Amer Mouawad, Naomi Nishimura, Venkatesh Raman, Narges Simjour & Akira Suzuki. *On the Parameterized Complexity of Reconfiguration Problems.*	Mohammadtaghi Hajiaghayi, Rohit Khandekar, Guy Kortsarz, & Zeev Nutov. *Capacitated Network Design Problems: Hardness, Approximation Algorithms, and Connections to Group Steiner Tree*	Matias Korman, Maarten Löffler, Rodrigo Silveira & Darren Strash. *On the Complexity of Barrier Resilience for Fat Regions.*	Moritz Kobitzsch, Dennis Schieferdecker & Marcel Radermacher. *Evolution and Evaluation of the Penalty Method for Alternative Routes.*	TBA
17:10	Danny Hermelin, Stefan Kratsch, Karolina Soltys, Magnus Wahlström & Xi Wu. *A Completeness Theory for Polynomial (Turing) Kernelization.*	Jaroslaw Byrka, Shanfei Li, & Bartosz Rybicki. *Improved approximation algorithm for k-level UFL (with penalties), a simplistic view on randomizing the scaling parameter*	Sebastian Abshoff, Markus Benter, Andreas Cord-Landwehr, Manuel Malatyali & Friedhelm Meyer Auf der Heide. *Token Dissemination in Geometric Dynamic Networks.*	Andreas Paraskevopoulos & Christos Zaroliagis. *Improved Alternative Route Planning.*	TBA
17:35	Christoph Stockhusen & Till Tantau. *Completeness Results for Parameterized Space Classes.*	Ulrich Pferschy & Joachim Schauer. *Approximating the Quadratic Knapsack Problem on Special Graph Classes*	Giuseppe Antonio Di Luna, Silvia Bonomi, Ioannis Chatzigiannakis & Roberto Baldoni. *Counting in Anonymous Dynamic Networks: An Experimental Perspective.*	Hannah Bast, Mirko Brodesser & Sabine Storandt. *Result Diversity for Multi-Modal Route Planning.*	TBA
18:00	Short break			Boadu Mensah Sarpong, Christian Artigues & Nicolas Jozefowiez. *Column Generation for Bi-Objective Vehicle Routing Problems with a Min-Max Objective.*	
18:10	18:10 IPEC Excellent Student Paper Awards 18:20 IPEC Business Meeting	Business meetings		Arthur Bit-Monnot, Marie-José Huguet, Marc-Olivier Killijian & Christian Artigues. *Carpooling : the 2 Synchronization Points Shortest Paths Problem.*	

Thursday, september 5, 2013

8:30 Registration 9:00 Welcome

9:02 ALGOSENSORS Keynote.
Modeling reality algorithmically: The case of wireless communication.
Magnus Halldorsson, Reykjavik University.

10:00 Coffee break

	IPEC, FPT Algorithms II	WAOA	ALGOSENSORS
10:30	Meirav Zehavi. *Algorithms for k-Internal Out-Branching.*	Remi Watrigant, Marin Bougeret, & Rodolphe Giroudeau. *Approximating the Sparsest k-Subgraph in Chordal Graphs*	Jérémie Chalopin, Shantanu Das, Matus Mihalak, Paolo Penna & Peter Widmayer. *Data-Delivery by Energy-Constrained Mobile Robots.*
10:55	Vikraman Arvind. *The Parameterized Complexity of Fixpoint Free Elements and Bases in Permutation Groups.*	Kamiel Cornelissen, Ruben Hoeksma, Bodo Manthey, N. S. Narayanaswamy, & C. S. Rahul. *Approximability of Connected Factors*	Giovanni Viglietta *Rendezvous of two Robots with Visible Bits.*
11:20	N.S. Narayanaswamy & R. Subashini. *FPT algorithms for Consecutive Ones Submatrix problems.*	Nicolas Boria, Federico Della Croce, & Vangelis Paschos. *On the Max Min Vertex Cover problem*	Eduardo Mesa-Barrameda, Shantanu Das & Nicola Santoro *Uniform Dispersal of Asynchronous Finite-State Mobile Robots in Presence of Holes.*
11:45	Rajesh Chitnis, Mohammadtaghi Hajiaghayi & Guy Kortsarz. *Fixed-Parameter and Approximation Algorithms: A New Look.*	Erika Coelho, Mitre Dourado, & Rudini Sampaio. *Inapproximability results for graph convexity parameters*	Davide Bilò, Yann Disser, Luciano Gualà, Matus Mihalak, Guido Proietti & Peter Widmayer. *Polygon-constrained Motion Planning Problems.*

12:10 **Lunch**

13:45 WAOA Keynote.
New Approaches for Approximating TSP.
Ola Svensson, EPFL.

14:45 **Short break**

	IPEC, Tutorial	ALGOSENSORS
15:00	Daniel Lokshtanov. *Efficient Computation of Representative Sets with Applications in Parameterized and Exact Algorithms.*	Fabian Fuchs & Dorothea Wagner. *On Local Broadcasting Schedules and* CONGEST *Algorithms in the* SINR *Model.*
15:25		Simon Burgess, Yubin Kuang, Johannes Wendeberg, Kalle Åström & Christian Schindelhauer. *Minimal Solvers for Unsynchronized* TDOA *Sensor Network Calibration using Far Field Approximation.*
15:50		Matthias Függer, Alexander Kröller, Thomas Nowak, Ulrich Schmid & Martin Zeiner. *The Effect of Forgetting on the Performance of a Synchronizer.*

photo: Lene Solvang

16:15 **Coffee break**

	IPEC, Parameterized Complexity II	ALGOSENSORS
16:45	Olawale Hassan, Iyad Kanj, Daniel Lokshtanov & Ljubomir Perkovic. *On the Ordered List Subgraph Embedding Problems.*	Aaron Becker, Erik Demaine, Sándor Fekete, Golnaz Habibi & James McLurkin. *Reconfiguring Massive Particle Swarms with Limited, Global Control.*
17:10	Edouard Bonnet, Bruno Escoffier, Eunjung Kim & Vangelis Paschos. *On Subexponential and FPT-time Inapproximability.*	Tigran Tonoyan. *Conflict Graphs and the Capacity of the Mean Power Scheme.*
17:35	Leizhen Cai & Yufei Cai. *Incompressibility of H-Free Edge Modification Problems.*	Christine Markarian, Michael Schubert & Friedhelm Meyer Auf der Heide. *Distributed Approximation Algorithm for Strongly Connected Dominating-Absorbent Sets in Asymmetric Wireless Ad-Hoc Networks.*
18:00	Ramanujan M. S., Daniel Lokshtanov, Neeldhara Misra, Saket Saurabh & Geevarghese Philip. *Hardness of r-Dominating Set on graphs of diameter $(r+1)$.*	Avery Miller. *On the Complexity of Fixed-Schedule Neighbourhood Learning in Wireless Ad Hoc Radio Networks.*

Friday, september 6, 2013

Campus SophiaTech
450 route des Chappes
Sophia Antipolis
GPS : 43.61504, 7.07097
GPS Forum entrance : 43.6151, 7.0708
Carrefour du Golf
Carrefour des Chappes
Accès 16
Accès 18
Accès 21
Accès 2
Les Lucioles
Accès 1
Route des Lucioles
Route des Colles
Route des Chappes
Route du Parc
Route de la Valmasque
Route de St. Bernard
Rue A. Einstein
Rue Dostoïevski
Rue F. Leger
Avenue St. Philippe
ALGO 2013
A8 Motorway
To Nice
To Cannes / Aix
From Nice
Exit
Antibes - Sophia Antipolis n°44
From Aix-Marseille
Exit
Antibes - Sophia Antipolis n°44

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ALGO 2013 schedule

Mon, Sep 2	Tue, Sep 3	Wed, Sep 4	Thu, Sep 5	Fri, Sep 6
8:00 registration	8:30 registration			
9:00 -10:00 ESA Keynote Claire Mathieu	WABI Keynote Bernard Moret	ESA Keynote Hannah Bast	IPEC Keynote Ramamohan Paturi	ALGOSENSORS Keynote Magnus Halldorsson
10:00 - 10:30	Coffee break			
10:30 - 12:10 ESA 1 ESA 2 WABI	ESA 1 ESA 2 WABI	ESA 1 ESA 2 WABI IPEC	IPEC ATMOS WAOA ALGOSENSORS MASSIVE	IPEC WAOA ALGOSENSORS
12:10 - 13:30 Lunch				12:10 - 13:45
13:30 - 14:45 ESA 1 ESA 2 WABI	ESA best papers WABI	ESA 1 ESA 2 WABI IPEC Tutorial	13:45 - 14:45 ATMOS Keynote Tobias Harks	WAOA Keynote Ola Svensson
short break				
15:00 16:15 ESA 1 ESA 2 WABI	ESA 1 ESA 2 WABI Posters	ESA 1 ESA 2 WABI IPEC	IPEC ATMOS WAOA ALGOSENSORS MASSIVE	IPEC Tutorial ALGOSENSORS
16:15 - 16:45	Excursion: Nice old town Conference dinner at Negresco	Coffee break		
16:45 - 17:35 ESA 1 ESA 2 WABI Bus. meeting		16:45 - 18:25 ESA 1 ESA 2 IPEC	16:45 - 18:00 IPEC WAOA ALGOSENSORS MASSIVE ATMOS (up to 18:50)	16:45 - 18:25 IPEC ALGOSENSORS
17:45 - 19:15 ESA Business meeting			18:10 - 19:20 IPEC (Bus. meet.) WAOA (Bus. meet.) ALGOSENSORS (Bus.m.) MASSIVE (Bus. meet.)	