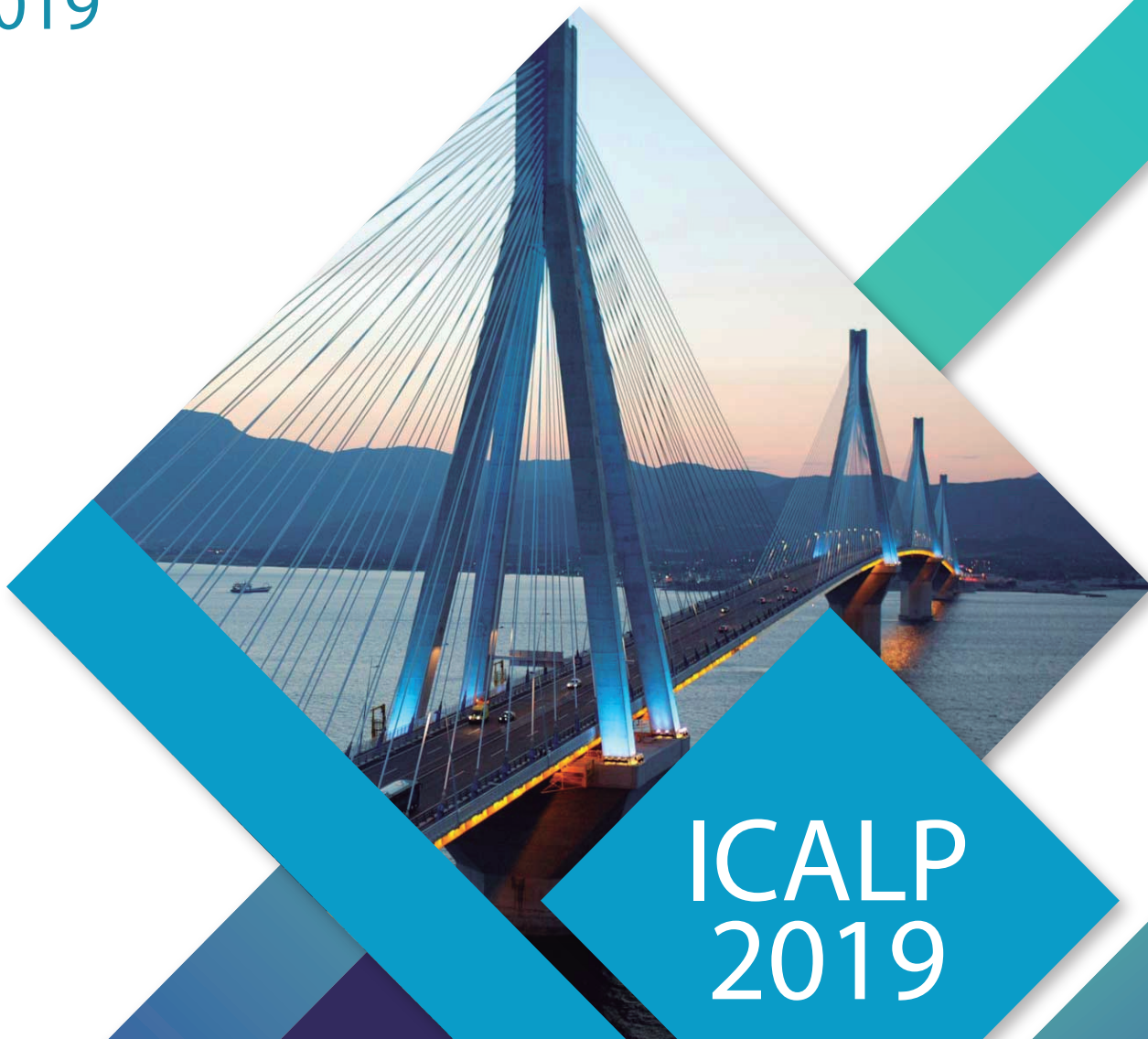


8-12 July
2019



ICALP 2019

PROGRAM

Organized by

In Collaboration with



Contents

WELCOME.....	3
KEYNOTE SPEAKERS.....	4
AWARD SESSION SPEAKERS.....	6
SOCIAL DINNER.....	8
DETAILED PROGRAMME.....	9
Monday 8 July 2019, Workshops Programme	9
Tuesday 9 July 2019.....	11
Wednesday 10 July 2019	14
Thursday 11 July 2019	17
Friday 12 July 2019	20
TRAVEL GUIDELINES	22
Travelling to Patras.....	22
Reaching Patras from Athens airport	22
Reaching the Conference Venue	23
From Patras Center.....	23
From Hotels near the Conference Venue.....	23
USEFUL INFORMATION.....	24
Phone numbers	24
Health Insurance and Health Emergencies	24
Wifi at the Conference Site	24

WELCOME

Dear ICALP 2019 participant,

The International Colloquium on Automata, Languages and Programming (ICALP) is the main conference and annual meeting of the European Association for Theoretical Computer Science (EATCS). This international conference was launched in 1972 and covers all aspects of theoretical computer science.

Traditionally ICALP's scientific program is split into two tracks: Track A corresponds to Algorithms, Complexity, and Games, and Track B to Automata, Logic, Semantics, and Theory of Programming. Since 2009, Track C was introduced on Foundations of Networks and multi-agent systems: Models, Algorithms and Information Management.

The 46th ICALP or ICALP 2019 is held at the Conference and Cultural Center of the University of Patras, Greece on 8-12 July 2019. The congress is hosted by the University of Patras and its Department of Computer Engineering and Informatics, and it is organized in cooperation with the European Association for Theoretical Computer Science (EATCS).

The ICALP 2019 programme consists of 5 invited keynote talks, 4 keynote talks related to prestigious awards (EATCS Award, Presburger Award, Alonso Church Award), 5 best paper award talks, over 140 research contributions, and includes also the following thematic workshops that all take place on 8 July 2019:

- Workshop on Theoretical Aspects of Fairness (WTAF 2019)
- Parameterized Approximation Algorithms Workshop (PAAW 2019)
- Workshop on Algorithmic Aspects of Temporal Graphs II
- Logic and Computational Complexity Workshop (LCC 2019)

The University of Patras is the third largest university in Greece with respect to the size of the student body, the staff, and the number of departments. Together with its educational and research work, the rich campus life, the University of Patras attracts many candidate students every year as their first and foremost choice for their Higher Education studies. It includes 38 Departments organized in 9 Schools in almost all scientific domains, and has a high reputation in Medicine and in all Engineering and Computer Science disciplines. The University of Patras has about 50,000 Undergraduate and 4,000 Postgraduate students, more than 1100 Faculty members, about 300 Teaching and Technical staff, more than 2700 researchers, and about 800 administrative Personnel. The University campus hosts in addition a number of research institutes as well as a scientific and technological park hosting various companies, all specializing in innovative scientific & technological domains, including computer & information technology, communications, electrical engineering and electronics, applied mathematics, pharmacology, biotechnologies, chemical engineering, and sustainable development.

Patras, dubbed as Greece's Gate to the West, is a commercial hub, while its busy port is a nodal point for trade and communication with Italy and the rest of Western Europe. The city hosts also the Hellenic Open University, thus overall contributing a large student population and rendering Patras a major scientific centre with a field of excellence in technological education. The Rio-Antirrio bridge connects Patras' easternmost suburb of Rio to the town of Antirrio, connecting the Peloponnese peninsula with mainland Greece.

Welcome to Patras. We wish you an exciting conference!
The ICALP 2019 Organizing Committee



<https://www.upatras.gr/en>



<https://en.wikipedia.org/wiki/Patras>

KEYNOTE SPEAKERS



Michal Feldman
Tel-Aviv University, Israel

Auction Design under Interdependent Value Keynote Lecture 1, Tuesday 9 July 2019 9am

We study combinatorial auctions with interdependent valuations. In such settings, every agent has a private signal, and every agent has a valuation function that depends on the private signals of all the agents. Interdependent valuations capture settings where agents lack information to determine their own valuations. Examples include auctions for artwork or oil drilling rights. For single item auctions and assume some restrictive conditions (the so-called single-crossing condition), full welfare can be achieved. However, in general, there are strong impossibility results on welfare maximization in the interdependent setting. This is in contrast to settings where agents are aware of their own valuations, where the optimal welfare can always be obtained by an incentive compatible mechanism. Motivated by these impossibility results, we study welfare maximization for interdependent valuations through the lens of approximation. We introduce two valuation properties that enable positive results. The first is a relaxed, parameterized version of single crossing; the second is a submodularity condition over the signals. We obtain a host of approximation guarantees under these two notions for various scenarios.

Mihalis Yannakakis
Columbia University, USA



Fixed point computation problems and facets of complexity Keynote Lecture 2, Wednesday 10 July 2019 9am

Many problems from a wide variety of areas can be formulated mathematically as the problem of computing a fixed point of a suitable given multivariate function. Examples include a variety of problems from game theory, economics, optimization, stochastic analysis, verification, and others. In some problems there is a unique fixed point (for example if the function is a contraction); in others there may be multiple fixed points and any one of them is an acceptable solution; while in other cases the desired object is a specific fixed point (for example the least fixed point or greatest fixed point of a monotone function). In this talk we will discuss several types of fixed point computation problems, their complexity, and some of the common themes that have emerged: classes of problems for which there are efficient algorithms, and other classes for which there seem to be serious obstacles. My talk will be a survey of recent progress on the isomorphism and on the similarity problem. I will focus on generic algorithmic strategies (as opposed to algorithms tailored towards specific graph classes) that have proved to be useful and interesting in various context, both theoretical and practical.



Frits Vaandrager
Radboud University, The Netherlands

Automata Learning and Galois Connections
Keynote Lecture 3, Wednesday 10 July 2019 14.30pm

Automata learning is emerging as an effective technique for obtaining state machine models of software and hardware systems. I will present an overview of recent work in which we used active automata learning to find standard violations and security vulnerabilities in implementations of network protocols such as TCP and SSH. Also, I will discuss applications of automata learning to support refactoring of legacy control software and identifying job patterns in manufacturing systems. As a guiding theme in my presentation, I will show how Galois connections (adjunctions) help us to scale the application of learning algorithms to practical problems.

Ola Svensson
EPFL, Switzerland



Approximately Good and Modern Matchings
Keynote Lecture 4, Thursday 11 July 2019 9am

The matching problem is one of our favorite benchmark problems. Work on it has contributed to the development of many core concepts of computer science, including the equation of efficiency with polynomial time computation in the groundbreaking work by Edmonds in 1965. However, half a century later, we still do not have full understanding of the complexity of the matching problem in several models of computation such as parallel, online, and streaming algorithms. In this talk we survey some of the major challenges and report some recent progress. My talk will be a survey of recent progress on the isomorphism and on the similarity problem. I will focus on generic algorithmic strategies (as opposed to algorithms tailored towards specific graph classes) that have proved to be useful and interesting in various context, both theoretical and practical.



Martin Grohe
RWTH Aachen, Germany

Symmetry and Similarity

Keynote Lecture 5, Friday 12 July 2019 9am

Deciding if two graphs are isomorphic, or equivalently, computing the symmetries of a graph, is a fundamental algorithmic problem. It has many interesting applications, and it is one of the few natural problems in the class NP whose complexity status is still unresolved. Three years ago, Babai (STOC 2016) gave a quasi-polynomial time isomorphism algorithm. Despite of this breakthrough, the question for a polynomial algorithm remains wide open. Related to the isomorphism problem is the problem of determining the similarity between graphs. Variations of this problems are known as robust graph isomorphism or graph matching (the latter in the machine learning and computer vision literature). This problem is significantly harder than the isomorphism problem, both from a complexity theoretical and from a practical point of view, but for many applications it is the more relevant problem.

AWARD SESSION SPEAKERS



Thomas A. Henzinger
Institute of Science and Technology, Austria

Model Checking Game Properties of Multi-Agent Systems

EATCS Award talk, Thursday 11 July 2019 16.45pm

At the 25th ICALP in Aalborg, Denmark, in 1998 I gave an invited lecture with the same title. I will report on new developments and challenges in this area which combine graph games used in model checking with concepts from algorithmic game theory such as auctions and equilibria.

Karl Bringmann

Max-Planck-Institut für Informatik



Fine-Grained Complexity of Dynamic Programming Problems

Presburger Award talk, Thursday 11 July 2019 17.30pm

Fine-grained complexity theory yields tight running-time lower bounds based on assumptions such as the Strong Exponential Time Hypothesis (SETH). This approach was particularly successful for many textbook dynamic programming problems, explaining long-standing lack of algorithmic progress. In this talk we focus on a line of research that was triggered by a fine-grained lower bound for the Frechet distance and resulted in tight bounds for many other classical problems, including sequence similarity problems such as edit distance and longest common subsequence, as well as regular expression pattern matching, tree edit distance, and compressed string problems.



Kasper Green Larsen

Aarhus University, Denmark

A Quest Towards Strong Unconditional Lower Bounds EATCS Award talk,
Presburger Award talk, Thursday 11 July 2019 17.55pm

One of the holy grails of theoretical computer science, is to prove strong unconditional lower bounds on the time needed to solve computational problems in realistic models of computation. Unfortunately we are very far from this goal in most settings. One of the areas where we've been quiet succesful, is in proving lower bounds for data structures and problems of a similar online flavour. In this talk, I will survey the state-of-the-art results and techniques in data structure lower bounds and the barriers we face in improving our techniques. Much of the focus will be on my own contributions to this area, but also on recent progress in areas outside of data structures where our techniques have found exciting applications.

Murdoch James Gabbay

Heriot-Watt University, UK



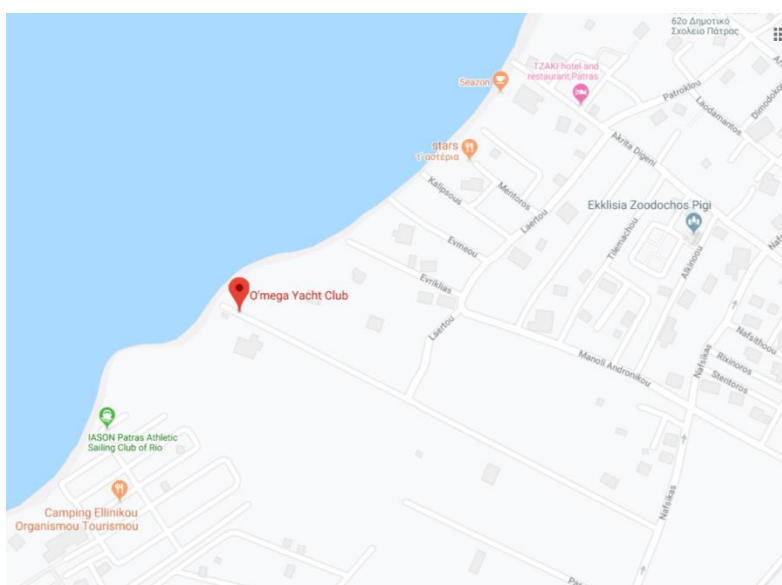
Nominal techniques, past and future

Alonso Church Award talk, Thursday 11 July 2019 18.20pm

It has been eighteen years since the 2001 journal paper which introduced nominal techniques. What have we learned, and how can we apply these lessons to the future? I will in brief overview describe the essence of nominal techniques as I currently understand them -- and where we can go from here.

SOCIAL DINNER

The ICALP 2019 social dinner will take place at the **Omega Yachting Club**, well known for its exquisite and unique cuisine, in a picturesque location by the sea with spectacular views at dusk, overlooking the Patras gulf and the **Charilaos Trikoupis** fully suspended **bridge**.



Map 1: O'mega Yacht Club on the map

DETAILED PROGRAMME

Monday 8 July 2019, Workshops Programme

PAAW 2019 – Room II.9	
Time	Talk
09:30 - 10:00	Andreas Emil Feldmann: <i>Parameterized Approximation Algorithms for Bidirected Steiner Network Problems</i>
10:00 - 10:30	Ljiljana Brankovic: <i>Combining Two Worlds: Parameterised Approximation for Vertex Cover</i>
10:30 - 11:00	Cornelius Brand: <i>Extensor-Coding: Parameterized Approximation through Abstract Algebraic Methods</i>
11:00 - 11:30	Break
11:30 - 12:00	Jan Marcinkowski: <i>Constant Factor FPT Approximation for Capacitated k-Median</i>
12:00 - 12:30	Jason Li: <i>Tight FPT Approximations for k-Median and k-Means</i>
12:30 - 13:00	Johannes Blum: <i>Inapproximability of k-Center on Graphs of Low Skeleton Dimension</i>
13:00 - 14:30	Lunch
14:30 - 15:00	Bundit Laekhanukit: <i>Independent Set, Induced Matching, and Pricing: Connections and Tight (Subexponential Time) Approximation Hardnesses</i>
15:00 - 15:30	Bingkai Lin: <i>A Simple Gap-producing Reduction for the Parameterized Set Cover Problem</i>
15:30 - 16:00	Break
16:00 - 16:30	Lars Rohwedder: <i>Empowering the Configuration-IP - New PTAS Results for Scheduling with Setup Times</i>
16:30 - 17:00	Mingyu Xiao: <i>New Results on Polynomial Inapproximability and Fixed Parameter Approximability of Edge Dominating Set</i>
17:00 - 18:00	Open problem session

WTAF 2019 – Room II.8	
Time	Talk
08:45 – 09:00	Introduction
09:00 – 10:00	Vasilis Gkatzelis: <i>Maximizing the Nash Social Welfare: Incentives and Tractability (invited talk)</i>
10:00 – 10:30	Break
Session 1	
10:30 – 11:00	Ioannis Caragiannis, Nikolai Gravin and Xin Huang: <i>Envy-freeness up to Any Item With High Nash welfare: The Virtue of Donating Items</i>
11:00 – 11:30	Elad Aigner-Horev and Erel Segal-Halevi: <i>Envy-free Matchings in Bipartite Graphs and their Applications to Fair Division</i>
11:30 – 12:00	Lee Cohen, Yishay Mansour and Zachary C. Lipton: <i>Efficient Candidate Screening under Multiple Tests and Implications for Statistical Discrimination</i>
12:00 – 12:30	Fedor Sandomirskiy and Erel Segal-Halevi: <i>Fair Division with Minimal Sharing</i>
12:30 – 13:45	Lunch
13:45 – 14:45	Vangelis Markakis: <i>Approximate Relaxations of Envy-Freeness (invited talk)</i>
14:45 – 15:00	Break
Session 2	
15:00 – 15:30	Zbigniew Lonc and Mirosław Truszczynski: <i>On Maximin Share Allocations on Cycles</i>
15:30 – 16:00	Theofilos Triommatis and Aris Pagourtzis: <i>Approximate Counting of Semi-Fair Allocations via #Knapsack Computations</i>

Temporal Graphs II – Room I.4	
Time	Talk
9:30-9:55	Kitty Meeks: <i>Optimising reachability by reordering</i>
9:55-10:20	Argyrios Deligkas: <i>On minimizing/maximizing reachability sets in temporal graphs by independent time delays</i>
10:20-10:45	Christos Zaroliagis: <i>Multimodal dynamic journey planning</i>
10:45-11:15	Break
11:15-11:40	Thomas Erlebach: <i>A game of cops and robbers on graphs with periodic edge-connectivity</i>
11:40-12:05	Arnaud Casteigts: <i>A few sparsification techniques preserving temporal connectivity</i>
12:05-12:30	Spyros Kontogiannis: <i>Exploring earliest-arrival paths in large-scale, time-dependent networks via combinatorial oracles</i>
12:30-12:55	Francesco Pasquale: <i>Self-stabilization and expansion of a simple dynamic random graph model for Bitcoin-like unstructured P2P networks</i>
13:00-14:30	Lunch break
14:30-14:55	Malte Renken: <i>Comparing temporal graphs with time warping</i>
14:55-15:20	Prithwish Basu: <i>Clustering and summarizing temporal graphs</i>
15:20-15:45	Polina Rozenshtein: <i>The network-untangling problem: From interactions to activity timelines</i>
15:45-16:10	Zwi Lotker: <i>The tale of two clocks</i>
16:10-16:40	Break
16:40-17:05	Marco Piangerelli: <i>TDA and Persistent Homology: a new method for analysing temporal graphs</i>
17:05-17:30	Amitabh Trehan: <i>Temporal evolution of self-healing graphs</i>
17:30-17:55	Nicola Santoro: <i>On infinity, continuity, regularity, and time-varying graphs</i>

LCC 2019 – Room I.10	
Time	Talk
1st Session	
9:00-9:10	Opening
9:10-10:00	Daniel Leivant: <i>Finite functions as data objects: A new paradigm to complexity certification (invited talk)</i>
10:00-10:30	Break
10:30-10:55	Amirhossein Akbar Tabatabai: <i>Witnessing Games in Generalized Bounded Arithmetic</i>
10:55-11:20	Carlos Camino, Volker Diekert, Besik Dundua and Mircea Marin: <i>About a Conway-type result for tree language</i>
11:20-11:40	Break
2nd Session	
11:40-12:30	Thomas Zeume: <i>Dynamic Descriptive Complexity of Reachability (invited talk)</i>
12:35-13:00	Eleni Bakali, Aggeliki Chalki and Aris Pagourtzis: <i>Descriptive complexity of classes of easy-to-decide counting problems</i>
13:00-14:30	Lunch Break
3rd Session	
14:30-15:20	Thomas Seiller: <i>Semantics and complexity lower bounds (invited talk)</i>
15:20-15:45	Le Thanh Dung Nguyen: <i>Logarithmic space queries and regular transductions in the elementary affine lambda-calculus</i>
15:45-16:10	Raheleh Jalali: <i>Proof Complexity of Focused Calculus</i>
16:10-16:40	Break
4th Session	
16:40-17:30	Raamya: <i>First order logic with least fixed point operator (invited talk)</i>
17:30-17:55	Arved Friedemann, Jay Morgan: <i>Using Satisfiability Solvers for Problems in Machine Learning</i>
17:55-18:00	Closing

Tuesday 9 July 2019

8:00	Registration			
8:45	Opening Address			
9:00	<p>Keynote Lecture 1: Michal Feldman (Tel-Aviv University, Israel)</p> <p><u><i>Auction Design under Interdependent Value</i></u></p> <p>Room: I.4, Session Chair: Paola Flocchini</p>			
10:00	Break			
	<p>Track: A Session A.1.1 Room: I.4 Chair: Jiri Sgall</p>	<p>Track: A Session A.2.1 Room: I.10 Chair: Paul Spirakis</p>	<p>Track: A Session A.3.1 Room: II.8 Chair: Leslie Goldberg</p>	<p>Track: B Session B.1 Room: II.9 Chair: Christel Baier</p>
10:30	<p>Seffi Naor, Seeun William Umboh and David Williamson. <i>Tight Bounds for Online Weighted Tree Augmentation</i></p>	<p>Alexandr Andoni, Tal Malkin and Negev Shekel Nosatzki. <i>Two Party Distribution Testing: Communication and Security</i></p>	<p>Vladimir Kolmogorov. <i>Testing the complexity of a valued CSP language</i></p>	<p>Paul Bell. <i>Polynomially Ambiguous Probabilistic Automata on Restricted Languages</i></p>
10:55	<p>Anupam Gupta, Guru Guruganesh, Binghui Peng and David Wajc. <i>Stochastic Online Metric Matching</i></p>	<p>Angel Cantu, Austin Luchsinger, Robert Schweller and Tim Wylie. <i>Covert Computation in Self-Assembled Circuits</i></p>	<p>Raimundo Briceño, Andrei Bulatov, Victor Dalmau and Benoit Larose. <i>Dismantlability, connectedness, and mixing in relational structures</i></p>	<p>Pablo Barcelo, Chih-Duo Hong, Xuan-Bach Le, Anthony W. Lin and Reino Niskanen. <i>Monadic Decomposability of Regular Relations</i></p>
11:20	<p>Naveen Garg, Anupam Gupta, Amit Kumar and Sahil Singla. <i>Non-clairvoyant Precedence Constrained Scheduling</i></p>	<p>Zhiyi Huang and Xue Zhu. <i>Scalable and Jointly Differentially Private Packing</i></p>	<p>Miron Ficak, Marcin Kozik, Miroslav Olšák and Szymon Stankiewicz. <i>Dichotomy for symmetric Boolean PCSPs</i></p>	<p>Paul Brunet and Alexandra Silva. <i>A Kleene Theorem for Nominal Automata</i></p>
11:45	Break			
	<p>Track: A Session A.1.2 Room: I.4 Chair: Stefano Leonardi</p>	<p>Track: A Session A.2.2 Room: I.10 Chair: Igor Carboni Oliveira</p>	<p>Track: A Session A.3.2 Room: II.8 Chair: Kazuo Iwama</p>	<p>Track: B Session B.2 Room: II.9 Chair: Volker Diekert</p>
12:00	<p>Sepehr Assadi and Shay Solomon. <i>When Algorithms for Maximal Independent Set and Maximal Matching Run in Sublinear Time</i></p>	<p>Alexander Golovnev, Rahul Ilango, Russell Impagliazzo, Valentine Kabanets, Antonina Kolokolova and Avishay Tal. <i>$AC^0[p]$ Lower Bounds against MCSP via the Coin Problem</i></p>	<p>Amir Abboud. <i>Fine-Grained Reductions and Quantum Speedups for Dynamic Programming</i></p>	<p>Katrin Casel, Joel Day, Pamela Fleischmann, Tomasz Kociumaka, Florin Manea and Markus L. Schmid. <i>Graph and String Parameters: Connections Between Pathwidth,</i></p>

			<i>Cutwidth and the Locality Number</i>
12:25	Jannik Matuschke, Ulrike Schmidt-Kraepelin and José Verschae. <i>Maintaining Perfect Matchings at Low Cost</i>	Mahdi Cheraghchi, Valentine Kabanets, Zhenjian Lu and Dimitrios Myrisiotis. <i>Circuit Lower Bounds for MCSP from Local Pseudorandom Generators</i>	Alex Bredariol Grilo. <i>A simple protocol for verifiable delegation of quantum computation in one round</i>
12:50	Falko Hegerfeld and Stefan Kratsch. <i>On adaptive algorithms for maximum matching</i>	Mrinal Kumar, Ramprasad Satharishi and Rafael Oliveira. <i>Towards Optimal Depth Reductions for Syntactically Multilinear Circuits</i>	Yassine Hamoudi and Frederic Magniez. <i>Quantum Chebyshev's Inequality and Applications</i>
13:15	Lunch		
	Track: A Session A.1.3 Room: I.4 Chair: Sandeep Sen	Track: A Session A.2.4 Room: I.10 Chair: Amir Abboud	Track: A Session A.3.3 Room: II.8 Chair: Andreas Wiese
14:30	David P. Woodruff and Guang Yang. <i>Separating k-Player from t-Player One-Way Communication, with Applications to Data Streams</i>	Thomas Watson. <i>Amplification with One NP Oracle Query</i>	Benjamin Moseley. <i>Scheduling to Approximate Minimization Objectives on Identical Machines</i>
14:55	Graham Cormode, Jacques Dark and Christian Konrad. <i>Independent Sets in Vertex-Arrival Streams</i>	Igor Carboni Oliveira. <i>Randomness and Intractability in Kolmogorov Complexity</i>	Siu-Wing Cheng and Yuchen Mao. <i>Restricted Max-Min Allocation: Approximation and Integrality Gap</i>
15:20	Amin Coja-Oghlan, Oliver Gebhard, Maximilian Hahn-Klimroth and Philipp Loick. <i>Information-theoretic and algorithmic thresholds for group testing</i>	Dmitry Gavinsky, Troy Lee, Miklos Santha and Swagato Sanyal. <i>A composition theorem for randomized query complexity via max-conflict complexity</i>	Kyriakos Axiotis and Christos Tzamos. <i>Capacitated Dynamic Programming: Faster Knapsack and Graph Algorithms</i>
15:45	Talya Eden, Dana Ron and Will Rosenbaum. <i>The Arboricity Captures the Complexity of Sampling Edges</i>	Yuval Filmus, Lianna Hambardzumyan, Hamed Hatami, Pooya Hatami and David Zuckerman. <i>Biasing Boolean Functions and Collective Coin-Flipping Protocols over Arbitrary Product Distributions</i>	Ce Jin. <i>An Improved FPTAS for 0-1 Knapsack</i>

16:10

Break

Track: A**Session A.1.4**

Room: I.4

Chair: Artur Czumaj

Track: A**Session A.2.4**

Room: I.10

Chair: Thomas Erlebach

Track: A**Session A.3.4**

Room: II.8

Chair: Kazuo Iwama

Track: A**Session A.4.1**

Room: II.9

Chair: Sandeep Sen

16:40

Venkatesan Guruswami, Lingfei Jin and Chaoping Xing.
Constructions of maximally recoverable local reconstruction codes via function fields

Klaus Jansen and Lars Rohwedder.
Local search breaks 1.75 for Graph Balancing

Srinivasan Arunachalam, Sourav Chakraborty, Troy Lee, Manaswi Paraashar and Ronald de Wolf.
Two new results about quantum exact learning

Mikkel Thorup, Or Zamir and Uri Zwick.
Dynamic ordered sets with approximate queries, approximate heaps and soft heaps

17:05

Chaoping Xing and Chen Yuan.
Construction of optimal locally recoverable codes and connection with hypergraph

Mina Dalirrooyfard, Virginia Vassilevska Williams, Nikhil Vyas and Nicole Wein.
Tight Approximation Algorithms for Bichromatic Graph Diameter and Related Problems

Scott Aaronson, Alexandru Cojocaru, Alexandru Gheorghiu and Elham Kashefi.
Complexity-theoretic limitations on blind delegated quantum computation

Bertie Ancona, Monika Henzinger, Liam Roditty, Virginia Vassilevska Williams and Nicole Wein.
Algorithms and Hardness for Diameter in Dynamic Graphs

17:30

Andrii Riazanov and Venkatesan Guruswami.
Beating Fredman-Komlós for perfect k -hashing

Mina Dalirrooyfard, Virginia Vassilevska Williams, Nikhil Vyas, Nicole Wein, Yinzhan Xu and Yuan Cheng Yu.
Approximation Algorithms for Min-Distance Problems

Shantanav Chakraborty, András Gilyén and Stacey Jeffery.
The power of block-encoded matrix powers: improved regression techniques via faster Hamiltonian simulation

Eden Chlamtac, Michael Dinitz and Thomas Robinson.
The Norms of Graph Spanners

17:55

Kuan Cheng, Zhengzhong Jin, Xin Li and Ke Wu.
Block Edit Errors with Transpositions. Deterministic Document Exchange Protocols and Almost Optimal Binary Codes

Akbar Rafiey, Arash Rafiey and Thiago Santos.
Toward a Dichotomy for Approximation of H -coloring

Fernando G.S.L. Brandao, Amir Kalev, Tongyang Li, Cedric Yen-Yu Lin, Krysta M. Svore and Xiaodi Wu.
Quantum SDP Solvers. Large Speed-ups, Optimality, and Applications to Quantum Learning

Yair Bartal, Nova Fandina and Ofer Neiman.
Covering Metric Spaces by Few Trees

18:20

Break

18:30

Welcome Reception

20:30

Wednesday 10 July 2019

9:00	<p>Keynote Lecture 2: Mihalis Yannakakis (Columbia University, USA) <u><i>Fixed point computation problems and facets of complexity</i></u> Room: I.4, Session Chair: Paul Spirakis</p>			
10:00	Break			
	<p>Track: A Session A.1.5 Room: I.4 Chair: Benjamin Moseley</p>	<p>Track: A Session A.2.5 Room: I.10 Chair: Lefteris Kirousis</p>	<p>Track: B Session B.3 Room: II.9 Chair: Florin Manea</p>	<p>Track: C Session C.1 Room: II.8 Chair: Evangelos Kranakis</p>
10:30	<p>Eyal Mizrachi, Roy Schwartz, Joachim Spoerhase and Sumedha Uniyal. <i>A Tight Approximation for Submodular Maximization with Mixed Packing and Covering Constraints</i></p>	<p>Tobias Friedrich and Ralf Rothenberger. <i>The Satisfiability Threshold for Non-Uniform Random 2-SAT</i></p>	<p>Titouan Carrette, Emmanuel Jeandel, Simon Perdrix and Renaud Vilmart. <i>Completeness of Graphical Languages for Mixed States Quantum Mechanics</i></p>	<p>Arnaud Casteigts, Joseph Peters and Jason Schoeters. <i>Temporal Cliques Admit Sparse Spanners</i></p>
10:55	<p>Alina Ene and Huy Nguyen. <i>A Nearly-linear Time Algorithm for Submodular Maximization with a Knapsack Constraint</i></p>	<p>Thomas Sauerwald and Luca Zanetti. <i>Random Walks on Dynamic Graphs: Mixing Times, Hitting Times, and Return Probabilities</i></p>	<p>Henning Urbat and Stefan Milius. <i>Varieties of Data Languages</i></p>	<p>Matthias Bonne and Keren Censor-Hillel. <i>Distributed Detection of Cliques in Dynamic Networks</i></p>
11:20	<p>Alina Ene and Huy Nguyen. <i>Towards Nearly-linear Time Algorithms for Submodular Maximization with a Matroid Constraint</i></p>	<p>Matija Pasch and Konstantinos Panagiotou. <i>Satisfiability Thresholds for Regular Occupation Problems</i></p>	<p>Ugo Dal Lago, Francesco Gavazzo and Akira Yoshimizu. <i>Differential Logical Relations</i></p>	<p>Dariusz Kowalski and Miguel A. Mosteiro. <i>Polynomial Anonymous Dynamic Distributed Computing without a Unique Leader</i></p>
11:45	Break			
	<p>Track: A Session A.1.6 Room: I.4 Chair: Ioannis Caragiannis</p>	<p>Track: A Session A.2.6 Room: I.10 Chair: Giuseppe Italiano</p>	<p>Track: B Session B.4 Room: II.9 Chair: Erich Gradel</p>	<p>Track: C Session C.2 Room: II.8 Chair: Arnaud Casteigts</p>
12:00	<p>Fedor Fomin, Petr Golovach, Daniel Lokshantov, Saket Saurabh and Meirav Zehavi. <i>Covering Vectors by Spaces in Perturbed Graphic Matroids and Their Duals</i></p>	<p>Massimo Equi, Roberto Grossi, Veli Mäkinen and Alexandru I. Tomescu. <i>On the Complexity of String Matching for Graphs</i></p>	<p>Thomas Place and Marc Zeitoun. <i>On all things star-free</i></p>	<p>Thomas Erlebach, Frank Kammer, Kelin Luo, Andrej Sajenko and Jakob Spooner. <i>Two Moves per Time Step Make a Difference</i></p>

12:25	Akanksha Agrawal, Fedor Fomin, Daniel Lokshtanov, Saket Saurabh and Prafullkumar Tale. <i>Path Contraction Faster than 2^n</i>	Giulia Bernardini, Pawel Gawrychowski, Nadia Pisanti, Solon Pissis and Giovanna Rosone. <i>Even Faster Elastic-Degenerate String Matching via Fast Matrix Multiplication</i>	Antonio Molina Lovett and Jeffrey Shallit. <i>Optimal Regular Expressions for Permutations</i>	Eleni C. Akrida, George Mertzios, Sotiris Nikolettseas, Christoforos Raptopoulos, Paul Spirakis and Viktor Zamaraev. <i>How fast can we reach a target vertex in stochastic temporal graphs?</i>
12:50	Fedor Fomin, Daniel Lokshtanov, Fahad Panolan, Saket Saurabh and Meirav Zehavi. <i>Decomposition of Map Graphs with Applications</i>	William Kuszmaul. <i>Dynamic Time Warping in Strongly Subquadratic Time: Algorithms for the LowDistance Regime and Approximate Evaluation</i>	Mohamed-Amine Baazizi, Dario Colazzo, Giorgio Ghelli and Carlo Sartiani. <i>A Type System for Interactive JSON Schema Inference</i>	Frederik Mallmann-Trenn, Yannic Maus and Dominik Pajak. <i>Noisy Communication: On the Convergence of the Averaging Population Protocol</i>
13:15	Lunch			
14:30	Keynote Lecture 3: Frits Vaandrager (Radboud University, Netherlands) <i>Automata Learning and Galois Connections</i> Room: I.4, Session Chair: Christel Baier			
15:30	Break			
	Track: A Session A.1.7 Room: I.4 Chair: Aris Anagnostopoulos	Track: A Session A.2.7 Room: I.10 Chair: Paul Spirakis	Track: B Session B.5 Room: II.9 Chair: Anca Muscholl	Track: C Session C.3 Room: II.8 Chair: Jukka Suomela
15:45	Vincent Cohen-Addad, Anupam Gupta, Amit Kumar, Euiwoong Lee and Jason Li. <i>Tight FPT Approximations for k-Median and k-Means</i>	Pavel Hrube, Sivaramakrishnan Natarajan Ramamoorthy, Anup Rao and Amir Yehudayoff. <i>Lower Bounds on Balancing Sets and Depth-2 Threshold Circuits</i>	Dani Dorfman, Haim Kaplan and Uri Zwick. <i>A Faster Deterministic Exponential Time Algorithm for Energy Games and Mean Payoff Games</i>	Argyrios Deligkas, John Fearnley, Themistoklis Melissourgos and Paul Spirakis. <i>Computing Exact Solutions of Consensus Halving and the Borsuk-Ulam Theorem</i>
16:10	Vincent Cohen-Addad and Jason Li. <i>On the Fixed-Parameter Tractability of Capacitated Clustering.</i>	Peyman Afshani, Casper Benjamin Freksen, Lior Kamma and Kasper Green Larsen. <i>Lower Bounds for Multiplication via Network Coding</i>	Kousha Etessami, Emanuel Martinov, Alistair Stewart and Mihalis Yannakakis. <i>Reachability for Branching Concurrent Stochastic Games</i>	Sungjin Im, Benjamin Moseley, Kirk Pruhs and Manish Purohit. <i>Matroid Coflow Scheduling</i>
16:35	Pranjal Awasthi, Ainesh Bakshi, Maria-Florina Balcan, Colin White and David P. Woodruff. <i>Robust Communication-Optimal Distributed Clustering</i>	Ian Mertz, Toniann Pitassi and Yuanhao Wei. <i>Short Proofs are Hard to Find</i>	Bader Abu Radi and Orna Kupferman. <i>Minimizing GFG Transition-Based Automata</i>	

17:00	Break
17:15	Special issue of TCS on M. Nivat Room: I.4 Chair: Paul Spirakis
17:45	EATCS General Assembly Room: I.4
20:00	Cocktail

Thursday 11 July 2019

9:00	<p>Keynote Lecture 4: Ola Svensson (EPFL, Switzerland) <u><i>Approximately Good and Modern Matchings</i></u> Room: I.4, Session Chair: Stefano Leonardi</p>			
10:00	Break			
	<p>Track: A Session A.1.8 Room: I.4 Chair: Josep Diaz</p>	<p>Track: A Session A.2.8 Room: I.10 Chair: Karl Bringmann</p>	<p>Track: B Session B.6 Room: II.9 Chair: Martin Grohe</p>	<p>Track: C Session C.4 Room: II.8 Chair: Jukka Suomela</p>
10:30	<p>Andreas Björklund, Daniel Lokshtanov, Saket Saurabh and Meirav Zehavi. <i>Approximate Counting of k-Paths: Deterministic and in Polynomial Space</i></p>	<p>Mikkel Abrahamsen, Panos Giannopoulos, Maarten Löffler and Günter Rote. <i>Geometric Multicut</i></p>	<p>Pablo Barceló, Diego Figueira and Miguel Romero Orth. <i>Boundedness of Conjunctive Regular Path Queries</i></p>	<p>Christian Scheideler and Alexander Setzer. <i>On the Complexity of Local Graph Transformations</i></p>
10:55	<p>Andreas Björklund and Ryan Williams. <i>Computing permanents and counting Hamiltonian cycles by listing dissimilar vectors</i></p>	<p>Jérémie Chalopin, Victor Chepoi, Shay Moran and Manfred K. Warmuth. <i>Unlabeled sample compression schemes and corner peelings for ample and maximum classes</i></p>	<p>Le Thanh Dung Nguyen and Pierre Pradic. <i>From Normal Functors to Logarithmic Space Queries</i></p>	<p>Siddharth Gupta, Adrian Kosowski and Laurent Viennot. <i>Exploiting Hopsets: Improved Distance Oracles for Graphs of Constant Highway Dimension and Beyond</i></p>
11:20	<p>Ivona Bezakova, Andreas Galanis, Leslie Ann Goldberg and Daniel Stefankovic. <i>The complexity of approximating the matching polynomial in the complex plane</i></p>	<p>Nabil Mustafa. <i>Computing Optimal Epsilon-nets is as Easy as Finding an Unhit Set</i></p>	<p>Holger Dell, Marc Roth and Philip Wellnitz. <i>Counting Answers to Existential Questions</i></p>	<p>Mohsen Ghaffari and Ali Sayyadi. <i>Distributed Arboricity-Dependent Graph Coloring via All-to-All Communication</i></p>
11:45	Break			
	<p>Track: A Session A.1.9 Room: I.4 Chair: Andreas Wiese</p>	<p>Track: A Session A.2.9 Room: I.10 Chair: Stefano Leonardi</p>	<p>Track: B Session B.7 Room: II.9 Chair: Marc Zeitoun</p>	<p>Track: C Session C.5 Room: II.8 Chair: Joseph Peters</p>
12:00	<p>Klaus Jansen, Alexandra Lassota and Lars Rohwedder. <i>Near-Linear Time Algorithm for n-fold ILPs via Color Coding</i></p>	<p>John Fearnley, Spencer Gordon, Ruta Mehta and Rahul Savani. <i>Unique End of Potential Line</i></p>	<p>Jean-Eric Pin and Christophe Reutenauer. <i>A Mahler's theorem for word functions</i></p>	<p>Amos Korman and Yoav Rodeh. <i>Multi-Round Cooperative Search Games with Multiple Players</i></p>

12:25	Arturo Merino and Jose Soto. <i>The minimum cost query problem on matroids with uncertainty areas</i>	Paul Goldberg and Alexandros Hollender. <i>The Hairy Ball Problem is PPAD-complete</i>	Matthieu Picantin. <i>Automatic semigroups vs automaton semigroups</i>	Ioannis Caragiannis and Angelo Fanelli. <i>On approximate pure Nash equilibria in weighted congestion game with polynomial latencies</i>
12:50	Adam Kurpisz. <i>Sum-of-Squares bounds via boolean function analysis</i>	Josep Díaz, Lefteris Kirousis, Sofia Kokonezi and John Livieratos. <i>Algorithmically Efficient Syntactic Characterization of Possibility Domains</i>	Murray Elder and Laura Ciobanu. <i>Solutions sets to systems of equations in hyperbolic groups are EDTOL in PSPACE</i>	Daniel Schmand, Marc Schroder and Alexander Skopalik. <i>Network Investment Games with Wardrop Followers</i>
13:15	Lunch			
	Track: A Session A.1.10 Room: I.4 Chair: Shay Solomon	Track: A Session A.2.10 Room: I.10 Chair: Karl Bringmann	Track: B Session B.8 Room: II.9 Chair: Jean-Eric Pin	Track: C Session C.6 Room: II.8 Chair: Ioannis Caragiannis
14:30	Ran Duan, Ce Jin and Hongxun Wu. <i>Faster Algorithms for All Pairs Nondecreasing Paths Problem</i>	Julian Dörfler, Christian Ikenmeyer and Greta Panova. <i>On geometric complexity theory: Multiplicity obstructions are stronger than occurrence obstructions</i>	Anca Muscholl and Gabriele Puppis. <i>Equivalence of Finite-Valued Streaming String Transducers is Decidable</i>	Ilan Cohen, Jakubcki, Stefano Leonardi and Aris Anagnostopoulos. <i>Stochastic Graph exploration</i>
14:55	Guillaume Ducoffe. <i>Faster approximation algorithms for computing shortest cycles on weighted graphs</i>	Andreas Björklund, Petteri Kaski and Ryan Williams. <i>Solving systems of polynomial equations by a parity-counting self-reduction</i>	Mikolaj Bojanczyk, Sandra Kiefer and Nathan Lhote. <i>String-to-string interpretations with polynomial size output</i>	Shunhao Oh, Anuja Meetoo Appavoo and Seth Gilbert. <i>Periodic Bandits and Wireless Network Selection</i>
15:20	Amir Abboud, Loukas Georgiadis, Giuseppe F. Italiano, Robert Krauthgamer, Nikos Parotsidis, Ohad Trabelsi, Przemysław Uznanski and Daniel Wolleb-Graf. <i>Faster Algorithms for All-Pairs Bounded Min-Cuts</i>	Thomas Colcombet, Joël Ouaknine, Pavel Semukhin and James Worrell. <i>On reachability problems for low dimensional matrix semigroups</i>	Pierre-Alain Reynier and Didier Villevalois. <i>Sequentiality of String-to-Context Transducers</i>	
15:45	Alexandr Andoni, Clifford Stein and Peilin Zhong. <i>Log Diameter Rounds Algorithms for 2-Vertex and 2-Edge Connectivity</i>	Ankit Garg, Nikhil Gupta, Neeraj Kayal and Chandan Saha. <i>Determinant equivalence test over finite fields and over \mathbb{Q}</i>	Martin Raszyk, David Basin and Dmitriy Traytel. <i>From Nondeterministic to Multi-Head Deterministic Finite-State Transducers</i>	

16:10

Break

Awards Session
Chair: Paul Spirakis
Room: I.4

16:30

ICALP Best paper awards

Appointment of EATCS Fellows
Fedor Fomin, Rocco de Nicola, Dana Ron

EATCS Distinguished Dissertation Awards
Arturs Backurs, Robert Robere, Sepehr Assadi

16:45

EATCS Award
Thomas A. Henzinger
Model Checking Game Properties of Multi-Agent Systems

17:30

Presburger Award
Karl Bringmann
Fine-Grained Complexity of Dynamic Programming Problems

17:55

Presburger Award
Kasper Green Larsen
A Quest Towards Strong Unconditional Lower Bounds

18:20

Alonso Church Award
Murdoch J. Gabbay and Andrew M. Pitts
Nominal techniques, past and future

18:45

End of Awards Session

20:30

Conference Dinner

Friday 12 July 2019

9:00	<p>Keynote Lecture 5: Martin Grohe (RWTH Aachen University, Germany) <u><i>Symmetry and Similarity</i></u> Room: I.4, Session Chair: Anca Muscholl</p>			
10:00	<p>Break</p>			
	<p>Track: A Session A.1.11 Room: I.4 Chair: Christos Zaroliagis</p>	<p>Track: A Session A.2.11 Room: I.10 Chair: Ioannis Caragiannis</p>	<p>Track: B Session B.9 Room: II.9 Chair: Mikolaj Bojanczyk</p>	<p>Track: C Session C.1 Room: II.8 Chair: Euripides Markou</p>
10:30	<p>Noga Alon, Shiri Chechik and Sarel Cohen. <i>Deterministic Combinatorial Replacement Paths and Distance Sensitivity Oracles</i></p>	<p>Xiaoming Sun, David P. Woodruff, Guang Yang and Jialin Zhang. <i>Querying a Matrix through Matrix-Vector Products</i></p>	<p>Mehran Hosseini, Joel Ouaknine and James Worrell. <i>On Termination of Integer Linear Loops</i></p>	<p>Stefan Dobrev, Lata Narayanan, Jaroslav Opatrny and Denis Pankratov. <i>Exploration of High-Dimensional Grids by Finite Automata</i></p>
10:55	<p>Therese Biedl and Philipp Kindermann. <i>Finding Tutte paths in linear time</i></p>	<p>Mark Bun, Nikhil Mande and Justin Thaler. <i>Sign-Rank Can Increase Under Intersection</i></p>	<p>Stefan Kiefer, Richard Mayr, Mahsa Shirmohammadi and Patrick Totzke. <i>Büchi Objectives in Countable MDPs</i></p>	<p>Yuval Emek, Shay Kutten, Ron Lavi and William K. Moses Jr. <i>Deterministic Leader Election in Programmable Matter</i></p>
11:20	<p>Samuel Haney, Mehraneh Liaee, Bruce M. Maggs, Rajmohan Rajaraman, Debmalya Panigrahi and Ravi Sundaram. <i>Retracting Graphs to Cycles</i></p>	<p>Arkadev Chattopadhyay, Yuval Filmus, Sajin Koroth, Or Meir and Toniann Pitassi. <i>Query-to-communication lifting for BPP using inner product</i></p>	<p>Sylvain Schmitz. <i>The Parametric Complexity of Lossy Counter Machines</i></p>	<p>Bernhard Haeupler, Fabian Kuhn, Anders Martinsson, Kalina Petrova and Pascal Pfister. <i>Optimal Strategies for Patrolling Fences</i></p>
11:45	<p>Merav Parter and Eylon Yogev. <i>Optimal Short Cycle Decomposition in Almost Linear Time</i></p>	<p>Xue Chen and Eric Price. <i>Estimating the frequency of a clustered signal</i></p>	<p>Nikhil Balaji, Stefan Kiefer, Petr Novotný, Guillermo A. Pérez and Mahsa Shirmohammadi. <i>On the Complexity of Value Iteration</i></p>	<p>Jurek Czyzowicz, Konstantinos Georgiou, Ryan Killick, Evangelos Kranakis, Danny Krizanc, Lata Narayanan, Manuel Lafond, Jaroslav Opatrny and Sunil Shende. <i>Energy Consumption of Group Search on a Line</i></p>
12:10	<p>Break</p>			
12:30	<p>Best paper Track A Room: I.4, Chair: Stefano Leonardi</p> <p>Bingkai Lin. <i>A Simple Gap-producing Reduction for the Parameterized Set Cover Problem</i></p>			

12:55	<p>Best student paper Track A Room: I.4, Chair: Stefano Leonardi</p> <p>Joran van Apeldoorn and Andras Gilyen. <i>Improvements in Quantum SDP-Solving with Applications</i></p>
13:20	<p>Lunch</p>
14:30	<p>Best paper Track B Room: I.4, Chair: Christel Baier</p> <p>Christof Löding and Anton Pirogov. Determinization of Büchi Automata: Unifying the Approaches of Safra and Muller-Schupp</p>
14:55	<p>Best student paper Track B Room: I.4, Chair: Christel Baier</p> <p>Marie Fortin. FO = FO3 for linear orders with monotone binary relations</p>
15:20	<p>Best paper Track C Room: I.4, Chair: Paola Flocchini</p> <p>Keren Censor-Hillel and Mikaël Rabie. Distributed Reconfiguration of Maximal Independent Sets</p>
15:45	<p>ICALP 2019 Epilogue Room: I.4</p>
15:50	

The on-line version of the conference schedule is available at the following URL (one may also follow the corresponding QR code):



<https://icalp2019.upatras.gr/calendar.php>

Travelling to Patras

By Sea

There are direct overnight trips via ferries departing from Italy (ports of Ancona, Bari, Brindisi or Trieste). For schedule and prices look at the websites of Anek Lines, Minoan Lines, and Superfast Ferries.

By Plane

From Araxos airport which is located 50 Km West of Patras and it is served by several airline companies (e.g., Ryanair, LTU, TUIfly, SkyExpress, etc), especially in the period May to October. From Araxos, you can reach Patras either by bus, or by taxi (approx. 40-50 Euros).

From Athens International Airport "Eleftherios Venizelos" which is located 250 Km East of Patras. There are regular flights connecting Athens to most European cities.

Reaching Patras from Athens airport

By Car

Several car rental agencies operate on the airport. The new "Attiki Odos" high-speed toll motorway connects the airport with Athens and the main greek highways. Leave the airport following initially the signs to ATHINA and then to ELEFSINA to enter "Attiki Odos". From that point on just stay on the highway following the signs to ELEFSINA, subsequently to KORINTHOS, and finally to PATRA. After Korinthos, the highway splits into two and you must follow the right way (there are signs to PATRA). The total distance between Athens airport and Patras is about 250km. To reach Patras, take the exit "PATRA-CENTRE / PORT", and then follow the signs to "Port" (AIMANI).

By Train

The "Proastiakos" (suburban) railway, operated by "Trainose", connects Athens airport to the railway network of the rest of Greece operated by the "OSE" company. You can take the train from the airport with direction to Piraeus port and then change at railway station «Kato Acharnai» to line Piraeus – Athens – Kiato with direction to Kiato. At the Kiato station passengers, with final destination Patras, transfer to buses serving the Kiato-Patras line. Trainose bus replacement service operates between Kiato and Patras (and vice versa) due to ongoing infrastructure works on the railway line between those two stations. Tickets can be purchased through the Trainose web application <https://tickets.trainose.gr/> (by selecting a specific train and then clicking on the "Seat selection and passengers" button) or through Android/iOS applications.

By Bus

The "KTEL Achaïas" intercity bus company has regular buses to Patras. You must first get to the Kifisos Bus Station. You can get there from the airport, either by taxi or by taking the X93 express bus (24-hour service, 7 days per week) that departs just outside the airport terminal at the Arrival level. The bus stop is next to Arrival Exit 5. You can buy ticket on the bus. Either way it takes about 60 min to get there, and the bus runs approximately every 30 minutes 24 hours a day, seven days a week. Kifisos Bus Station is the last stop of X93.

From Kifisos Bus Station there is a bus to Patra almost every 30 minutes. The first bus departs around 05:30 and the last one around 22:30. Trip time is around 3 hours 10 minutes (or 2 hours 40 minutes for an “express” bus). You must buy a ticket before boarding. There is a big ticket hall at the east side of the station. Head for the booth with the signs “Achaia” and/or “Patra”. There is no need to reserve tickets in advance, you will usually find a ticket for a bus leaving in the next hour. Ask at the ticket booth for directions on how to find the proper bus.

Reaching the Conference Venue

From Patras Center

By Suburban Railway

The Patras Suburban Railway (ΠΡΟΑΣΤΙΚΟΣ) runs every hour, 7 days per week, connecting Patra's main train station to the University Campus. Trains depart from Patra's main station at xx:34, with the first train departing at 06:34 and the last one at 22:34. To reach the University Campus, you get off at "Kastelokampos" (fourth station) and transfer to a connecting local bus (ΠΡΟΑΣΤΙΑΚΟΣ) that brings you to the Campus. The conference venue is close to the first bus stop within the Campus (rail bus stop). You can buy tickets in the train station (the ticket is also valid for the connecting bus).

By Bus

From the city center, take bus No 6 (starting point at Ermou street), or bus No 9 (starting point at Othonos and Amalias street), heading at University (ΠΑΝΕΠΙΣΤΗΜΙΟ) or Hospital (ΝΟΣΟΚΟΜΕΙΟ) – in case of doubt, confirm with the driver. Bus No 6 runs every 15 minutes, while bus No 9 every 60 minutes. The conference venue is close to the second bus stop within the campus. You must buy a ticket before getting on the bus, either from the special booths of the Local Bus company in the city center, or from some kiosk.

From Hotels near the Conference Venue

From Airtel Achaia Beach Hotel

Take the bus from the suburban railway stop "Kastelokampos" (about 350m from the hotel). Buses depart at xx:48.

From Castello Hotel

By walking (about 600m from the hotel).

From Porto Rio Hotel

Take the bus from the suburban railway stop "Kastelokampos" (about 800m from the hotel). Buses depart at xx:48.

From Tzaki Hotel

Take the train from the suburban railway stop "Bozaitika" (about 550m from the hotel), departing at xx:44, get off at "Kastelokampos" (next stop) and transfer to the connecting local bus that brings you to the Campus. Alternatively, take the bus from the bus stop "No 6 & No9 University-Hospital" (about 800m from the hotel).

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Phone numbers

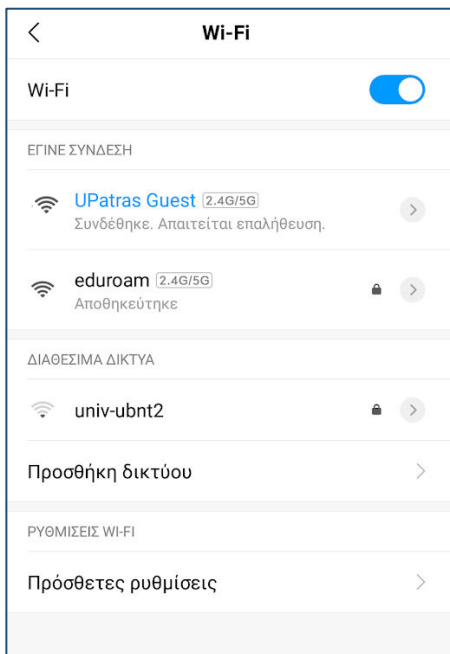
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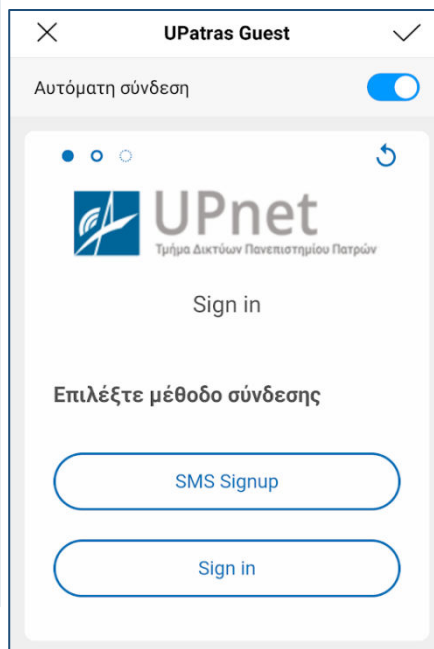
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Wifi at the Conference Site

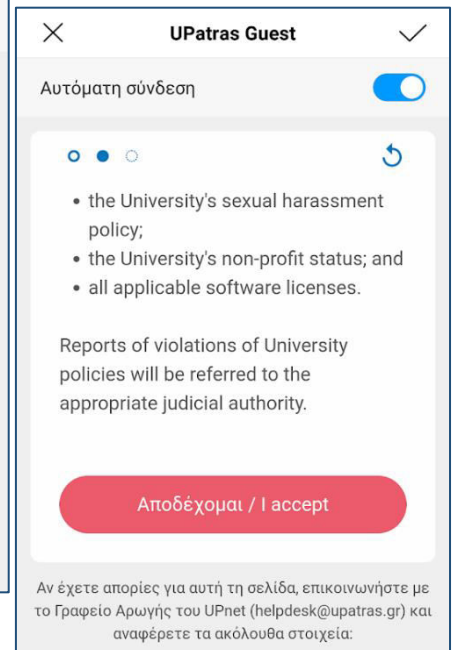
There is a Wifi Network available, please follow the instructions to connect:



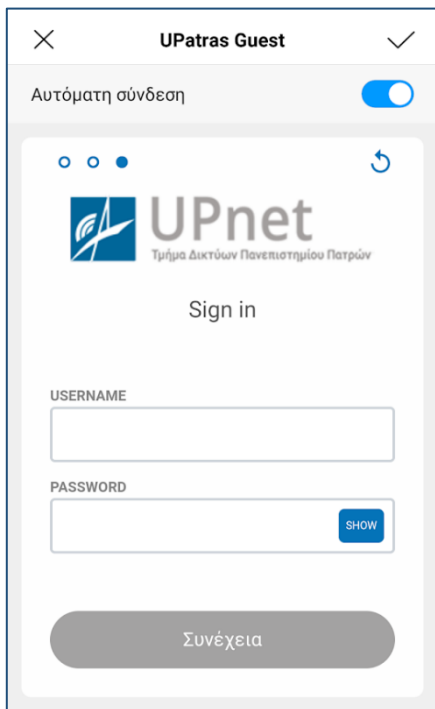
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Step 2: Press the "Sign in" button



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