



UNIVERSITÄT  
HEIDELBERG  
ZUKUNFT  
SEIT 1386

## 1 Transport

We recommend to buy the "9-Euro-Ticket" for July as this permits travel on buses, trams, and local trains within Germany in June inside Germany.

## 2 WLAN

There is eduroam available. If you don't have access to eduroam, you may use Heidelberg4you which is a free Wifi provider throughout the entire city.

## 3 Corona

One has to wear facemasks on German public transport. Similarly, the Heidelberg University requires facemasks inside buildings whenever there is another person within 1.5m to oneself.

## 4 Lunches

Lunches will take place on level -1 of the Mathematikon building (the building of the conference). On each day, please bring the lunch voucher for the correct day that you received with your name tag.

## 5 Monday / City Tour

On Monday there will be a city tour (see schedule). The starting point of the city tour will be Löwenbrunnen near Universitätsplatz at 7:15pm (see [shorturl.at/eAKRX](https://shorturl.at/eAKRX)). If you want to, we can walk there together, i.e. we will gather in front of the main entrance and we will leave the Mathematikon building at 6:30pm to walk over to the city tour starting spot.



## 6 Tuesday / Hike

On Tuesday we will do a hike via the famous Philosophenweg. The hike will end at the dinner location (see below). We will gather in front of the main entrance of the Mathematikon building and will leave the Mathematikon building at 5pm to start the hike. If you don't want to join the hike you can also directly come to the dinner location at 8pm.

## 7 Tuesday / Dinner

The dinner will take place on Tuesday starting from 8pm in the Heidelberg Castle (see <https://www.heidelberger-schloss-gastronomie.de/en/>; see also [shorturl.at/fkpMN](https://shorturl.at/fkpMN)). Please bring your dinner voucher that you received with your name tag.



## 8 Local Organisation Team

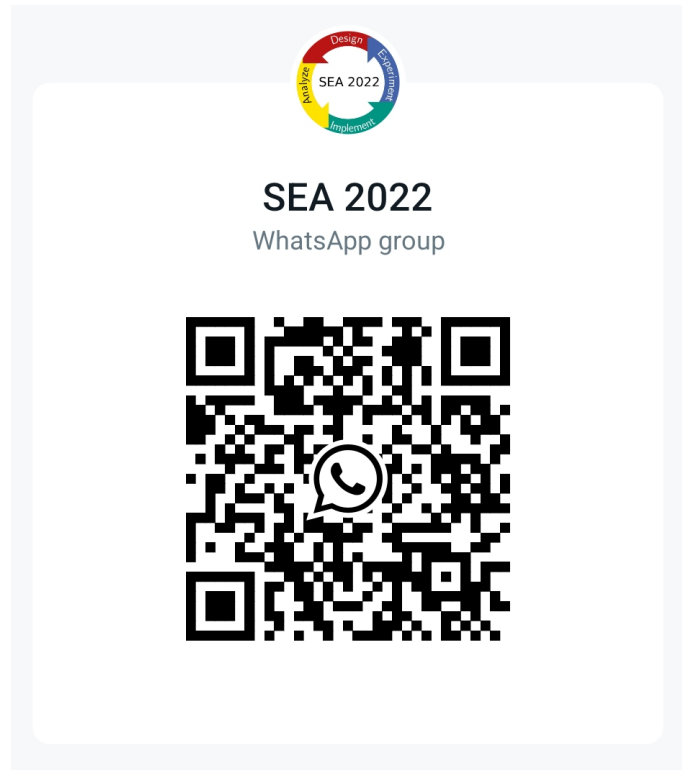
The local organisation team consists out of Marcelo Fonseca Faraj, Ernestine Großmann, Catherine Proux-Wieland, Christian Schulz and Bora Uçar. If you have any question feel free to contact us at any time. You can also spot us by looking for a green mark on the name tag.

## 9 Proceedings

The conference proceedings can be found here XXX.

## 10 WhatsApp

We created a Whatsapp group for the event. Feel free to join via [shorturl.at/djGMU](https://shorturl.at/djGMU) or via scanning the following QR code:



# 11 Program Monday

Monday		
8:50-9:00	Opening	
9:00-10:00	<p>Invited Talk (Paul Spirakis), Session Chair: Christian Schulz Algorithmic Problems on Temporal Graphs and a call for experiments.</p> <p>Abstract : Research on Temporal Graphs has expanded in the last few years. Most of the results till now, address problems related to the notion of Temporal Paths (and Temporal Connectivity). In this talk, we focus, instead, on problems whose main topic is not on Temporal Paths. In particular, we will discuss Temporal Vertex Covers, the notion of Temporal Transitivity, and also issues and models of stochastic temporal graphs. We believe that several algorithmic graph problems, not directly related to paths, can be raised in the temporal domain. This may motivate new research towards lifting more topics of algorithmic graph theory to the temporal case. We also notice that not many experimental results have addressed the above problems. We stress the need for new experimental algorithms, especially for the computationally hard Instances of such problems.</p>	
10:00-10:30	Coffee Break	
Session 1	Strings et al (Session Chair Jose Rolim)	
10:30-11:10	Fast Succinct Retrieval and Approximate Membership using Ribbon (Best Paper)	
11:10-11:35	Computing Maximal Unique Matches with the r-index	
11:35-12:00	RLBWT Tricks	
12:00-14:00	Lunch	
Session 2	Graph Algorithms I (Session Chair Hisao Tamaki)	
14:00-14:25	Relating real and synthetic social networks through centrality measures	
14:25-14:50	Discrete Hyperbolic Random Graph Model	
14:50-15:15	Solving and Generating Nagareru Puzzles	
15:15-15:45	Coffee Break	
Session 3	Route Planning (Session Chair Dennis Luxen)	
15:45-16:10	Fast Computation of Shortest Smooth Paths and Uniformly Bounded Stretch with Lazy RPHAST	
16:10-16:35	Routing in multimodal transportation networks with non-scheduled lines	
17:00-17:25	Stochastic Route Planning for Electric Vehicles	
17:25-18:25	Business Meeting	
19:15-20:00	City Tour	

## 12 Program Tuesday

<b>Tuesday</b>		
8:50-9:00	Opening	
9:00-10:00	<p>Invited Talk (Tobias Achterberg): Combinatorial algorithms used inside a MIP solver</p> <p>Abstract: State-of-the-art solvers for mixed integer programs (MIP) need to solve a variety of combinatorial sub-problems in many of the components of the solver, for example in presolving, cutting plane separation, node selection, the simplex algorithm, or the barrier algorithm. Some of these sub-problems are solvable in polynomial time while others are NP hard.</p>	
10:00-10:30	Coffee Break	
<i>Session 4</i>	Graph Algorithms II (Session Chair Michael Goodrich)	
10:30-10:55	Parallel Flow-Based Hypergraph Partitioning	
10:55-11:20	Digraph k-Coloring Games: from Theory to Practice	
11:20-11:45	A branch-and-bound algorithm for cluster editing	
11:45-14:00	Lunch	
<i>Session 5</i>	Learning and Optimization I (Session Chair Mattia D'Emidio)	
14:00-14:25	Efficient Exact Learning Algorithms for Road Networks and Other Graphs with Bounded Clustering Degrees	
14:25-14:50	On the Satisfiability of Smooth Grid CSPs.	
14:50-15:15	Practical performance of Random Projections in Linear Programming	
15:15-15:45	Coffee Break	
<i>Session 6</i>	Graph Algorithms III (Session Chair Tobias Heuer)	
15:45-16:10	Efficient and Accurate Group Testing via Belief Propagation: an Empirical Study	
16:10-16:35	A Parallel Framework for Approximate Max-Dicut in Partitionable Graphs	
16:35-17:00	An Experimental Study of Algorithms for Packing Arborescences	
17:00-20:00	Social Event -- Hike	
20:00-23:00	Social Dinner	

## 13 Program Wednesday

<b>Wednesday</b>		
8:50-9:00	Opening	
9:00-10:00	<p>Invited Talk (Cynthia A. Phillips), Session Chair Bora Uçar Unique experimental algorithms for national security applications</p> <p>Government/national-security combinatorial optimization problems frequently have some twist. This might be unusual constraints, structure of input data, or computing platform. Almost all require some degree of confidence in the solution through experimental analysis on real or realistic data. These experimental analyses frequently raise novel algorithmic questions. In this talk, we will tell the story, and open questions, around at least three such applications: how and why we needed to make open social-network data sets "more human;" validating implementations of history-independent data structures; and a special case of randomized rounding.</p>	
10:00-10:30	Coffee Break	
<i>Session 7</i>	Learning and Optimization II (Session Chair Leo Liberti)	
10:30-10:55	An adaptive refinement algorithm for discretizations of nonconvex QCQP	
10:55-11:20	Efficient Minimum Weight Vertex Cover Heuristics using Graph Neural Networks	
11:20-11:45	Automatic Reformulations for Convex Mixed-Integer Nonlinear Optimization: Perspective and Separability	
11:45-12:10	An Experimental Evaluation of Semidefinite Programming and Spectral Algorithms for Max Cut	
12:10-14:00	Lunch	
<i>Session 8</i>	Graph Algorithms IV (Session Chair Peter Sanders)	
14:00-14:25	A Fast Data Structure for Dynamic Graphs Based on Hash-Indexed Adjacency Blocks	
14:25-14:50	Heuristic computation of exact treewidth	
14:50-15:00	Closing	
15:00-15:30	Coffee Break	