PATAT 2022 – Detailed Program

Tuesday, August 30, 2022

18:00 - 20:00	**Welcome Reception + Conference Registration**

Wednesday, August 31, 2022

08:30 - 09:00	**Conference Registration**	
09:00 - 09:15	**Conference Opening**	
09:15 - 10:15	**Plenary talk**: Celso C. Ribeiro (Universidade Federal Fluminense, Brazil): *Biased random-key genetic algorithms and applications* ***This talk is sponsored by EURO Working Group on the Practice and Theory of Automated Timetabling***	
10:15 - 10:45	**Coffee Break**	
10:45 - 12:00	**WA 1** Examination Timetabling 1. **Iterated Local Search for the examination timetabling problem with constructive-based initial solution** Synim Selimi, Labeat Arbneshi, Kadri Sylejmani and Nysret Musliu 2. **Multi-neighbourhood Simulated Annealing for the Capacitated University Examination Timetabling Problem (ITC-2007)** David Van Bulck, Dries Goossens and Andrea Schaerf 3. **A multiple metaheuristic variable neighborhood search framework for the Uncapacitated Examination Timetabling Problem** Panayiotis Alefragis, Christos Gogos, Christos Valouxis and Efthymios Housos	**WA 2** Personnel Rostering 1. **Improving the Dynamic Programming Algorithm for Nurse Rostering** Jeffrey H. Kingston 2. **Predicting nurse rosters with machine learning techniques** Shayekh Hassan, Nadia Cissen and Leendert Kok 3. **Hierarchical constraints and their applications in staff scheduling problems** Chao Li, Pieter Smet, Patrick De Causmaecker

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12:00 - 13:30	**Lunch**	
13:30 - 14:45	**WB 1** Examination Timetabling 1. **Conflicts in Examination Timetabling under Uncertainty** Bernd Bassimir and Rolf Wanka 2. **A proven optimal result for a benchmark dataset of the Uncapacitated Examination Timetabling Problem** Angelos Dimitsas, Vasileios Nastos, Christos Valouxis, Panayiotis Alefragis and Christos Gogos 3. **Exam Scheduling with Hardship Minimization** Donovan Hare and Stephanie Hamilton	**WB 2** Personnel Rostering 1. **Scheduling Worker Timetables in Flowshops with Multi-Skill Workers** Ehud Ikar, Elad Shufan, Hagai Ilani and Tal Grinshpoun 2. **Scheduling Bus Drivers in Real-Life Multi-Objective Scenarios with Break Constraints** Lucas Kletzander and Nysret Musliu 3. **Personnel scheduling considering employee well-being: insights from case studies** Sanja Petrovic, Jane Parkin and David Wrigley
14:45 - 15:15	**Coffee Break**	
15:15 - 16:30	**WC 1** Timetabling 1. **REDOSPLAT DSL for timetabling requirements** Razija Turcinhodzic Mulahasanovic and Samir Ribić 2. **A knowledge-based approach to detecting and explaining conflicts in timetabling problems** Kylian Van Dessel and Joost Vennekens 3. **A constructive matheuristic approach for the vertex colouring problem** Reshma Chirayil Chandrasekharan and Tony Wauters	**WC 2** Vehicle Routing 1. **Effective Pruning Heuristics for the Fixed Route Dial-a-Ride Problem** Tal Grinshpoun, Elad Shufan, Hagai Ilani, Vadim Levit and Haya Brama 2. **A Column Generation Approach for Solving the Fixed Route Dial-A-Ride Problem** Hagai Ilani, Elad Shufan and Tal Grinshpoun 3. **A Double-Horizon Approach to a Purely Dynamic and Stochastic Vehicle Routing Problem with Delivery Deadlines and Shift Flexibility** Nikolaus Frohner and Günther Raidl

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16:30 – 16:45	**Coffee Break**	
16:45 - 18:00	**WD 1** Personnel Scheduling 1. **Local Search Techniques for a Medical Student Scheduling Problem** Eugeniza Zanazzo, Sara Ceschia, Agostino Dovier and Andrea Schaerf 2. **Shift Scheduling in Interdependent Multi-stage Systems with Reallocation of Workforce** Seyed Mohammad Zenouzzadeh and Raik Stolletz 3. **Enhancing Security via Deliberate Unpredictability of Solutions in Optimisation** Daniel Karapetyan and Andrew Parkes	**WD 2** Scheduling 1. **Scheduling of an underground mine by combining logic-based Benders decomposition and a priority-based heuristic** Emil Lindh, Kim Olsson and Elina Rönnberg 2. **Solving an Industrial Oven Scheduling Problem with a Simulated Annealing Approach** Marie-Louise Lackner, Nysret Musliu and Felix Winter 3. **Scheduling Satellite Timetables using DCOP** Shai Krigman, Tal Grinshpoun and Lihi Dery
18:30 - 19:30	**Beer Reception @ Historical Town Hall of Leuven**	

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Thursday, September 1, 2022

09:00 - 10:00	**Plenary talk:** Andrea Schaerf, (University of Udine, Italy): *From Edinburgh to Leuven: A Brief History of 27 Years of Research in Educational Timetabling*	
10:00 - 10:30	**Coffee Break**	
10:30 - 12:15	**TA 1** Timetabling 1. **A Constraint Language For University Timetabling Problems** Vincent Barichard, Corentin Behuet, David Genest, Marc Legeay and David Lesaint 2. **Three-phase Curriculum Based University Course Timetabling** Elmar Steiner, Ulrich Pferschy and Andrea Schaerf 3. **Metaheuristic for the Personalized Course Sequence Recommendation Problem** Aldy Gunawan, Audrey Tedja Widjaja, Roy Ka-Wei Lee, Ee-Peng Lim 4. **Planning for high-speed railways in the Czech Republic** Pavel Dostál, Hana Rudová and Vilém Pařil	**TA 2** Sport Timetabling and Personnel Scheduling 1. **An iterative approach for the Mobile Workforce Tactical Scheduling Problem with Frequency Constraints and Workload Balancing** Anne-Laurence Hulot, Stéphane Dauzere-Peres, Chloé Desdouits, Dominique Feillet 2. **Grouping and timetabling for multi-league sports competitions** Miao Li and Dries Goossens 3. **A Pragmatic Approach for Solving the Sports Scheduling Problem** Angelos Dimitsas, Christos Gogos, Christos Valouxis, Alexandros Tzallas and Panayiotis Alefragis 4. **Integer Programming Formulations for Compact Single Round Robin Tournaments** Jasper van Doornmalen, Christopher Hojny, Roel Lambers and Frits Spieksma
12:15 - 13:30	**Lunch**	

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13:30 - 14:45	**TB 1** Timetabling 1. **Timetabling Research: A Progress Report** Jeffrey H. Kingston 2. **Design of an Exact Approach for Timetabling at Project-Oriented Schools** Michael Hölscher 3. **Modeling and Methods in Untis, a Popular Software System for School Timetabling** Sebastian Knopp	**TB 2** Sport Timetabling 1. **International Timetabling Competition 2021: Sports Timetabling** Dries Goossens, Jeroen Beliën, Morteza Davari and David Van Bulck 2. **Multi-Neighborhood Simulated Annealing for the Sport Timetabling Competition ITC2021** Roberto Maria Rosati, Matteo Petris, Luca Di Gaspero and Andrea Schaerf 3. **Scheduling Double Round-Robin Sports Tournaments** Carlos Lamas-Fernandez, Antonio Martinez-Sykora and Chris Potts
14:45 - 15:15	**Coffee Break**	
15:15 - 16:15	**Plenary talk:** Deepak Ajwani (University College Dublin, Ireland): *Learning-to-Prune: A machine learning framework for solving combinatorial optimisation problems* ***This talk is sponsored by EURO Working Group on the Data Science meets Optimization***	
19:00 - 22:30	**Conference Banquet @ Faculty Club**	

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Friday, September 2, 2022

09:00 - 10:00	**Plenary talk:** Peter Nightingale (University of York, UK): *A Constraint Modelling Pipeline: Abstract Specifications to Optimized Constraint Models*	
10:00 - 10:30	**Coffee Break**	
10:30 - 12:15	**FA 1** University Course Timetabling 1. **Real-world university course timetabling at the International Timetabling Competition 2019** Hana Rudová, Tomáš Müller and Zuzana Müllerová 2. **A MIP based approach for International TimetablingCompetation 2019** Dennis Holm, Rasmus Ørnstrup Mikkelsen, Matias Sørensen and Thomas Stidsen 3. **International Timetabling Competition 2019: A Mixed Integer Programming Approach for Solving University Timetabling Problems** Efstratios Rappos, Eric Thiémard, Stephan Robert and Jean-François Hêche 4. **Simulated Annealing with Penalization for University Course Timetabling** Edon Gashi, Kadri Sylejmani and Adrian Ymeri	**FA 2** Scheduling 1. **Local Search Neighborhoods for Industrial Test Laboratory Scheduling with Flexible Grouping** Florian Mischek, Nysret Musliu and Andrea Schaerf 2. **Solving the Production Leveling Problem with Order-Splitting and Resource Constraints** Johannes Vass, Nysret Musliu and Felix Winter 3. **A Hybrid Approach for Paint Shop Scheduling in the Automotive Supply Industry** Felix Winter and Nysret Musliu 4. **Hybridizing Constraint Programming and Meta- Heuristics for Multi-Mode Resource-Constrained Multiple Projects Scheduling Problem** Arben Ahmeti and Nysret Musliu
12:15 - 13:30	**Lunch**	

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13:30 – 14:45	**FB 1** University Course Timetabling 1. **ITC 2019: University Course Timetabling with MaxSAT** Alexandre Lemos, Pedro T. Monteiro and Ines Lynce 2. **ITC 2019: Results Using the UniTime Solver** Tomáš Müller 3. **Towards A Unified Timetabling Model** Jeffrey H. Kingston	**FB 2** Scheduling 1. **Sustainable energy aware industrial production scheduling** Panayiotis Alefragis, Konstantinos Plakas, Iwannis Karampinis, Christos Valouxis, Michael Birbas, Alexios Birbas and Christos Gogos 2. **On the call intake process in service planning** Gerhard Post and Stefan Mijsters 3. **Optimising Scheduling of Hybrid Learning using Mixed Integer Programming** Matthew Davison, Ahmed Kheiri and Konstantinos Zografos
14:45 - 15:15	**Coffee Break**	
15:15 – 15:45	**Conference Closing** 1. International Timetabling Competition 2019, Hana Rudova 2. PATAT Copenhagen in 2024, Thomas Stidsen 3. Closing	

Saturday, September 3, 2022

08:00 - 19:00	**Social trip to Bruges**

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