SUMMER SCHOOL LEUVEN
BROUGHT TO YOU BY THE ASSOCIATION OF CONSTRAINT PROGRAMMING SUMMER SCHOOL SERIES
JULY
2023
MACHINE LEARNING FOR CONSTRAINT PROGRAMMING

Thank you sponsors!

	Monday 10 July	Tuesday 11 July	Wednesday 12 July	Thursday 13 July	Friday 14 July
9:00	**Welcome and Intro to Constraint Programming** [Tias Guns]	**Getting the Best out of Constraint Solvers: Portfolios and Automated Tuning** [Lars Kotthoff]	**Deep Learning & Combinatorial Optimization** [Wouter Kool]	**Learning a Value-Selection Heuristic Inside a Constraint Programming Solver** [Quentin Cappart]	**Constraint Acquisition: Learning Constraint Models from Data** [Dimos Tsouros]
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11:00	**Introduction to Machine Learning** [Hendrik Blockeel]	**Lab: Algorithm Portfolios and Automated Tuning** [Lars Kotthoff]	**Lab: Learning to Improve a Hybrid Genetic Search Algorithm** [Wouter Kool]	**Lab: Solving combinatorial problems with SeaPearl** [Quentin Cappart]	Hackathon continuation
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17:30	Optional: guided tour of Leuven (short or long)		Group picture		
18:00			Poster session with walking dinner		
18:30		Optional: sports at sports center			
19:00				Optional culture night: Museum M or Brewery/pub visit	Opt. Beleuvenissen festival (Oude markt: NL Rock, Vismarkt: Electro)
21:00			Optional: grabbing a drink at Oude Markt		

The speakers

Hendrik Blockeel
KU Leuven

Quentin Cappart
Polytechnique Montreal

Ferdinando Fioretto
Syracuse University

Tias Guns
KU Leuven

Elias Khalil
University of Toronto

Wouter Kool
ORTEC

Lars Kotthoff
University of Wyoming

Michele Lombardi
Università di Bologna

Dimos Tsouros
KU Leuven

Yingqian Zhang
TU Eindhoven

Lab sessions

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- Tuesday Lab: Algorithm Portfolios and Automated Tuning [Lars Kotthoff]
  Lab: Predict-then-optimize: a tour using PyEPO [Elias Khalil]
- Wednesday Lab: Learning to Improve a Hybrid Genetic Search [Wouter Kool]
- Thursday Lab: Solving combinatorial problems with SeaPearl [Quentin Cappart]

Installation prepartion: see 'Show Details' on website

Hackathon

Your opportunity to more deeply explore techniques in a small group, e.g. things most relevant to your research

- Speakers provide open-ended topics for inspiration
- You make small groups per topic (ideally 3-5 people)
- Challenge yourself and brainstorm/experiment...

- Speakers can provide some guidance
- Share your insights in a presentation on Friday

Poster Session

Wednesday evening

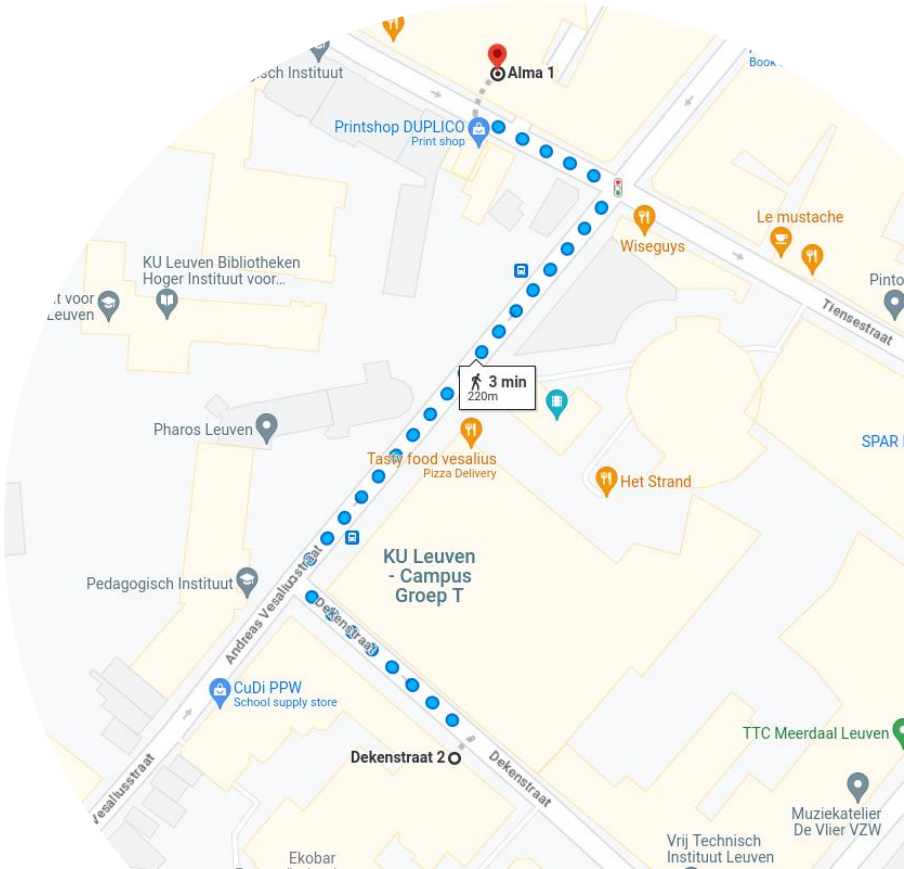
- 16:00, 2-min poster spotlights
- 17:30, *group picture +*
  Start poster session
- 18:30, with walking dinner/reception
- 20:00, catering closes

Just across the street!

Lunch

Included, with voucher

Student restaurant just around the corner

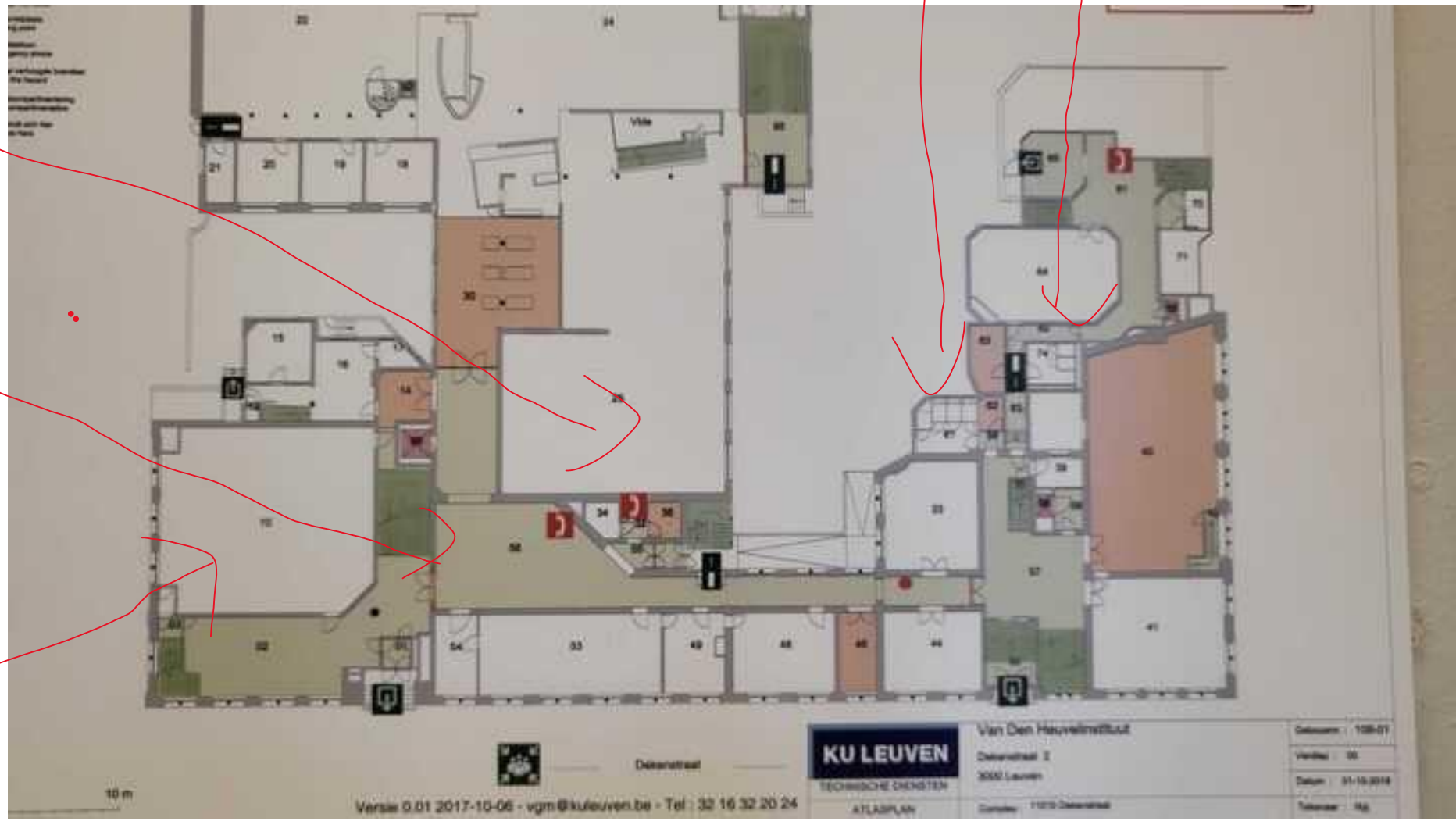


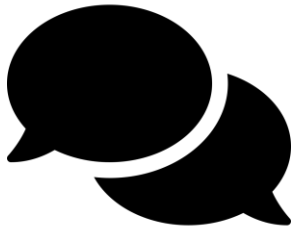
Hidden toilets

Outside

Coffee

You





Optional social activities

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- Monday Guided tour of Leuven (depart from here)
- Tuesday Sports* at the sports centre (meet at sports centre, 18:30)
- Wednesday Drinks at oude markt (depart from poster session)
- Thursday Culture night*: Museum M or Pool/Table Football (TBA, 19:30)
- Friday Beleuvenissen Free Music Festival (TBA, 19:30)

All optional and laid-back (tickets/drinks not included)

*write your name on registration desk sheet so we get a feeling for the amount of interest.
*when in doubt, use whatsapp group

What else to do in Leuven?
Where to have dinner?

Let us show you Leuven!

Guided tour by PhD students Marco and Bastian, right after the talks.

(2 groups, optional longer tour afterwards)

Local advice: Belgian chocolates!

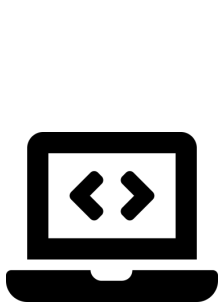
<u>Chocolate:</u>

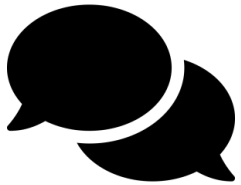
- Delicious chocolate bars
- Any supermarket...
  - Cote d'or
  - Callebaut

<u>Chocolate**s**:</u>

- 'pralines', mixed flavor delicacies
- <u>Internationalised shops</u>: Leonidas, Neuhaus
- <u>Local shops</u>: **bittersweet**, tartufo, think chocolate

Thank you Team!
Especially Dimos Tsouros and Stella Gardiki!





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and have a lot of fun!