

# EURO Practitioners' Forum Autumn Workshop

## Practice of OR – sharing experiences, building networks



**17 November 2022, 13:00 – 17:00 CET, online**

EURO Practitioners' Forum (EPF) Autumn Workshop is an inspiring opportunity for meeting with OR and analytics practitioners from across Europe and beyond. Join us on gather.town during this unique event and make connections, learn, collaborate and share experiences of what works and what doesn't when OR meets practice.

Programme includes: Plenary keynote, Lightning talks, Parallel sessions, and more described below

### **Deadline for registration: 16 November 2022, 17:00 CET**

When you register ([REGISTRATION SITE](#)), you will receive the link to our gather.town space. You are welcome to drop in at any time pre-event: see the space taking shape, catch up on the programme details, and access resources and links to support OR practice.

Workshop gather.town space is specifically created in line with the programme, keeping in mind the importance of social interaction. Our workshop venue separate areas for different uses. The function of each segment of the space is dedicated to specific timeline and activities, as described in the programme below.

### **Workshop Programme**

|              |   |                                 |
|--------------|---|---------------------------------|
| <b>13:00</b> | Welcome, introductions and exploration  | <b>(Auditorium)</b>             |
| <b>13:15</b> | <b>Practical OR in a tumultuous world</b><br>Speaker: Matti Vuorinen, Director of Advanced Analytics at forestry giant UPM              | <b>(Auditorium)</b>             |
| <b>14:00</b> | <b>Open space:</b> move about between different discussion topics, mingle with colleagues, and take the opportunity for a comfort break | <b>(Open space room)</b>        |
| <b>15:00</b> | <b>OR in Action in 5 minutes:</b> a stimulating, inspiring set of 5 minute talks showcasing practical OR                                | <b>(Auditorium)</b>             |
| <b>15:45</b> | <b>More, better, deeper:</b> Choose one of 5 parallel sessions to discuss a specific OR application area                                | <b>(Parallel Sessions room)</b> |
| <b>16:30</b> | <b>Closing session:</b> feedback from parallel sessions, and next steps   | <b>(Auditorium)</b>             |
| <b>17:00</b> | Close   |                                 |

## Plenary

**Matti Vuorinen**, Director of Advanced Analytics at forestry giant UPM

### "Practical OR in a tumultuous world"

Matti will be discussing the design of effective OR tools in the context of a rapidly changing environment. He will be using the example of UPM's experience in developing OR tools that are used to make decisions that are critically dependent on the energy market. The current European energy market is in turmoil. Matti will be talking about how the OR tools are used to adapt to changes in the market environment. In particular, he will discuss the possible pitfalls of rushed changes to the electricity market mechanisms now that there is so much political pressure to control the prices.

## Open space

Meet and talk to colleagues, and expand your thinking!

The open space session is in a virtual meeting room where we will have 8 or 9 small-group discussions around hot topics in the OR practitioner community. Topics will range from "Why OR is so easy in my company" to "What to do with Machine Learning in OR?". There will also be space for extending the discussions around the plenary.

The discussion topics will be arranged in tables that anyone can access at any time to maximize the networking. Choose a topic to start with, then move on to a different group whenever you choose. If you are too still, you will be encouraged to switch to another topic; and *everyone* will be encouraged to talk.

## OR in action in 5 minutes

A series of lightning talks that will showcase some of the rich variety of practical OR being undertaken across the OR community ([session details](#)).

Speakers include:

**Nadine-Cyra Freistetter**, Finnish Meteorological Institute: **SuCCESs – Modelling Pathways to a Sustainable Society**: presenting modelling that calculates scenarios for reaching sustainability goals up until 2100.

**Yue Zhou-Kangas**, UPM: **Planting a million trees**: how UPM Uruguay schedules seedling deliveries, to replace trees harvested from 300 plantations with seedlings raised in 14 nurseries

**Colin Eden**, Strathclyde University: **Vicious cycles and Systemic Risk in a Pandemic** discussing strategy development for tackling COVID 19

**Sander van Aken**, Flixbus: **Talk problems to me**: Understanding user needs for OR software development

**Jasper van Doorn**: describing the complexities of Integrated production and transportation scheduling in the compound feed industry

**Ahmet Çinar**, Trendyol, on the use of optimisation in e-commerce

## More, better, deeper: exploring OR application areas

In this slot we invite you to engage in discussions around certain fields of OR, in one of 5 parallel sessions. Each session will start with one or two short presentations from people familiar with the subject, and will then open up into deeper discussion of the topic. A short report back from each session will be presented during the closing plenary, including, where appropriate, next steps to explore the issues further.

You will be able to choose which one of these five topic groups you want to join: **Chemical/process industries; Aviation, OR in education, OR for good, Mobility**. See below for details

### Choose from the following:

#### **Chemical/process industries** - Claude Philippe Medard, SAP, Germany

We want to discuss Petrochemical Supply Chain Planning that creates production plans for multiple plants with feed onto one another (like the Naptha Cracker and Butadien feeds) as part of their Supply Chain Planning.

This requires highly performant solutions to non-linear optimization problems solved daily for multiple time-periods. We will hear a short example case study, where the solutions to these problems feed other plants' production planning problems, that, in turn, feed into the logistics planning and scheduling upstream and downstream (nominations on pipelines, barges, railcars).

After this case study, we would like to discuss the urgent need to create enterprise level solutions to manage the end-to-end supply chain both for inbound and outbound logistics (pipeline, barge, railcar scheduling of nominations) and internal supply chains (non-linear production plans).

**Claude Philippe** is principle data scientist at SAP global center of excellence for the SAP Business Technology Platform, a platform that provides extension and integration capabilities to SAP's core products. He looks and gets involved in OR and ML topics across the SAP products S4HANA, Digital Supply Chain, manufacturing, and transport & logistics. In his role, the past two years, his team is also responsible for enabling partners and customers to deploy their ML & OR work in SAP BTP to foster end to end capabilities with SAP's core.

#### **Aviation** - Andy Harrison, Inawisdom, UK and Waldemar Kocjan, Jeppesen, Sweden

This session will discuss the role of OR in aviation and how it is helping the response to new and emerging threats, such as the Covid pandemic.

**Andy Harrison** has over three decades experience of applying optimisation and machine learning to turn data into business advantage across a wide range of industries.

**Waldemar Kocjan** is a data scientist at Jeppesen, a Boeing company, specializing in developing systems for crew and fleet scheduling.

Speaker:

**Tom Occleston (Atkins, UK)** will be speaking on the application of OR to aviation security. Tom is an operational analyst with ten years experience of working across various clients and industries. He currently leads Atkins' Modelling and Simulation team on a major overhaul project for a UK airport group.

**OR in education** - Milagros Baldemor, Don Mariano Marcos Memorial State University, Philippines

OR in Education deals with the application of advanced analytical methods used in decision making in the field of education. It utilizes mathematical modelling and other diverse techniques to analyze complex situations in order for learners to fully understand analytical concepts that will help raise their level of awareness in solving real world problems.

Milagros Baldemor holds a Doctor of Philosophy in Educational Administration. Aside from her teaching function at the Don Mariano Marcos Memorial State University (Philippines) she has assumed administrative positions like Campus Head of Instruction, Campus Head of Research, Campus Head of Partnership, Special Projects and International Linkages and as Dean of the College of Graduate Studies.

Speakers:

Eduard Albay (Don Mariano Marcos Memorial State University, Philippines) will speak about Design Thinking-based teaching plans, evaluating and comparing students' creativity as inputs to classroom teachers' practices during and beyond the pandemic. Eduard Albay is a professor at the Don Mariano Marcos Memorial State University, he is currently designated as the Research Head of the South La Union Campus.

Ronald Aquino (Don Mariano Marcos Memorial State University) will present on the flipped classroom approach in teaching modern geometry. He works as instructor at Don Mariano Marcos Memorial State University.

**OR for good** - Joaquim Gromicho, Ortec, The Netherlands and Helena Ramalhinho, Pompeu Fabra University, Spain

OR makes things better. Usually that means: OR makes *businesses* better. The world needs improvement, and the United Nations have defined 17 objective criteria on what helps, see <https://sdgs.un.org/goals>. Having *criteria* enables OR! After all, the objective function becomes clear. But what about the variables, the constraints, and the parameters of the model? And more importantly, how do we go from **model** to **impact**?

I will start by telling some success stories from the Analytics for a Better World institute and will discuss on how to scale such initiatives up in a way as to bring hope to our world. We only have one world, after all. Scarcity is also a powerful enabler for OR...

Joaquim Gromicho is Science and Education Officer at ORTEC, Professor of Business Analytics at the University of Amsterdam and Lead Architect at the Analytics for a Better World institute.

Helena Ramalhinho is Full Professor, Delegate for Knowledge Transfer in Social Sciences and Humanities at the Department of Economics and Business, Pompeu Fabra University (Spain).

**Mobility** - Torkel Haufmann, SINTEF, Norway

The mobility sector contributes about a quarter of emissions in Europe, and Operations Research methods have a long history of contributing to better solutions in the area. We want to discuss the future of OR for mobility in light of new developments like electric vehicles, micro-mobility and mobility as a service.

We'll hear one or two examples of current applications of optimization in mobility. After this, we'd like to have a discussion about the models, algorithms and approaches needed to support the sector's goals in the next 10 years.

[Torkel Andreas Haufmann](#) is the Research Manager of the Optimization group at SINTEF. His work mostly concerns applications of optimization to real-world problems across domains like transportation, energy and construction, and the lessons learned from these applications.

Speaker:

[Dag Kjenstad \(SINTEF\)](#) will give a presentation with some details on a recent project about on-demand transportation in rural areas.

After the registration to the workshop, you are welcome to use the [gather.town](#) link at any time to set up your avatar, explore the space, catch up on the programme details, and access resources and links to support OR in practice. The space will remain available to workshop participants to meet each other, after the official close, if you want to keep the conversation going.



***EURO Practitioners' Forum*** (formerly the EURO Working Group on Practice of OR), aims to help develop supportive networks, support and assist OR practitioners, and in particular people whose primary purpose is applying OR in a business/government/charity or similar environment. We believe that practitioners can benefit enormously from networking, sharing experiences, learning from each other, and potentially collaborating with each other; and that there is even more benefit to be gained from cementing links between these practitioners and EURO's academics.

***Become a member*** and follow the Forum for information on numerous inspiring activities.