

# IFORS

# NEWS

INTERNATIONAL FEDERATION OF OPERATIONAL RESEARCH SOCIETIES

## FROM THE PRESIDENT

**Héctor Cancela** <[cancela@fing.edu.uy](mailto:cancela@fing.edu.uy)>

Welcome to the March 2025 issue of the IFORS Newsletter!

As the recently elected 24th President of IFORS, I want to thank the members of the 2022-2024 Administrative Committee: Janny Leung (President), Grazia Speranza (Past-President), Frits Spijksma (VP), Antonio Mauttone (VP-ALIO), Francis Miranda (VP-APORS), Stefan Nickel (VP-EURO), Rina Schneur (VP-NORAM), Richard Hartl, and Marco Laumanns (Treasurers), for their work and contributions to the goals of our federation.

The 2025-2027 Administrative Committee members are Rina Schneur (VP), José Fernando Camacho (VP-ALIO), Yu-Hong Dai (VP-APORS), Greet Vanden Berghe (VP-EURO), Sibel Alumur Alev (VP-NORAM), and Marco Laumanns (Treasurer), with the assistance of Gavin Blackett (Secretary).

With the new AC integration, several offices are changing hands, among them the editorial responsibilities for this newsletter. I thank heartily the outgoing Editor, Antonio Mauttone, for his excellent work during the 2022-2024 period; and I welcome the new Editor, Sibel Alumur Alev, who has agreed to be in charge of this very important task. Publishing this newsletter is a cooperative endeavour, involving many colleagues and friends who submit information and articles, as well as a number of section editors and other collaborators. I would like to recognize the hardwork and contributions of Mario Guajardo, who has now completed his term as editor of the OR for Development Section, and of Javier Marengo, also completing his term as editor for the Tutorials Section, and to welcome Elise del Rosario and James Cochran, who respectively take these responsibilities. I also welcome John Medhurst, who is joining as co-editor (jointly with John Ranyard) of the OR Impact section. Thanks also to Jinal Parikh and Gerhard Wilhelm Weber, which are the section editors for Conferences and Book reviews; to the regional and country correspondents (whose names can be found in page 32) who help to provide content and to promote the newsletter, and to Ruel Tan, who is in charge of the graphic design and production.

For this next period, we will aim to continue improving the contents and formats of the newsletter in order to provide OR practitioners, scholars and students with relevant, timely, and useful information about all aspects of our discipline. I would like to announce IFORS' new LinkedIn group, which was created as a complementary channel to share all kinds of OR news, as well as announcements for meetings and events; I encourage you to sign up at: IFORS - The International Federation of Operational Research Societies <<https://www.linkedin.com/groups/10015549/>>, and to actively participate in the community.

In a world where emotions, impulses, and preconceptions inform many individual and collective decisions, we must strive to promote rational decision-making based on sound data, appropriate models, and efficient methods for finding the best solutions to the challenges that beset our societies; we count on your involvement and contributions! 🌐



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## FROM THE EDITOR IN CHIEF



**Sibel Alumur Alev** <[sibel.alumur@uwaterloo.ca](mailto:sibel.alumur@uwaterloo.ca)>

Welcome to the first issue of the IFORS newsletter for the year 2025! This marks my first issue as the Editor-in-Chief. I am the new Vice-President of IFORS, representing the North American Operations Research Societies (NORAM), for the next three years.

I am humbled by this new editorial role but also a bit anxious about whether I will be able to do a good job. I must admit that I had never read the IFORS newsletter from beginning to end before being appointed Editor-in-Chief. While this may seem unusual, our IFORS President, Hector, convinced me that it could actually be an advantage, as I can bring a fresh perspective. Well, for now, I will do my best not to disrupt the "old" perspective and maintain the high standard of quality set by my predecessors.



This issue features a collection of exciting articles. The OR and Development section contains an article on a decision support framework for identifying regions of food insecurity and facilitating the equitable allocation of resources. It integrates spatial analysis, machine learning, and resource allocation, with a real-life implementation in South Africa. The OR Impact article addresses the effects of climate change and the rapid warming of the Arctic using multi-criteria mapping to prioritize maritime safety and security needs in the Arctic and North Atlantic. Additionally, in this issue, we also feature several interesting conference reports from all around the world and an excellent book review of "The Surname of Women" by Maria Grazia Speranza, which highlights gender inequality. I would like to thank all the section editors for their excellent efforts in putting together this issue.

I would especially like to thank Antonio Mauttone, the former Editor-in-Chief of this newsletter for the past three years. He has been incredibly generous with his time, offering unwavering support throughout this transition, always ready to meet with me and patiently answer my questions. We have prepared a short video with him, which will be shared with the IFORS community on our YouTube channel alongside the launch of this issue. [IFORS News - New Editor-in-Chief](#)

Last but not least, please do not hesitate to email me if there is anything you would like to share with the new Editor-in-Chief, even if it's just to wish me luck in my new role.

Truly yours,

Your humble and still an apprentice Editor-in-Chief,  
Sibel Alumur Alev

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# EURO 2025

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### 22 - 25 June University of Leeds, UK



# A Decision Support Framework for Mapping Food Insecurity and Guiding Resource Allocation

**Fuzail Dawood<sup>a\*</sup>, Jan H. van Vuuren<sup>a</sup>**

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Food insecurity is a multifaceted problem and is, in fact, one of the most significant concerns of the 21st century. According to the United Nations, nearly one in every three people, or 2.3 billion people worldwide, experienced a moderate to severe degree of food insecurity in 2021. This alarming statistic highlights the critical need for successfully identifying, monitoring, and improving the food security of vulnerable populations. Moreover, the 2023 mid-year Global Report on Food Crises revealed that at least 283 million people globally were experiencing high levels of acute food insecurity, marking a 10% increase from the previous year. In South Africa, a country where socio-economic disparities are especially pronounced, the problem of addressing food insecurity requires not just understanding where the need is greatest, but also ensuring that resources are allocated efficiently and equitably. We proposed a data-driven approach in the form of a *Food Insecurity Mapping and Allocation* (FIMA) framework to meet this challenge. The framework is illustrated schematically in Figure 1.

The FIMA framework is designed to support decision-making by integrating three key modelling components: Spatial analysis, machine learning, and resource allocation. These components work together to identify regions of food insecurity and to facilitate the equitable allocation of resources to address these needs.

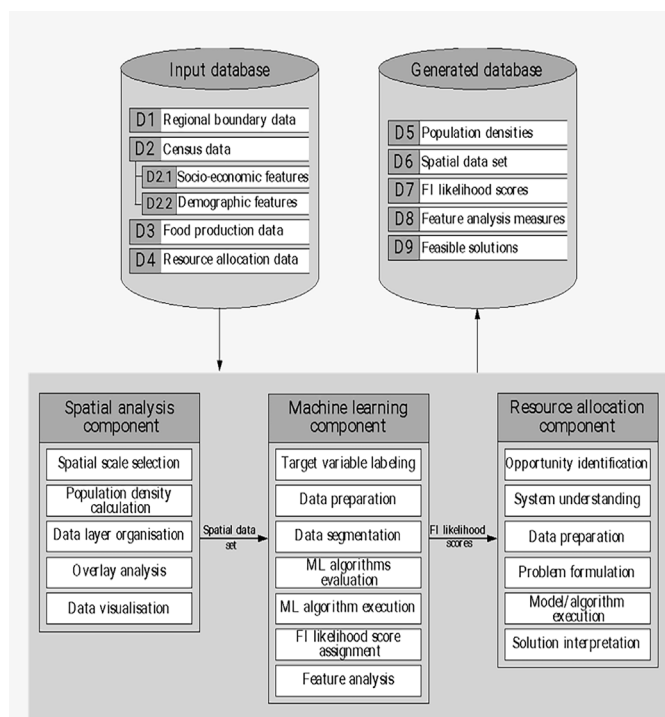
The spatial analysis component initiates the process by collating and organising data related to regional boundaries, census information, and socio-economic descriptive features. This component facilitates the selection of an appropriate spatial scale and the calculation of population densities, thus enabling a detailed understanding of the socio-economic landscape. By performing overlay analysis within a *geographical information system* (GIS), the spatial analysis component facilitates the generation of a unified data set that may be visualised and further processed in subsequent components.

Thereafter, the machine learning component employs sophisticated supervised machine learning algorithms to facilitate the estimation of the likelihood of food insecurity in various geographical sub-regions. The spatial data set is assigned food insecurity likelihood scores ranging from 0 to 1, based on the underlying relationships between a set of socio-economic features and food insecure regions. The best performing algorithm is selected and optimised to maximise predictive accuracy, ensuring reliable estimates that may inform targeted interventions.



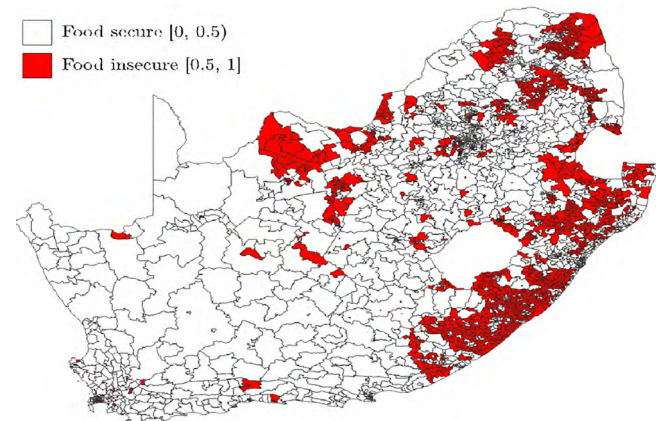
Finally, the resource allocation component utilises the food insecurity likelihood scores to guide the user in the distribution of resources. Execution of this component involves identifying opportunities for intervention, understanding the dynamics of the identified system, and implementing mathematical models to propose actionable solutions. The primary aim of this component is to formulate a resource allocation strategy that prioritises the most vulnerable populations, thereby ensuring that resources are distributed in a way that maximises impact and equity.

Practical application of the FIMA framework has been demonstrated in a case study focused on South Africa, a country grappling with chronically high localised levels of food insecurity. The first two components of the framework were employed to obtain a detailed map of food insecurity across the country, highlighting the most vulnerable regions.>>

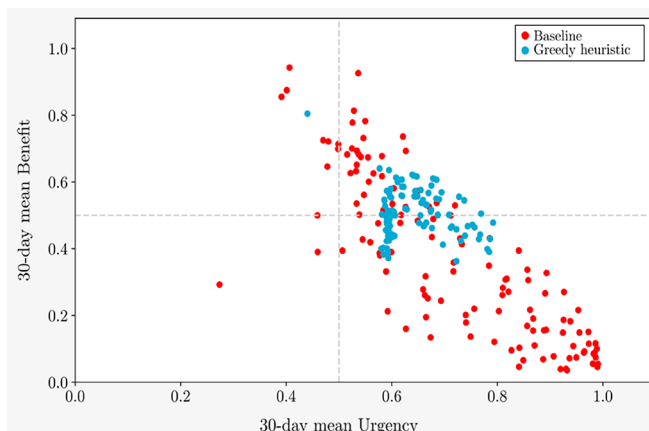


▲ Figure 1 – High-level schematic overview of the architecture of the FIMA framework.

>> This is visualised in the food insecurity map of Figure 2, which highlights the distribution of food insecurity across South Africa at the ward administrative level. Wards with a predicted food insecurity likelihood of 0.5 or higher are shaded red, indicating a high degree of food insecurity, while those with scores less than 0.5 are unshaded.



▲ Figure 2 – Spatial distribution of food insecurity in South Africa.



▲ Figure 3 – Scatter-plot of the urgency and benefit experienced by all BOs in the Baseline and Greedy allocation scenarios.

Following on from the results of the machine learning component, the resource allocation component was employed with a view to enhance the operations of *FoodForward South Africa* (FFSA). FFSA, the country's largest foodbank, distributes approximately 22,000 tons of food annually, reaching approximately 920,000 individuals daily. The proposed resource allocation, based on a greedy allocation heuristic, demonstrated significant improvements in the distribution of food to FFSA's beneficiary organisations (BOs) relative to the foodbank's current operations when evaluated over the same time period. The results of this application are illustrated in the scatterplot in Figure 3, which compares the outcomes of the *Baseline* real-world scenario with those of a proposed food allocation, based on optimisation. Each point in the figure represents a unique BO. The average 30-day *benefit* and

*urgency* of each BO are evaluated in the figure, where benefit represents the proportion of a BO's demand that is satisfied within a 30-day period, while the urgency serves as a relative indicator of a BO's vulnerability or food deprivation.

The recommended food allocations led to a more uniform experience of benefit and urgency across BOs, as indicated by the clustering of blue points in the scatter plot. The optimisation approach resulted in a 7.5% decrease in mean urgency, reflecting a reduced immediacy for food among BOs, and an 11.3% decrease in urgency variability, suggesting a more consistent experience of need. In addition, there was a 13.4% increase in mean benefit, indicating an improvement in the quality of food deliveries, and a 17.4% decrease in benefit variability, pointing to a more equitable distribution.

These results underscore the effectiveness of the FIMA framework in improving resource allocation in pursuit of food security. By combining spatial analysis, machine learning, and resource allocation, the framework provides comprehensive decision support that is both data-driven and highly practical. The successful application of this framework in the context of South Africa demonstrates its potential to guide more effective and equitable distribution of resources in regions where food insecurity is most acute. As global challenges around food security continue to grow, frameworks, such as the one presented here, offer a robust approach towards ensuring that resources are directed to where they are needed most, ultimately contributing to the reduction of food insecurity.

## References

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## About the Authors:

**Jan van Vuuren** is a professor of Operations Research at Stellenbosch University, where he leads the Stellenbosch Unit for Operations Research in Engineering (SUnORE). His work focuses on mathematical modeling, optimization, and machine learning for decision support systems in real-world applications. Jan has presented at nearly all IFORS triennial conferences since 1999 and has been a three-time runner-up in the OR in Development Competition. He has also served as a judge for the competition.

**Fuzail Dawood** was a doctoral student in the SUnORE group who successfully defended his thesis in December 2024. 🌐

## NOTES FROM THE SECTION EDITOR

Hello Again!

Some of you may remember me from my time as IFORS President back in 2007 and as Editor-in-Chief of IFORS News for seven years starting in 2010. My journey with IFORS began much earlier, though, as Chair of the Developing Countries Committee for eight years starting in 1995. It's probably this long history of involvement that led to me being asked to "unretire" (at least temporarily) and take on the role of editor for the OR for Development Section.

As I step into this role, I'm reaching out to ask for your help in curating diverse content—whether that's interviews, feature pieces, or technical work—that reflects the broad interests and expertise of our national societies' memberships in the area of Operations Research for Development. Please feel free to get in touch with any ideas or contributions you'd like to share. I can be reached via email at [elise@jgdelrosario.com](mailto:elise@jgdelrosario.com). Looking forward to hearing from you! 🌐





I am pleased to assume the role of Tutorials Editor for the IFORS Newsletter! I have enjoyed reading the terrific series of tutorials the newsletter published under my predecessor, Javier Marenco. Javier set a high standard for this section, and I will work hard to ensure the section continues to meet this standard. Javier, Héctor Cancela, Janny Leung, Mario Guajardo, Antonio Mauttone, Sibel Alumur Alev, and Elise del Rosario have all been helpful as I have prepared to take on this role - I thank each of them for their thoughtfulness, kindness, and friendship.

Although this section focuses primarily on technical topics, methodologies, and interesting areas of application, it will also occasionally feature education-oriented topics and topics of managerial interest. The tutorial included in this issue of the IFORS Newsletter is an outstanding example of a topic of managerial interest. Jason Parton, Associate Professor of Statistics and the Director of the Institute for Data & Analytics at The University of Alabama's Culverhouse College, discusses issues that arise when creating and running an analytics institute in an academic environment. I think you will enjoy Jason's contribution very much!

I am actively looking for potential topics and authors for the Tutorials Section. Please send me your suggestions for topics and let me know if you are interested in contributing a tutorial to this series. The target length is about 800-1200 words with figures, tables, and diagrams, and we can work with each author or team of authors (coauthored tutorials are welcome) to establish a publishing schedule that will fit their schedules.

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## Establishing and Managing an Analytics Institute: Lessons from the Institute of Data and Analytics

**Jason Parton** <[jmparton@ua.edu](mailto:jmparton@ua.edu)>

The demand for data-driven decision-making has surged across industries, academia, and government, necessitating specialized organizations to harness data science and analytics. The Institute of Data and Analytics (IDA) at The University of Alabama (UA) is one such model, demonstrating how a well-structured research center can bridge academic research, industry needs, and public policy challenges. The growing reliance on data has emphasized the need for organizations that not only generate insights but also develop new methodologies for analyzing and interpreting complex datasets. This article provides a comprehensive example on developing, managing, and sustaining an analytics institute, drawing from the IDA's journey and best practices.

*Founding an Analytics Institute*

The origins of IDA can be traced back to various initiatives within the Culverhouse College of Business, particularly the Statistics Research and Consulting Lab (SRCL) and the Institute of Business Analytics (IBA). These initiatives were designed to address the demand for analytics expertise within academia and numerous opportunities for industry partnership. Recognizing the potential for a more unified and structured approach, the Culverhouse College of Business sought to establish a centralized institute to bring together various efforts under a single umbrella while also providing an internal hub for collaboration and a research infrastructure that supports externally funded projects.

One of the most critical aspects of founding an institute is ensuring its alignment with institutional strategy. A research center should seamlessly integrate with broader academic and research objectives, contributing meaningfully to the college's and university's mission. In the case of IDA, this meant leveraging existing research strengths at the university while simultaneously addressing gaps in applied analytics, data science, and interdisciplinary collaborations. This integration was not only beneficial to academic departments requiring statistical consulting but also provided opportunities to collaborate with

external organizations seeking innovative data-driven solutions to real-world challenges.

Beyond addressing institutional needs, IDA sought to enhance partnerships that would allow for innovative, yet practical applications of analytics. The growing prominence of data science and machine learning in both academic and corporate environments presented a unique opportunity for the institute to develop cutting-edge applications and methodologies. By working closely with faculty, students, and external stakeholders, IDA ensured that its research agenda remained relevant, forward-looking, and aligned with industry demands. Additionally, the institute recognized the importance of fostering a collaborative environment that could facilitate knowledge exchange, thereby strengthening the relationship between academia and industry.

The process of securing funding and establishing infrastructure was another pivotal step in the institute's founding. Partnerships with corporations, government agencies, and university leadership played a vital role in acquiring financial resources and physical space. A key milestone in IDA's development was the establishment of the Marillyn A. Hewson Data Analytics Lab, a state-of-the-art facility designed to support collaborative research and innovation. This dedicated space equipped students, faculty and staff with cutting-edge tools, providing them with an ideal environment to explore and be thought leaders working on complex analytics problems.

The foundation of IDA was equally shaped by the assembly of a strong core team. Led by Dr. Jason Parton, a statistics faculty member, originally established UA's Statistics Research and Consulting Lab. >>



>> Recognizing the growing importance of data and analytics in industry decision-making, he collaborated with the leadership of the Culverhouse College of Business to create a new unit that would extend beyond statistics and embrace a multidisciplinary approach. This vision brought together faculty from diverse fields, including information systems, operations research, engineering, and social sciences. By fostering a collaborative research environment, the institute cultivated innovative solutions to a wide range of analytical challenges. This interdisciplinary synergy positioned IDA as a hub of expertise, capable of addressing complex, high-impact research projects.

#### *Key considerations for establishing a research institute*

Several factors contribute to the successful establishment of an analytics institute. First, developing a strong mission and vision statement is essential for clearly communicating the institute's goals and long-term objectives. Equally important is building a strong support system by identifying individuals who share the overall vision and are committed to the institute's mission, fostering a culture of success. Additionally, acquiring the necessary technological infrastructure, including high-performance computing systems, cloud storage solutions, and secure data repositories is vital for supporting advanced research, particularly when working with proprietary datasets. Finally, creating a strategic plan that outlines short-term and long-term goals, funding strategies, and potential research focus areas is critical to ensuring the institute's sustainability and impact.

A research institute thrives on a steady influx of projects, which sustain funding, provide research opportunities, and ensure relevance in a fast-evolving landscape. The IDA has developed robust data and analytic skillsets through its interdisciplinary faculty and professional staff that support research output. Additionally, maintaining external research collaborations by leveraging relationships with industry partners, government agencies, and other academic institutions aid in providing numerous avenues to engage in impactful projects. Organizations such as Lockheed Martin, Protective Life, and the Alabama Medicaid Agency have engaged with IDA on projects, demonstrating the value of data-driven insights in diverse sectors. These partnerships not only provide financial support but also offer real-world data and practical challenges that enrich the research experience. Furthermore, these collaborations allow faculty and students to gain industry exposure, keeping academic research aligned with practical applications.

#### *Sustainability and High Impact Endeavors*

Securing competitive grants is another essential component of sustainability. The IDA has successfully obtained funding from federal agencies such as the National Science Foundation (NSF), National Institutes of Health (NIH) and the Department of Justice (DOJ). These grants along with other established partnerships reinforce the institute's credibility and ensure financial stability, enabling long-term research initiatives. In many cases, contract and grant funding has also allowed the IDA to develop specialized initiatives focused on high-impact issues such as human trafficking, the opioid epidemic, electric vehicles, healthcare analytics, and humanitarian efforts.

#### *Example Projects*

**Medicaid** - One of IDA's most impactful projects is its ongoing work with the Alabama Medicaid Agency. Through data analytics, the IDA has helped improve healthcare access and optimize cost allocation. The development of predictive models has enabled Medicaid officials to identify high-risk populations and deploy targeted interventions. By leveraging machine learning techniques, IDA has facilitated the proactive management of public health resources.

**Human Trafficking** - In the United States, the majority of documented human trafficking activities are related to sex

trafficking. The STANDD (Sex Trafficking Analytics for Network Detection and Disruption) Initiative aims to develop novel analytic techniques for grouping ad data across popular sites and deploying products that law enforcement agencies can use to more effectively battle sex trafficking. The research team actively collaborates with law enforcement agencies at the local and federal levels and is piloting a web-based portal that authenticated agencies can use to access updated information regarding networks that are active in their area of jurisdiction.

**Humanitarian** - The UPWARD Initiative, within the Institute of Data and Analytics aims to use analytics methods and technologies to address problems faced by humanitarian operations and nonprofits. Specifically, our goal is to develop new methods, tools and collaborations to utilize analytics approaches to improve the wellbeing of the underserved populations and the people in need.

**Opioid Crisis** - The Institute of Data and Analytics (IDA) was awarded a 3.5-million-dollar grant from the Department of Justice to establish a Southeast Regional Drug Data Research Center (SR-DDRC) to combat the American Opioid Crisis. The primary goal of the Center is to develop a central data repository to assist with drug misuse in the Southeast Region of the U.S. It will act as a hub that links data, organizes key research, conducts analyses, and distributes findings that will benefit families affected by drug abuse, community/nonprofit groups, local officials, and state agencies. The SR-DDRC will be the first of its kind and is intended to be a model for future regional centers across the nation.


#### *Operations and Infrastructure*

Effective management is crucial for the long-term sustainability and impact of a research institute. IDA operates under a structured framework that ensures efficiency, accountability, and continuous growth. The IDA includes appointed faculty and affiliates who drive research projects, research scientists and staff who support technical and administrative functions, and postdoctoral fellows and students who enhance experiential learning and workforce development. This structure ensures that projects are managed effectively while fostering an environment of learning and innovation.

Research infrastructure plays a significant role in an institute's success. The IDA supports diverse research functions, including the state-of-the-art Hewson Data Analytics Lab that facilitates hands-on learning and industry collaboration. The Lab serves as a hub where students, faculty, and corporate partners can work on real-world problems using advanced analytical tools and methodologies. In addition, the Lab enables IDA to host small data and analytic focused classes that offer students and faculty projects based on real-world problems posed by industry partners.

Data management is another critical aspect of research operations. IDA has established a secure data repository that ensures proper data storage, access control, and compliance with regulatory requirements. Managing sensitive data responsibly is crucial, particularly when working with government agencies and corporate partners. The implementation of rigorous data governance policies has been a cornerstone of IDA's success, ensuring that projects adhere to ethical and legal standards.

#### *Conclusion*

Building an analytics institute requires strategic planning, strong partnerships, and sustained funding. The IDA's success story offers an example model for universities and research organizations looking to establish a similar initiative. By fostering interdisciplinary collaboration, securing external funding, and maintaining a flexible structure, an institute can drive innovation and societal impact for years to come. Through careful management, continuous evolution, and a commitment to advancing data science, an analytics institute can remain. 

# Multi-criteria mapping and prioritization of Arctic and North Atlantic maritime safety and security needs

Dylan Jones, Ashraf Labib, Kevin Willis, Joseph T Costello, Djamila Ouelhadj, Emmi Susanna Ikonen, Mikel Dominguez Cainzos, European Journal of Operational Research 307 (2023) 827-841



## Introduction

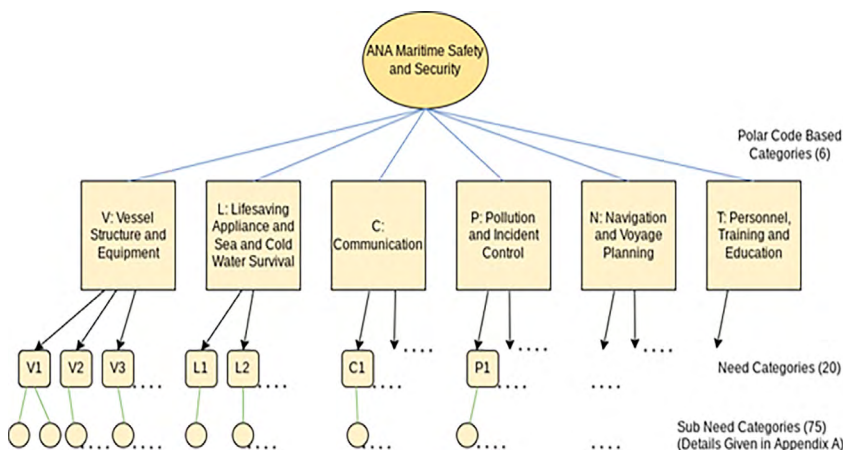
The effects of climate change and the rapid warming of the Arctic have opened access to the high latitudes, leading to more economic activity including oil and gas exploration, shipping, and tourism. This increase in accessibility brings with it higher risks of maritime accidents and environmental disasters in areas where rescue or response can be far away.

Given the increased importance and unique challenges of this region, the authors of this study (Jones et al, 2023) have developed a methodology to identify, map and prioritize areas where maritime safety and security in the Arctic requires research, development and improvement.

This work is part of the European Union-funded ARCSAR (Arctic and North Atlantic Security and Emergency Preparedness Network) project, which seeks to advance preparedness and response in the region.

## Methodology Overview

The researchers utilized a multi-methodology approach that combined qualitative assessments of the importance and difficulty of different options for improving safety and security with a goal-programming approach that allowed the selection of a subset of these options for further study and action.



▲ Figure 1 – Hierarchy of Arctic Maritime Safety and Security Needs

The approach started with the development of a hierarchy of needs structured into six main categories based on the International Maritime Organization's Polar Code (as shown in Figure 1).

An initial literature review was used to identify potential needs across the hierarchy and these categories were further broken down into 20 need and 75 sub-need categories

based upon a set of three large stakeholder workshops with a total of 130 stakeholders attending. The stakeholders were drawn from a variety of roles across multiple countries and included coast guards, Search and Rescue (SAR) organizations, satellite technology providers, and Arctic cruise operators. This was followed up by a series of six semi-structured questionnaires which attracted a total of a further 29 responses.

## Prioritization Approach

To systematically evaluate the identified needs, the authors used a PICK (Possible, Implement, Challenge, Keep Back) chart. This two-dimensional chart categorized sub-needs based on two key criteria: importance and difficulty.

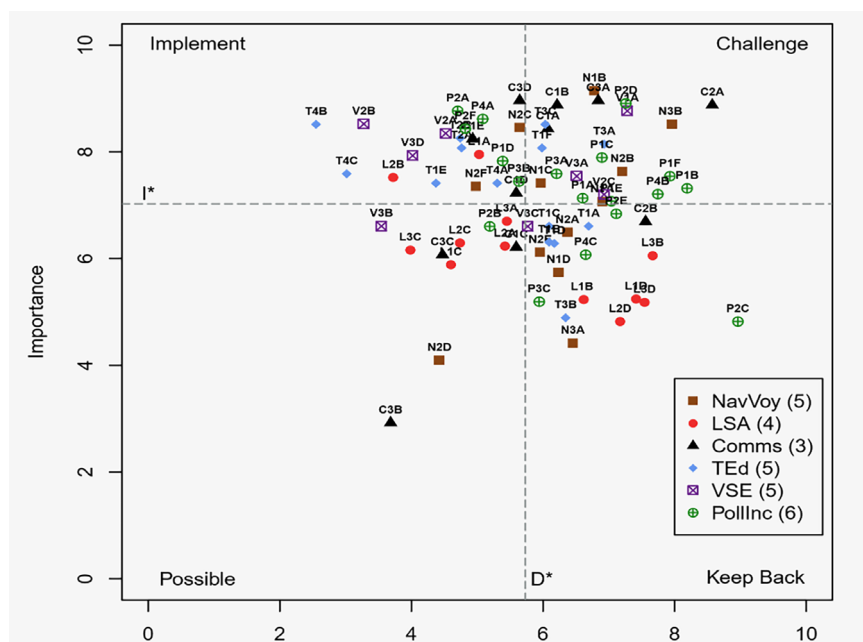
Each sub-need was given an importance and difficulty score by subject matter experts, with these importance and difficulty scores being consolidated into a single value for each sub-need using a geometric mean. The final scores for the sub-needs were then projected onto a 2-dimensional graph which was used as the basis for the PICK chart and which is shown in Figure 2.

The PICK chart was used to classify sub-needs as follows:

- **Implement:** High-importance, low-difficulty needs suitable for immediate action.
- **Challenge:** High-importance, high-difficulty needs requiring significant research and innovation.
- **Possible:** Low-importance, low-difficulty needs that are easier to address but less critical.
- **Keep Back:** Low-importance, high-difficulty needs that are deprioritized but not

discarded.

The codes shown in Figure 2 (which are explained in Appendix A of the original paper) refer to individual sub-needs, with the markers indicating the top-level need categories. The number of experts responding in each area is shown in brackets in the key. The boundary values between the categories, shown as dashed lines in Figure 2, were taken from the geometric mean for importance and difficulty of all the experts over all the individual sub-needs.



▲ Figure 2 – PICK Chart showing the rated Importance and Difficulty of different sub-needs

The next step was to develop a system for selecting a set of sub-needs for prioritisation, considering both importance and difficulty, as well as the inevitable limitations on resources. This was done using a goal programming knapsack model, which aimed to select a balanced set of sub-needs based on three objectives:

1. **Maximizing Overall Importance:** Selecting needs with the highest aggregate importance score, subject to a difficulty constraint.
2. **Balancing Challenging and Less Challenging Projects:** Ensuring a mix of easily implemented solutions and more difficult but potentially high-benefit projects.
3. **Ensuring Category Balance:** Maintaining a distribution of priorities across all six categories.

The model's constraints were set to select around 20% of the sub-needs, reflecting a manageable subset of priorities whilst still maximising impact.

Sensitivity analysis was conducted to understand the trade-offs between these goals, particularly the balance across different weighting schemes and the target level of total difficulty, which controlled the difficulty of the knapsack problem and the proportion of the sub-needs that would be selected.

## Key Findings

- **Core Priority Needs:** The analysis revealed a core set of seventeen sub-needs that were prioritized in the base weighting scenario including:
  - o Enhancements in satellite coverage and data transmission in the high latitudes.
  - o Technologies to improve performance in cold environments, such as advanced lifeboat designs and improved batteries.
  - o Standardized regulations for maintenance of life-saving equipment and pollution control for vessels operating in the Arctic.
  - o Better collaboration and information sharing amongst shipping operators, SAR organizations and healthcare providers.
  - o Standardised protocols for responding to incidents and

identifying lessons.

- o Information and data analytics tools to allow better prediction of ice conditions and route forecasting.

- **Balance and Trade-Offs:** The sensitivity analysis showed that the results of the goal programming model were quite stable to the assumptions made, with the same base set of sub-needs being selected in 5 of the 13 weighting scenarios.

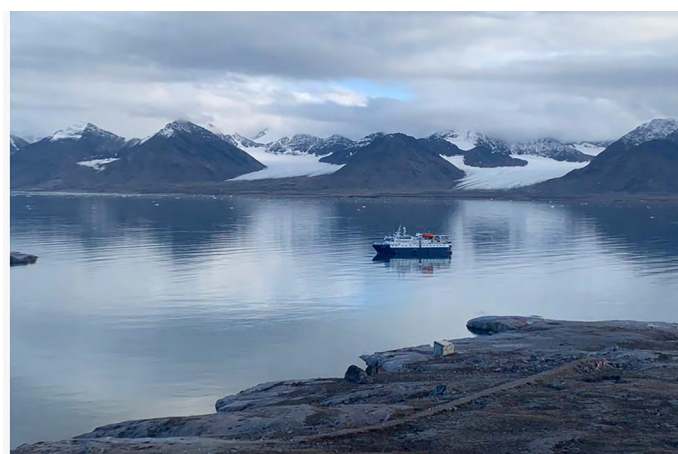
## Impact of the Research

Many of the sub-needs identified are in the 'implement' category, meaning that the actual delivery of these enhancements does not require advanced research, but instead involves organisational and policy changes.

There are also some more challenging sub-needs that require additional research, additional resources, or both. An example of this is the need for better satellite coverage in higher latitudes. Having a systematic framework for deciding which of these to prioritise is an important input into ARCSAR's ongoing research and development programme.

The work has also fed into developing policy on the Arctic region, contributing evidence to a UK House of Lords committee report on UK Strategy in the Arctic (House of Lords, 2023).

The research methodology is not only relevant for Arctic maritime safety but can also serve as a model for other complex, multi-stakeholder fields. Its application can extend to disaster risk management, environmental conservation, and infrastructure planning, where balancing diverse priorities is crucial. Moreover, the integration of stakeholder insights ensures that the prioritization process remains grounded in real-world needs and practical considerations.



The work is also being exploited directly by the same team to develop a hierarchical fuzzy-logic model to assess the risks of serious incidents associated with individual vessels. This risk model will consider different types of risk and include factors to represent ship flag, type, and speed together with continually updated assessments of meteorological conditions including ice, visibility, and weather and local conditions including grounding risk and traffic. >>





>> This risk model will include an Analytic Hierarchy Process (AHP) model of contributions to risk based upon expert judgements. The intention is that this software will be able to provide a future ARCSAR control room with continually updating assessments of risks throughout an area of operations, drawing attention to potential high-risk situations.

**Limitations and Future Work**

The authors acknowledge certain limitations in their study. The initial sub-needs hierarchy relies on the expertise of current stakeholders, which may not fully account for future or unforeseen events, such as Black Swan incidents. However, the proposed framework is designed to be flexible, allowing for updates as new information becomes available. Future



research could explore integrating more empirical data, such as historical incident records, to enhance the robustness of the prioritization process.

**Conclusion**


This research provides an important contribution by operational research to improving maritime safety in a fragile, dangerous and remote part of the world. The combination of the PICK chart and goal programming knapsack model creates a powerful tool for balancing and prioritising investment in complex environments.

By striking a balance between high-impact solutions and strategic balance across categories, the study supports the ARCSAR project’s goals and lays a foundation for future safety and security initiatives. The methodology’s generalizability also holds promise for tackling similarly complex challenges in other fields, demonstrating the broader applicability of this innovative approach.



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# IFORS<sup>2026</sup>

The 24th Conference of the International Federation of Operational Research Societies

## 12-17 JULY

## VIENNA, AUSTRIA



## OR Society of China hosted the APORS 2024 in Hangzhou

**Yu-Hong Dai** <[dyh@sec.cc.ac.cn](mailto:dyh@sec.cc.ac.cn)>, **Xujin Chen** <[xchen@amss.ac.cn](mailto:xchen@amss.ac.cn)>, **Degang Liu** <[dliu@amt.ac.cn](mailto:dliu@amt.ac.cn)>

The 14<sup>th</sup> Triennial Conference of the Association of Asia Pacific Operational Research Societies (APORS 2024, <https://apors2024.casconf.cn/>) was successfully held in Hangzhou, China, from November 15<sup>th</sup> to 18<sup>th</sup>, 2024. Over 160 participants from 14 countries and regions enjoyed a rich and engaging program of scientific and cultural activities.



▲ Best paper award winners. IFORS workshop for OR Teaching.

During the opening ceremony, IFORS President Janny Leung highlighted that APORS represents the most diverse region among IFORS's four regional organizations. Geographically, the thirteen APORS member societies span two continents and ten time zones, representing nearly half of the world's population! This triennial APORS conference provides an invaluable opportunity for operations researchers across this vast region to share experiences and exchange ideas.

Prof. Ya-xiang Yuan, representing the Chinese Association of Science & Technology, welcomed all participants from the Asia Pacific region to China. The conference chair Prof. Yu-Hong Dai, serving as the president of APORS and the host society (ORSC), expressed his pleasure in welcoming all the attendees and officers to the beautiful city of Hangzhou. He emphasized that OR theories and applications face great opportunities and challenges in the era of big data and AI, highlighting the conference's role in facilitating the presentation of new research and fostering insightful discussions. He expressed his hope that all participants would benefit from the conference and enjoy their time in Hangzhou.

Under the theme of *OR in Data Sciences*, APORS 2024 featured a *Distinguished Lecture* sponsored by IFORS, delivered by Prof. Stein W. Wallace on "Modeling with Stochastic Programming". Four invited keynote speakers gave their plenary talks: Prof. Xiaojun Chen from Hong Kong Polytechnic University on "Nonconvex-nonconcave Min-max Optimization Problems" with Cardinality Penalties, Prof. Guohua Wan from Shanghai Jiaotong University on "Recent Advances in Appointment Scheduling in Healthcare Services: A Survey and Extensions", Prof. Tiande

Guo from University of Chinese Academy of Sciences on "How to Find the Optimal Pivoting Path of the Simplex Method for Solving LP?", and Prof. Stefan Pickl from Universität der Bundeswehr München on "Data-driven Optimization of Critical Infrastructures-Artificial Intelligence and Resilience Strategies as part of Operations Research". The conference also included 38 invited talks and 20 poster presentations across three parallel sessions.

The conference program also featured a *youth forum*, where the six winners of the 2023/2024 APORS Young Researcher Best Paper Award presented their work on OR theory, applications, and collaborative research across APORS member societies. A *women's forum* showcased presentations by four women scientists and a panel discussion.

On November 15, preceding APORS 2024, a one-day IFORS workshop for OR Teaching attracted over 100 attendees from universities in the mainland and Hong Kong SAR of China. The IFORS Tutorial Lecturer Prof. Erhan Erkut shared his OR teaching experiences, focusing on teaching skills and methodologies. Three other tutorial speakers from the Chinese University of Hong Kong, Peking University, and Huhan University presented topics of teaching methods, advanced teaching skills, and curriculum programs.



▲ Pictures from the APORS 2024 Conference.



During the conference, IFORS hosted a Tea Gathering for representatives of the APORS or IFORS member societies to meet each other, promote the work of IFORS, and provide information about IFORS for those interested in getting involved. An APORS council meeting was held and addressed several key agenda items, including bids for the next APORS conference, the election of APORS officers for 2025-2027, and ongoing and new initiatives to strengthen communication and exchange among APORS members, especially young operational researchers. It has been decided that the next APORS Youth Forum will be held in Hong Kong at the end of 2025, hosted by ORSHK. The APORS 2027 conference will be hosted by the Australian Society for Operational Research (ASOR) in Perth, Australia. 🌐



# Bridging Behavior and Operational Research: *A Short Course on Discrete Choice Analysis and Market Demand @ EPFL, Switzerland*

**Michel Bierlaire** <[michel.bierlaire@epfl.ch](mailto:michel.bierlaire@epfl.ch)>

The “Short Course on Discrete Choice Analysis: Predicting Individual Behavior and Market Demand”, held at the *École Polytechnique Fédérale de Lausanne (EPFL)* from January 26 to 30, 2025, brought together an exceptional group of participants and instructors. This intensive program attracted 28 participants from across Europe, Thailand, and Brazil, reflecting the global interest in advanced choice modeling techniques (<https://transp-or-academia.epfl.ch/dca>).

The course was led by two experts in the field: *Prof. Moshe Ben-Akiva* from the Massachusetts Institute of Technology and *Prof. Michel Bierlaire* from EPFL. Their expertise and engaging teaching approach provided an in-depth exploration of theoretical foundations and practical applications of discrete choice analysis, a field essential for understanding and predicting individual behavior and market demand.

Over the span of five days, participants engaged in a rich mix of lectures, hands-on computer laboratories, and interactive discussions, totaling 30 hours of instruction. The curriculum covered fundamental and cutting-edge topics, including nested logit models, mixture models, discrete panel data, Bayesian estimation, and simulation-based methods. The course also addressed machine learning techniques with theoretical constraints, online personalization, and optimization, bridging traditional discrete choice modeling with modern data-driven approaches.

A dedicated Q&A session allowed participants to engage directly with the instructors, deepening their understanding



▲ *Moshe Ben-Akiva* (2<sup>nd</sup> from the right in the 1<sup>st</sup> row), *Michel Bierlaire* (taking the selfie) and the participants of the *Short Course*.

and fostering discussions on methodological challenges and real-world applications. The diverse academic and professional backgrounds of the attendees contributed to a dynamic learning environment, where high-level exchanges enriched the experience for everyone involved.

This year's course reaffirmed its reputation as a premier learning opportunity for those seeking to master discrete choice analysis. With a strong international presence and world-class instruction, it continues to be an essential training ground for researchers and practitioners aiming to push the boundaries of choice modeling and market prediction. 🌐

## The newly created *EURO OSS* on *Operational Research and Machine Learning*

**Emilio Carrizosa** <[ecarrizosa@us.es](mailto:ecarrizosa@us.es)>, **Dolores Romero Morales** <[drm.eco@cbs.dk](mailto:drm.eco@cbs.dk)>, **Nuria Gómez-Vargas** <[ngvargas@us.es](mailto:ngvargas@us.es)>, **Thomas Halskov** <[tha.eco@cbs.dk](mailto:tha.eco@cbs.dk)>

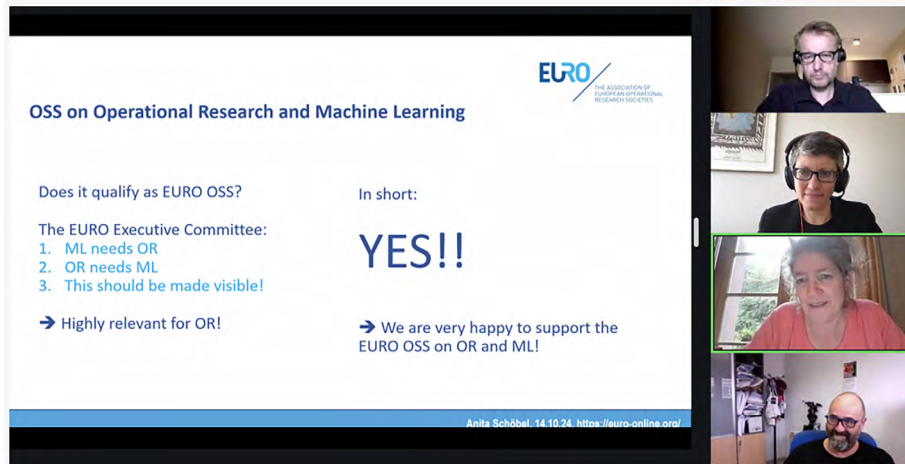
*EURO - The Association of European Operational Research Societies* has a new instrument, the *EURO Online Seminar Series (EURO OSS)*. [Prof. Emilio Carrizosa](#), [IMUS-Instituto de Matemáticas de la Universidad de Sevilla](#), [Prof. Dolores Romero Morales](#), [Department of Economics of Copenhagen Business School](#), [Nuria Gómez-Vargas](#), PhD student at [IMUS-Instituto de Matemáticas de la Universidad de Sevilla](#), [Thomas Halskov](#), PhD student at [Department of Economics of Copenhagen Business School](#) organize the newly created *EURO OSS* on *Operational Research and Machine Learning*, <https://euroorml.euro-online.org/>. This is an online seminar series with the

goal of branding the role of *Operational Research* in *Artificial Intelligence*. The format is a weekly session that takes place every Monday, 16.30-17.30 (CET). It is 100% online access, and it counts with leading speakers from *Operational Research*, as well as neighbouring areas. All talks are recorded, and the videos are uploaded to the website.

On October 14, *Prof Anita Schöbel* (then President of *EURO*) opened the *EURO OSS* on *Operational Research and Machine Learning*.>>



>> The 2024 Autumn program covers talks on “*Fraud Detection*” (Prof Bart Baesens, KU Leuven), “*Neural Networks Verification*” (Prof Ruth Misener, Imperial College London), “*Sparsity via Mixed-Binary Nonconvex Optimization*” (Prof Immanuel Bomze, University of Vienna), “*Optimality guarantees in Cluster Analysis*” (Prof Veronica Piccialli, Sapienza University of Rome), “*Learning to Branch and to Cut*” (Prof Bissan Ghaddar, Ivey Business School), “*Large-Scale Optimization in fast moving environments*” (Prof Rubén Ruiz, Amazon Web Services / Universitat Politècnica de València), “*Optimal Fundraising for Non-Profit Organizations*” (Prof Wolfram Wiesemann, Imperial College London).



▲ Opening session with the (now former) President of EURO Prof Anita Schöbel (third) and Prof Baesens from KU Leuven (first).

We also have the YOUNG EURO OSS on Operational Research and Machine Learning. In each YOUNG session, junior academics will show their latest results in this burgeoning area. This Autumn we had a YOUNG session jointly with the EURO WISDOM Forum, with Paula Carroll (Chair of WISDOM) and Dilek (Events

Subcommittee), and three female researchers, namely, Dr Sofie Goethals, Ms. Esther Julien, and Dr Kimberly Yu.

Information on upcoming talks for this academic year can be found on the website <https://euroorml.euro-online.org/>, the LinkedIn page <https://www.linkedin.com/company/euroorml/>, or by registering on our mailing list:

<https://forms.gle/YWLB6EPKRQnQert68>.

## The 1st Edition of OR@Africa Day - OR at Africa: Challenges & Opportunities

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On January 20, 2025, OR@Africa organized the first edition of the OR@Africa Day at GERAD, Montreal, and online. The event brought together passionate OR researchers, students, and professionals from various parts of the world. This event was an opportunity to witness the potential and the role that could be played by OR in tackling several challenges in the African continent.

### Inspiring Talks: OR Potential in Africa

The event started with an opening speech by our guest of honor, Prof. Gilbert Laporte, who highlighted his continuous support of OR@Africa and the efforts made to bring more OR momentum to the continent.

After Prof. Laporte's inspiring speech, the OR@Africa team explained the high ambition of using OR to tackle emerging challenges in Africa. Following that, renowned Professors Issmail El Hallaoui, Hanane Dagdougui, and Nadia Lahrichi presented their research. They all presented interesting projects, some of which took place in Africa, and span healthcare, energy systems, transportation, and agriculture. In OR@Africa's efforts to bring more youth into the OR scene, we held another session where young researchers shared their works. The topics include resource optimization, counterfactual explanations in machine learning, and dynamic programming for complex knapsack problem variants.

### The Promise of a Collaborative Future

The First Annual OR@Africa Day was not only a resounding



▲ Inaugural Talk by Prof. Gilbert Laporte, and attendees of the 1st edition of OR@Africa Day, 20 January 2025, Montreal, Canada.

success but also opened the door to future OR collaborations that could benefit the African continent. The discussions around OR applications in Africa showed how powerful this discipline can be in solving complex problems, whether it is optimizing resources or improving infrastructures. >>



>> Looking ahead, *OR@Africa* is eager to explore emerging collaborations with global organizations such as *IFORS*, *INFORMS*, *EURO*, and especially *AFROS*. These partnerships could be pivotal in advancing operations research in Africa, helping to connect researchers and practitioners worldwide to tackle critical challenges on the continent.

The *OR@Africa* team would like to extend their heartfelt thanks to Prof. Laporte, Prof. El Hallaoui, Prof. Lahrichi, Prof. Dagdougui, Ibrahim Dan Dije, Awa Khouna, and Sarah Nouri, as well as all the other participants. Their enthusiasm, expertise, and commitment made this first edition a true stepping stone for more *OR@Africa* initiatives.



For more details about the event, visit our LinkedIn page <https://www.linkedin.com/company/oratafrica>. The next *OR@Africa* Day will take place in 2026, and we look forward

to making it an annual event, continuing to bring together *OR* professionals, researchers, and students to collaborate on pressing issues in Africa. 🌐

## Finnish Operations Research Society Autumn Seminar, Held in House of Science and Letters, Finland

Jussi Leppinen <[sihteeri@operaatitutkimus.fi](mailto:sihteeri@operaatitutkimus.fi)>

On November 27, 2024, the *Finnish Operations Research Society (FORS)* organized a seminar that is part of a series of *FORS* seminars organized twice a year. This seminar focused on operations research (*OR*) applications in the retail sector. Three leading experts in the field, also members of *FORS*, gave engaging presentations, which sparked lively discussions among the participants. During the seminar, *FORS* named an *OR person of the year* who has significantly advanced the applications or theory of operations research through their practical work or study. *FORS* awards this title as an annual tradition.

*Toni Jarimo* (Head of the K-Plussa Customer Program at Kesko) delivered the seminar's opening presentation. He gave an in-depth overview of the analytics used to create a personalized customer experience. K-Plussa offers several features to its users, such as an automatically generated shopping list and customized discounts, which make extensive use of transaction data.

*Professor Heikki Peura* (Aalto University School of Business) gave the second presentation. He explained how product assortments can be improved using robust optimization techniques. In a recent article, Heikki and his colleagues demonstrated that the product assortment offered to customers should not be fixed, as randomizing the assortment can increase the expected sales.

*Antti Punkka* (S Group, Finland) has published articles in top *OR* journals and was an organizing committee chair of the very successful *EURO*



2022 conference in Espoo, Finland. Thus, he was decorated as the *OR person of the year*. He shared how operations research is applied in S Group's workforce planning in his presentation. With over 40,000 employees in various roles, S Group faces numerous challenges in summer vacation planning. *Antti* demonstrated how operations research methods can optimize summer worker recruitment, considering costs, required competencies for shifts, flexibility, and labor requirements.



▲ Antti Punkka, *OR person of the year*, and Jussi Leppinen, *FORS* Secretary (from left to right).

After the seminar, some participants joined for a dinner, during which interesting discussions about *OR* and the retail sector continued. The positive feedback from this seminar is a good motivation for organizing future *FORS* activities and keeping our members

informed of future *IFORS* and *EURO* events. More information on *FORS*: <https://www.operaatitutkimus.fi/index.php/in-english/>. 🌐



# Simulation of Complex Systems in Bielefeld, Germany: Meeting of the GOR-Working Group on “*Simulation and Optimization of Complex Systems*”

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Members of the [Working Group on “Simulation and Optimization of Complex Systems”](#) of the [German Operations Research Society \(GOR\)](#), as well as some more colleagues from the field of social simulation, met on November 7-8, 2024, at the [Center for Interdisciplinary Research \(ZiF: Zentrum für interdisziplinäre Forschung\)](#) at Bielefeld University.

The [scientific program](#) featured eight regular talks and two panel discussions. The regular talks covered a broad variety of topics ranging from theoretical contributions – addressing, for example, seeding strategies in signed networks, the effect of consumer heterogeneity or consumer ambiguity on innovation diffusion, or implications of algorithmic pricing in oligopoly markets – to more application-oriented contributions – such as urban water shortages and the role of informal markets in Jordan, insights

on fraud dynamics, or policy measures for the decarbonisation of the German industrial sector. In the majority of these works, agent-based modeling was used, but other techniques (e.g., System Dynamics) were applied as well. In the panel sessions, participants of the workshop discussed issues of parameterization, calibration, and validation of simulation models, and they shared their experiences with the usage of popular simulation tools (in particular, AnyLogic, Julia, and SeSAM).

Moreover, extended coffee breaks, joint lunch, and a nice conference dinner at a local brewery provided plenty of opportunities

for informal exchange between the participants. The next meeting of the working group is scheduled for November 6-7, 2025, in Munich. 🌐



▲ Participants in the workshop during a break on Thursday; additional colleagues joined the group on Friday.

## AI for Digital Sustainable Development at ICAISD 2024: OR Celebrated in West Java, Indonesia, and Online

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▲ ICAISD 2024: hybrid conference.

ICAISD 2024 was a hybrid conference; online via Zoom Meeting and onsite at the BSI Convention Center, Indonesia, by the *Department of Research and Community Service (LPPM)* of *Universitas Bina Sarana Informatika* on November 25-26, 2024. It is an International Conference for sharing knowledge and research in Computer and Information Science and providing a platform for researchers and practitioners from academia and industry to meet and share the cutting-edge development of Computer and Information Science research, with the theme “*AI for Investing in the Sustainability Development of Human Living Digitally*”. The background is related to the rapid development of science and technology in the 21st century, which has contributed to changing or renewing various fields of life. >>



>> The articles cover various topics in Computer Science & Informatics, Computer Engineering & Computer Systems, Operational Research (OR), Software Engineering and Mobile Multimedia.

As an introduction, the committee proudly presents the *Website Open Conference System (OCS)*, developed by *Universitas Bina Sarana Informatika*. It facilitates the submission of conference papers to *ICAISD 2024*. The conference became special as more delegates joined from various countries and universities, which hosted 25 representatives from abroad and locally, such as Indonesia, Uzbekistan, Jordan, Bangladesh, Iraq, and Malaysia. *ICAISD 2024* was held with IEEE Indonesia Section, APTIKOM, APTIKOM DKI Jakarta, Universitas Sumatera Utara, Universitas Nusa Mandiri, Cyber University, AMIK-STIKOM Tunas Bangsa, as well as Universitas Raharja and Universitas Teknologi Mataram.

This conference featured five *Keynote Speakers*: Prof. Dr. James Cochran (University of Alabama, USA), discussed “*Artificial Intelligence in Education*”; Prof. Shi-Jinn Horng (National Taiwan University of Science and Technology, Taiwan) discussed “*Navigate Wisely in Smart Cities*”; Prof. Vijay Anant Athavale (Walchand Institute of Technology, Solapur, Maharashtra, India) discussed “*AI and Education 4.0: Revolutionizing Learning Through Personalization and Inclusivity*”; Prof. Dr. Herman Mawengkang (Universitas Sumatera Utara, Medan, Indonesia) discussed “*ε-Constrained Approach for Multi-Objective Stochastic Programming for Sustainable Water Distribution Network*”; Prof. Gerhard-Wilhelm Weber (Poznan University



▲ ICAISD 2024: keynote Q&A session.

of Technology, Poland) discussed “*Regime-switching models via stochastic optimal control & robust control theory, with applications in finance and insurance*”.

ICAISD will start the agenda next year under the title *International Conference on Advanced Information Scientific Development (ICAISD) 2025* with the theme “*Artificial Intelligence: Advancing Research and Computational Innovations for Global Welfare*”. The committee will invite participants to the best paper submitted to *ICAISD 2025*. Check the website for more updates: <https://icaisd.info/icaisd2024/>. 

## Since 2023, the *INFORMS Insights* webinar series has provided valuable insight to early career analytics professionals

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The field of *analytics* is constantly evolving, as new technology and tools are implemented across the full spectrum of research and applications. For students and young professionals interested in pursuing careers in this field, it is important to stay abreast of the latest in best practices.

Launched in early 2023, the *INFORMS Insights: Exploring Industry Career Paths and Experiences* webinar series was created to provide valuable resources and insights to early career professionals in analytics, from top leaders in industry who share their personal experiences and practical career advice.

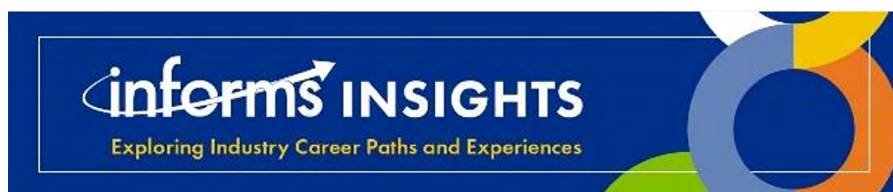
In 2023 and 2024, *INFORMS Insights* covered a wide range of interest areas including interview and hiring strategies, personal branding, and emerging fields for analytics professionals, as well as tackled a wide range of challenges facing early career professionals. With a focus on best practices and real-world examples, these monthly webinars provide attendees with actionable insights and tangible skills to enhance their own careers.

Previous episodes have shared the personal experience and expertise of analytics leaders and covered e-commerce, the challenges (and fun!) of consulting, the important role of communication in framing business problems and surviving a competitive job market. Also featured were analytics experts from the Mayo Clinic, Meta Platforms Inc., NASA, and Amazon. Previous webinars can be accessed via the *INFORMS Insights* website and *INFORMS Connect* platform.

In 2025, the *INFORMS Insights* webinars will cover four topic areas that reflect the career stages of young analytics professionals: launching your analytics career, excelling in your role, grow your skillset, and future-proofing your career. The

new year launched with a webinar in January featuring Evan Wimpey, Director of Analytics, PyMC Labs, titled “*Open Source &*

*Open Doors: Building Your 2025 Analytics*”. Then in February, Kathryn Walter, CAP, Senior Operations Research Analyst, Avista Corporation, will host a webinar titled “*Breaking Into Analytics: Interview Skills for Real World Success*”. >>



>> Upcoming webinars in 2025 will cover topics such as advancing your job search, technical lessons learned on the job, leadership skills, embracing AI, and more. Whether you're just starting out or looking to take that next important step in your career, the *INFORMS Insights* webinars provide an excellent resource for professional development and growth.

Registration for the *INFORMS Insights* webinars is free for *INFORMS* members and \$19 per webinar for nonmembers.

Ashley Kilgore is Communications Manager at *INFORMS*. 



▲ *INFORMS Insights* 2025 presents Evan Wimpey and Kathryn Walter.

## KORMS (Korean OR/MS Society): Successful Conferences in 2024!

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The *Korean Operations Research and Management Science Society* (KORMS) is a professional organization in Korea meant for individuals and organizations interested in the fields of Operations Research (OR) or Management Science (MS). The society was established in 1976. KORMS was a founding country member of APORS and hosted the first APORS Seoul Meeting in 1988 when the Seoul Olympics was held. IFORS Seoul Meeting was held on- and off-line at COEX, Seoul, during the COVID pandemic in 2021. For more information and activities of KORMS, please refer to the link: <https://eng.korms.or.kr/homepage/custom/activity>.



▲ KORMS co-hosted the 26th Korean Academic Society of Business Administration's Convergence Conference, Gyeongju, Korea.

Secondly, KORMS co-hosted the 26<sup>th</sup> The Korean Academic Society of Business Administration's Convergence Conference between August 12 (Mon) and 14 (Wed), 2024 at the Gyeongju Hwabaek Convention Center. The conference theme was "Korean Management Opening the Local Era". A total of 46 academic societies participated in this conference.

Thirdly, KORMS and *INFORMS Korea Chapter* jointly hosted the *Korean Night* dinner event sharing information and networks among attendees on October 21, 2024, at the *INFORMS Seattle Meeting*.

Lastly, the 2024 KORMS Fall Conference was held on Friday, November 8, 2024, at Korea Aerospace University. The conference theme was the creation of smart society through AI-based management science. It comprised a total of 99 paper presentations, 2 keynote speeches, and 1 tutorial. The awards conferred during the conference include – The 2024 Journal of Management Science & Management Science Best Paper and Best Reviewer Award, the 11<sup>th</sup> Doctoral Dissertation Award, and the 2024 Fall Conference Competitive Paper Award. 

## Lleida Tech 2024 Artificial Intelligence & Optimization Workshop -Celebrated in beautiful Lleida, Spain

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The *LleidaTech 2024 Workshop on Artificial Intelligence & Optimization* (LAIO 2024) took place on October 24-25, 2024, in the charming Catalan city of Lleida, Spain. This workshop, jointly organized by the *University of Lleida*, *Agrotecnio* and the *Lleida City Council*, served as a significant meeting point for academic and industrial partners in the fields of hybrid

Operational Research (OR) and Artificial Intelligence (AI). The workshop gathered over 60 experts in OR and AI, creating a vibrant atmosphere for knowledge sharing and collaboration. Held in a beautiful building overlooking the beach, participants had the opportunity to engage in insightful discussions and learn from one another's experiences. >>




>> The workshop's central focus was on the collaboration between Industry and Academia in the development and application of hybrid OR and AI methods to address optimization challenges, including smart cities, tourism, transportation and logistics, agriculture and farming, finance and insurance, manufacturing and production.

Throughout the event, participants presented ongoing research projects funded by Horizon Europe and recent advancements in OR and AI methods, showcasing their practical applications in optimizing complex systems. This edition wanted to highlight the role of *Ethics in AI* and for this purpose, two people were invited to share their experience: Josep Coll, entrepreneur CEO of RepScan (Digital Reputation), and Montse Esquerda who gave the talk entitled “Artificial

*intelligence in the field of health: possibilities and threats*”. In addition to the technical discussions, the workshop fostered networking and collaboration among academic and industrial partners. Examples of this were, for instance, the talks of Ouidan

HajjajElmrani (UdL) about “An empirical comparison of machine learning-based classification methods to identify pest hotspots in fruit orchards”, Anas Al Rahamneh (UPNA) about “Machine Learning-Based Predictive Maintenance System for

Delivery Vehicles”, and Xabier Martin (UPV) presenting “An Agile Optimization Algorithm for the Tourist Trip Design Problem with Type-Covering Constraints”.

More information on this event can found at: <https://lleidatech.udl.cat>. 



▲ LAIO 2024: Some of the participants on October 25<sup>th</sup>.

## 50<sup>th</sup> LNMB Conference 2025

# The Dutch Network on the Mathematics of Operations Research

Maria Vlasiou <[lnmb@utwente.nl](mailto:lnmb@utwente.nl)>

The *Dutch Network on the Mathematics of Operations Research*, LNMB, is an interuniversity cooperation in the Netherlands since 1987. The network has a central role in the OR community by promoting close ties and collaboration that has regularly led to cutting-edge results of societal impact. LNMB is responsible for graduate education in the country, with PhD and MSc students following the LNMB national curriculum in OR. In 2025, 13 new graduates completed the diploma requirements.

This year, LNMB celebrated another milestone: the golden jubilee of the annual LNMB conference. The annual LNMB conference, *The Mathematics of Operations Research*, is the premier gathering in the Netherlands for senior and junior researchers working in this field. The 50<sup>th</sup> edition took place on 13-15 January 2025 and attracted 217 participants from the whole country, making this year's edition the largest ever in the history of the event. The conference focuses traditionally on ties with the international community and on the research developments in OR within the country; half of the programme features presentations by PhD candidates representing all national research groups in OR.



▲ Snapshots from LNMB 2025: the 2025 LNMB Graduates and Chairman (left), and impression of the participants (right).

The programme featured presentations on current high-quality research and real-world applications, drawing both academic scholars and practitioners from industry and the public sector. The conference had an impressive lineup of *keynote speakers*, each a leader in the field of OR. This year's keynote addresses were delivered by: [Prof. Dr. Daniel Kuhn](#) (EPFL), [Prof. Dr. Marco Scarsini](#) (Luiss University), [Prof. Dr. Huseyin Topaloglu](#) (Cornell University), and [Prof. Dr. Angelika Wiegele](#) (Universität Klagenfurt). The slides of the presentations can be found on the [LNMB website](#).

The third day of the conference highlighted the success stories of the Dutch Operations Research community with past winners and finalists of the prestigious *INFORMS Franz Edelman Award*, including [Netherlands Railways](#) (Winner 2008), [TNT Express](#) (Winner 2012), [Dutch Delta Programme](#) (Winner 2013), [UN World Food Programme](#) (Winner 2021), [Merck Animal Health](#) (Finalist 2022), and [Transvision](#) (Finalist 2024). This prestigious international award recognises outstanding contributions of OR in both the profit and non-profit sectors. The first time a Dutch team won the award was in 1984 on national water management, while the next success came in 2004, where a team led by *Prof. Ton de Kok* revolutionised the Philips supply chain.

[Prof. Dr. Maria Vlasiou](#), University of Twente, is the LNMB Director. 



# 7th Workshop in Management Science in Pucón, Chile - OR-MS: Inspiring minds and Connecting ideas

**Natalia Yankovic** <[nyankovic.es@uandes.cl](mailto:nyankovic.es@uandes.cl)>, **Ricardo Montoya** <[rmontoya@puc.cl](mailto:rmontoya@puc.cl)>, **Charles Thraves** <[cthraves@dii.uchile.cl](mailto:cthraves@dii.uchile.cl)>, **Sol Arriagada** <[s.arriagada@isci.cl](mailto:s.arriagada@isci.cl)>, **General Contact** <[info@msworkshop.cl](mailto:info@msworkshop.cl)>

From January 3 to 5, 2025, the Hotel Park Lake Luxury in Pucón, Chile, became the stage for the 7<sup>th</sup> Annual Workshop in Management Science. Organized by the Complex Engineering Systems Institute, the Universidad de Chile, and the Pontificia Universidad Católica de Chile. This event provided an exciting space for academics to connect, collaborate, and present their research in *operational research*, management science, marketing (both quantitative and behavioral), and decision-making.

This year's workshop featured plenary lectures by: Omar Besbes (Graduate School of Business, Columbia University): "Design and Impact of Recommendation Systems", J. Miguel Villas-Boas (Haas School of Business, U.C. Berkeley): "Information Acquisition before Choice", Alex Rees-Jones (The Wharton School, University of Pennsylvania): "Behavioral Economics and Matching Market



Design".

Additionally, the workshop comprised a single track of 21 presentations delivered by faculty members and PhD candidates from a wide range of universities. This diverse and dynamic agenda made the event a hub for exploring cutting-edge topics in management science, operational research, behavioral economics, and related fields.

For details on this edition and previous workshops, visit [www.msworkshop.cl](http://www.msworkshop.cl).

Cordially thanks to dear **Professor Joel Joris Van de Klundert** for communication support on this report.

W. Weber and J. Parikh



▲ Official group photo of Workshop in Management Science 2025 with the stunning Villarrica Lake in the background.

## Innovation, Logistics and Lean Production in Public and Private Health Care: Kick-off conference celebrated ceremoniously in Naples

**Giuseppe Converso** <[giuseppe.converso@unina.it](mailto:giuseppe.converso@unina.it)>, **Mosè Gallo** <[mose.gallo@unina.it](mailto:mose.gallo@unina.it)>

The first edition of the LLEAHMM conference (Logistics and Lean, Engineering in Advanced Healthcare Methodologies Modeling) was held in Naples, Italy, with great success, an event of excellence dedicated to the application of logistics and lean production methodologies to the world of public and private healthcare. The initiative, which saw the participation of international experts and key figures in the field of healthcare management and applied research, was co-chaired by Prof. Dr. Gerhard-Wilhelm Weber (Professor at the Faculty of Engineering Management, Poznan University of Technology) and Prof. Dr. Maria Triassi (Full Professor at the Federico II



University Hospital and former Director of the Department of Integrated Activities of Public Health, Pharmacoutilization and Dermatology and of the Complex Operating Unit of Hygiene). >>

>> The conference, held under the patronage of the *University of Naples*, took place at the *PSB Conference Centre*, at San Laise Park in Naples, from October 10 to 12, 2024, and represented a fundamental platform for the comparison between academics, professionals, and decision makers, addressing the increasingly complex challenges that characterize the contemporary healthcare management sector, with specific regard to the problems of resource optimization. With over 40 scientific research papers presented, the event offered a comprehensive and multidisciplinary overview of the innovative solutions and analytical models that are transforming the efficiency and effectiveness of global health systems.

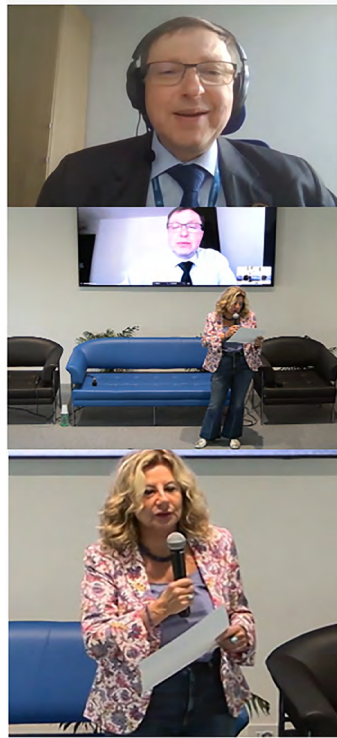
### Topics Addressed - Innovation, Processes and Models:

The heart of *LLEAHMM 2024* was the in-depth study of lean production methodologies and logistics as key tools to improve resource management, reduce waste, and optimize operational flows in both public and private healthcare facilities. Among the many relevant topics tackled, the following stood



out:

- Innovative applications of lean processes,
- Neural Network models to support decision making,
- Operational Research (OR)



▲ The co-chairs of *LLEAHMM*: Prof. Gerhard-Wilhelm Weber and Professor Maria Triassi.

for medical logistics management.

These topics, often integrated with each other, underlined how the combination of technological and methodological innovation can provide concrete answers to the critical issues that characterize the healthcare sector, such as the increase in demand for services.

### Looking Ahead

*LLEAHMM 2024* laid the foundation for a new era of research and applications in healthcare management. Participants shared the need for an interdisciplinary approach, where logistics experts, engineers, doctors and healthcare professionals work together to design sustainable and innovative solutions. In light of the success of this first edition, the organizers have already announced their intention to make the conference an annual event, with the long-term aim of building an international network of experts and promoting the dissemination of best practices in the sector. *LLEAHMM 2024* was not only a scientific event, but also a moment of meeting, sharing, and inspiration, capable of stimulating a real change in healthcare, the

path undertaken is certainly destined to leave a long-lasting mark on the global healthcare landscape.

*LLEAHMM* strives for long-term, fruitful cooperation with and within the international OR community. 🌐

## CLAIO 2024 and creation of the *ALIO Working Group “Agroptimización”* in Guadalajara, México

Lluís M. Plà-Aragonès <[lluismiquel.pla@udl.cat](mailto:lluismiquel.pla@udl.cat)>

I am pleased to announce the newly created *working group “Agroptimización”* (Agroptimization) fostered by *ALIO*. The working group contributed to the *XXII Latin American Conference of OR (CLAIO)* organising a stream entitled *AI4AgroIB*. The stream consisted of twenty presentations organised in five sessions. *CLAIO* was held in Guadalajara, México, from the 28<sup>th</sup> of October till the 1<sup>st</sup> of November and overlapped with the *Mexican OR Conference (CSMIO)*.

The presentations in the stream were of high quality and interest, covering different problems of agriculture production and using OR techniques to solve them. They were divided into sessions that either addressed a similar problem or used a similar methodology to solve that problem. In this way, the five sessions were devoted to Livestock planning production, Agrifood Supply Chain Management, Agricultural zone managing and forestry. Participants were

mostly from Ibero-American countries with presentations in Spanish or Portuguese, although English was also accepted. The countries with higher representation were Mexico, Chile, Uruguay, Colombia, Spain, El Salvador and Brazil.

At the end of the conference, participants in the stream and attendants to the conference interested in the OR methods and their application to Agriculture were invited to participate in the session that led to the official creation of the

*Agroptimization Working Group*.

In the meeting, many people from the *CYTED* thematic network

of *AI for Sustainable Agriculture (AI4AgroIB)* were present and accepted to be integrated into this new *ALIO* group. At the same time, supporters of agricultural optimization were invited to register in the *CYTED* network in order to benefit from scientific exchange and financial support. >>





At the same meeting, it was agreed that the *ALIO* Summer School, i.e., *ELAVIO 2025*, be organized in Lleida, dedicated to optimization and AI in agriculture. The proposal of *ELAVIO 2025* was approved by the Executive Committee of *ALIO* and will count on the financial support of *IFORS* and the *CYTED* network *AI4AgroIB* for Latin American PhD students and professors. This summer school will be organized jointly with the *EURO PhD School* approved by *EURO* to be held in Lleida, soon after the *EURO 2025*, from the 26<sup>th</sup> of



▲ Members of *Agroptimización*, the new *ALIO* working group, attending *CLAIO*.

June till the 4<sup>th</sup> of July. It is worth noting that this is an example of how synergies can be exploited with a little coordination by members of different regional *OR* societies who are interested in the same topics. In this way, the *Agroptimización* working group is expected to strengthen its relations with the *EURO* Working Group *ORAFM* (*OR* in Agriculture and Forest Management).



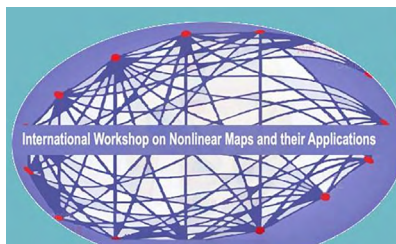
## *International Workshop on Nonlinear Maps and their Application: NOMA24* – *OR* celebrated in beautiful Porto, Portugal

**Alberto Pinto** <[aapinto@fc.up.pt](mailto:aapinto@fc.up.pt)>, **Clara Grácio** <[mgracio@uevora.pt](mailto:mgracio@uevora.pt)>, **João Paulo Almeida** <[jpa@ipb.pt](mailto:jpa@ipb.pt)>

The *International Workshop on Nonlinear Maps and their Applications* (*NOMA24*) was successfully held at the *University of Porto* from January 17 to 19, 2024 (<https://www.noma24.uevora.pt>). This is the eighth edition of the biennial conference series and brought together researchers from diverse fields - including mathematics, biology, physics, economics, computer science, and engineering - to share and discuss the latest advancements within the scope of nonlinear discrete systems.

The workshop featured plenary lectures by distinguished keynote speakers such as: *Delfim Torres* (*University of Aveiro, Portugal*), *Diego Luis Gonzalez* (*University of Bologna, Italy*), *Julyan Cartwright* (*University of Granada, Spain*), *José Ferreira Alves* (*University of Porto, Portugal*) and *Jorge Zubelli* (*Khalifa University, UAE*).

The program encompassed a wide range of topics, including: *Topological, Differential, and Ergodic Aspects of Nonlinear Maps*, exploring both finite-dimensional and infinite-dimensional systems; *Bifurcations and Applications of Nonlinear Maps*, investigating critical changes in system behaviour and their practical implications; these insights are crucial for



and optimize health care delivery, resource allocation, and biological information flow; *Synchronization*, examining the coordination phenomena in coupled nonlinear systems. *OR* increasingly focuses on optimizing interconnected systems,


risk assessment and scenario planning in *OR*; *Biological Sciences*, focusing on the analysis, modelling, and simulation of biological systems; *Nonlinear dynamics* and *OR* come together to model such as supply chains or urban transport networks, where synchronization and stability are a key; *Game Theory*, a core area of *OR*, modelling strategic interactions and resource allocations within nonlinear frameworks.



▲ Group photo of the *Gala Dinner* over the Douro River, backed by the always impressive night view of Porto and Gaia.

The event was organized by the *University of Évora* and the *University of Porto*, with sponsorship from the *Centro de Investigação em*

*Matemática e Aplicações (CIMA)* with distinguished Scientific and Organizing Committees (<https://www.noma24.uevora.pt/commitees/>).

Following this event, a special issue of the *Journal of Dynamic and Games* (<https://www.aims sciences.org/jdg>), published by the American Institute of Mathematical Sciences (AIMS), will be dedicated to the subjects presented at the conference. 



# Latest *OR* Research Advances: *ODSIE 2024* Istanbul, Turkey, online!

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Erfan Babaee Tirkolaee <erfan.babaee@istinye.edu.tr>, Gerhard-Wilhelm Weber <gerhard.weber@put.poznan.pl>



▲ *ODSIE 2024*: Some snapshots from the presentations.

The *International Conference on Optimization and Data Science in Industrial Engineering 2024 (ODSIE 2024)*, cf. <https://odsie2024.refconf.com/> was held in online mode on November 7-8, 2024, to facilitate transferring knowledge, information, experience, and expertise in the fields of *Operational Research (OR)* and *Artificial Intelligence (AI)*, with the scientific support of different universities worldwide. *OR* and *AI* are the two significant research areas that help researchers and decision-makers solve today's complex and hard problems.

*ODSIE 2024* was organized by the Institution of International Scientific Services (<https://refconf.com/>) and Istinye University, Istanbul, Turkey (<https://www.istinye.edu.tr/en>), Prof. Erkan Ibiş (Rector), Prof. Hatice Gülen (Vice Rector), and Prof. Mehmet Alper Tunga (Dean of the Faculty of Engineering and Natural Sciences). The conference chairs were Prof. A. Mirzazadeh (Faculty Member of Kharazmi University and Chair of the Institution of International Scientific Services) and Dr. Erfan Babaee Tirkolaee (Faculty Member of Istinye University), and the co-chair was Dr. Saliha Karadayi-Usta (Faculty Member of Istinye University).

Besides keynote speeches ([https://odsie2024.refconf.com/page\\_279.html](https://odsie2024.refconf.com/page_279.html)), workshops ([https://odsie2024.refconf.com/p\\_workshops](https://odsie2024.refconf.com/p_workshops)), and paper presentation panels ([https://odsie2024.refconf.com/p\\_panels](https://odsie2024.refconf.com/p_panels)) that covered various subjects in *OR*, *AI*, data science, information technology, machine learning, sustainability, etc., *ODSIE 2024* conference included *PhD. thesis competition*, in which the three finalists presented their valuable research ([https://odsie2024.refconf.com/page\\_263.html](https://odsie2024.refconf.com/page_263.html)).

The selected papers of the conference will be published in Springer's CCIS book series, indexed in Scopus, SCImago, EI-Compendex, etc., and the other papers will be considered for possible publication in ten peer-reviewed journals ([https://odsie2024.refconf.com/page\\_230.html](https://odsie2024.refconf.com/page_230.html)). The conference participants were from 34 countries.

The Organizing Committee of *ODSIE 2024* thanks all researchers and authors for the valuable scientific discussions that significantly improved the quality of the conference. 🌐

## *Optimization Workshop: Theory, Algorithms, and Applications:* Young and senior optimizers met in Bogotá, Colombia

Andrés L. Medaglia Gonzalez <amedagli@uniandes.edu.co>, Mauricio José Junca Peláez <mj.junca20@uniandes.edu.co>,  
Andrés Gómez Escobar <gomezand@usc.edu>, Mateo Díaz <mateodd@jhu.edu>

The “*Optimization Workshop: Theory, Algorithms, and Applications*” was held from December 9-13, 2024, at the *Universidad de los Andes* in Bogotá, Colombia. The main objective of this workshop was to bring together researchers and students from local and international communities, fostering collaboration and innovation in the field of mathematical optimization. The conference attracted 110 participants, including 60 students, from Colombia, Brazil, Ecuador, Chile, Singapore, Canada, France, USA, and Australia.

The organizing committee comprised Mateo Díaz (Johns Hopkins University, USA), Andrés Gómez (University of Southern California, USA), and Mauricio Junca (Universidad de los Andes, Colombia). The conference was supported by *Johns Hopkins University (USA)*, *University of Southern California (USA)*, and *Universidad de los Andes (Colombia)*, which enabled the organizers to offer 11 travel grants for local and international students.>>

>> The keynote speakers were *Claudia Sagastizábal* (Unicamp, Brazil), *Simge Küçükyavuz* (Northwestern University, USA), *Stephen J. Wright* (University of Wisconsin-Madison, USA), and *Andrés L. Medaglia* (Universidad de los Andes, Colombia). The conference featured a single track with 21 invited speakers and 4 keynotes delivering talks on cutting-edge topics of optimization, covering theory, methods, and practice.

On the first day, several experts introduced new students to various topics of continuous and integer optimization. The mini-courses included: "Continuous

Optimization" by *Mateo Díaz* (Johns Hopkins University, USA); "Stochastic Dynamic Programming" by *Justin Goodson* (Saint Louis University, USA); and "Bilevel Optimization" by *Jose Walteros* (University at Buffalo, USA). By the end of the day, a panel discussion featuring *Stephen Wright* (University of Wisconsin), *Nicolás García Trillos* (University of Wisconsin), *Daniel Duque* (Google), and *Bernardo Pagnoncelli* (Skema Business School, France) covered topics on applying to grad school and life in academia and industry after graduation. A highlight of the conference was the student poster session held on the second day, with 14 participants. In a warm atmosphere, students presented and defended their ideas to an audience of young and senior optimizers, fueled by Colombian coffee, hors d'oeuvres of Colombian fusion cuisine, and cocktails.



▲ Optimization Workshop Group Photo (left); Poster Session held in Santo Domingo Building (Universidad de los Andes; right).

The jury, comprising *Beste Basciftci* (University of Iowa, USA), *David Bernal Neira* (Purdue University, USA), *Ashwin Pananjady* (Georgia Institute of Technology, USA), and *Alejandro Toriello* (Georgia Institute of Technology, USA), selected the winner and runner-ups. The winner was *Rodolfo Quintero* (Lehigh University), with honorable mentions awarded to *Esteban Leiva* (Universidad de los Andes) and *Daniel Lopez-Castaño* (Johns Hopkins University).



On the third day, participants attended a social event at *Origen Bistró*, enjoying dinner with Colombian dishes, which helped build strong connections in

a relaxed atmosphere. An entertaining facet of the conference was the "duel" between organizers *Andrés Gómez* and *Mateo Díaz*, who presented the speakers with a mix of respect, reverence, improv, and black humor, delivering much laughter from the audience. The organizers ensured the coffee breaks were well-fueled with 550 coffees and 360 empanadas!

The "Optimization Workshop: Theory, Algorithms, and Applications" was a significant event for the optimization community, consolidating a network of optimization experts in the region. For more information about the workshop and the full roster of speakers and talks, visit [optimization-workshop.github.io](https://optimization-workshop.github.io). 🌐

## The 3rd ORSHK Young Researchers Workshop: Hong Kong Young OR Talents Getting Together and Stimulating Ideas and Special Thanks and Appreciation to Our Lovely Leader

**Andy H.F. Chow** <[andychow@cityu.edu.hk](mailto:andychow@cityu.edu.hk)>, **Chin Pang Ho** <[clint.ho@cityu.edu.hk](mailto:clint.ho@cityu.edu.hk)>, **Sin C. Ho** <[sinho@se.cuhk.edu.hk](mailto:sinho@se.cuhk.edu.hk)>, **Yong-Hong Kuo** <[yhkuo@hku.hk](mailto:yhkuo@hku.hk)>, **Lishuai Li** <[lishuali@cityu.edu.hk](mailto:lishuali@cityu.edu.hk)>, **Carrie Ka Yuk Lin** <[msslincky@cityu.edu.hk](mailto:msslincky@cityu.edu.hk)>, **Daniel Zhuoyu Long** <[zylong@se.cuhk.edu.hk](mailto:zylong@se.cuhk.edu.hk)>, **Jin Qi** <[jinqi@ust.hk](mailto:jinqi@ust.hk)>, **Miao Song** <[miao.song@polyu.edu.hk](mailto:miao.song@polyu.edu.hk)>

The 3<sup>rd</sup> ORSHK Young Researchers Workshop was successfully held at The Chinese University of Hong Kong on December 7, 2024. The workshop was jointly organised by the Operational Research Society of Hong Kong (ORSHK) and the Department of Systems Engineering & Engineering Management, at the Chinese University of Hong Kong (CUHK). The workshop attracted over 70 participants, most of whom were Ph.D. students or post-docs in Operational Research (OR).

In the morning, Professor Janny Leung, then President of IFORS, and Professor Yong-Hong Kuo, president of ORSHK, delivered the welcome speeches.

Professor Viet Anh Nguyen from the Chinese University of Hong Kong delivered a tutorial, titled "Operations Research Techniques in Language Models". Professor Nguyen introduced that while Language models (LMs) are useful, but oftentimes, they can generate unethical outputs. He then demonstrated how popular techniques in OR can promote ethical LMs. Specifically, he shows how chance constraints, semidefinite programming and low-rank optimization can steer text generation to the desirable outputs and improve the alignment learning. >>





▲ Professor Viet Anh Nguyen gave the tutorial session in the workshop.

>> In the afternoon, twenty-two young researchers presented their ongoing or recently completed research in two parallel sessions. The speakers shared their research findings, which facilitated discussions in the Q&A session and subsequent exchanges of ideas following the workshop.

### About ORSHK

The *Operational Research Society of Hong Kong (ORSHK)* has been established since 1980. The objectives of the Society are to promote the dissemination of knowledge and information relating to *Operational Research and Management Science* by means of meetings, publications, awards and related activities. Since 1983, ORSHK has been affiliated to the *International Federation of Operational Research Societies (IFORS)* which is currently composed of 54 national societies. More information

about ORSHK is available at <https://orshongkong.wixsite.com/home>.

### Special thanks to Professor Janny Leung

Finally, we would like to express our appreciation to *Professor Janny Leung*, Former President of IFORS and ORSHK, for her significant contributions to both societies. She took the lead in setting up the annual *ORSHK Young Researchers Workshop*, which has been a great success over the years. *Professor Leung's* impact on global research activities in operational research is remarkable. As the 23<sup>rd</sup> President of IFORS, her dedicated leadership ensured the successful management of the organization's affairs. Thank you, *Janny*, for your excellent work and amazing accomplishments! 🌐



▲ Professor Janny Leung gave a speech at IFORS 2023, Santiago, Chile.

## 2024 OR Events in South Africa

Dave Evans <[daveevans@gmail.com](mailto:daveevans@gmail.com)>

As well as its more formal activities of research, teaching, and carrying out OR projects, the *OR Society of South Africa (ORSSA)* has always maintained regular networking and social events with like-minded people to connect. This year, these included Pi Day, special interest group events, panel discussions with industry partners, webinars, and the annual conference.

Globally, *Pi Day* is marked on March 14<sup>th</sup>, 3.14 being the ratio of a circle's circumference to its diameter. However, in South Africa, we prefer the 22/7 representation of  $\pi$ , aligning with 22 July in our date format. Parallel events were held in Potchefstroom, Johannesburg, and Stellenbosch, allowing members across the country to partake in the festivities. The gatherings were a great mix of mathematical enthusiasm and cultural appreciation, reinforcing the strong bonds within the ORSSA community.

On 16 April 2024, in partnership with the *South African National Research Foundation* and *Norton Rose Fulbright South Africa*, ORSSA held a workshop on *Automated Decision Making ("ADM")*. The legal industry in particular has started to engage in provisions for governance and litigation of the unethical use of AI, bias, and misunderstood applications of these systems in various industries, including financial services, healthcare, and public services. Several presentations were followed by an



▲ Community in ORSSA at its Pi Day parallel event in Stellenbosch.

extensive panel discussion. The issue of ethical components of AI tools and systems was raised, including how to leverage information systems and design ADMs that give reliable results. There was consensus that the extensive use of ADMs is exciting and allows people more time to focus on creativity and critical thinking tasks, although the lifecycle for these models requires iteration, accountability, and human intervention.>>

>> The global OR network has many female practitioners in industry, representing the practice in their various sectors. This year, ORSSA was proud to celebrate one of its own during Women's Month in South Africa! *Jess Rees*, lead data scientist at Discovery, was nominated for one of the 200 Young South African awards for 2024, under the category of "Technology and Innovation".

This year ORSSA launched another *Special Interest Group*, dedicated to preserving and documenting the history of Operations Research in South Africa and on the African continent at large. Two presentations were given. In March, *Dave Evans*, a past president of the society, gave a talk on the use of OR in the South African chemicals industry in the early 1970s. Linear programming was widely used, for monthly budgeting purposes, annual scenario planning, and long-term capital investment decisions. What was then the

largest computer in Africa was utilized: an IBM 360 with half a megabyte core memory. Discrete event and continuous simulation modelling were also used for optimizing factory processes and for sizing interplant storage tanks.

In August, emeritus professor *Gerhard Geldenhuys*, of Stellenbosch University, reflected on activities in OR in various fields in South Africa from the 1950s until the mid-1980s. He studied at Harvard University, and on his return, OR was already being widely applied in South Africa in mining, in the Johannesburg bus company, the railways, the defense force, and the Iron and Steel Corporation, as well as in copper mining in Zambia.

The *annual conference* was held in Kruger Park; this was covered in the December 2024 *IFORS Newsletter*. 🌐

## SEC-OREA Project Workshop successfully held in Dublin

Debajyoti Biswas <[debajyoti.biswas@ucd.ie](mailto:debajyoti.biswas@ucd.ie)>, Paula Carroll <[paula.carroll@ucd.ie](mailto:paula.carroll@ucd.ie)>

SEC-OREA, which means *Supporting Energy Communities - Operations Research and Energy Analytics*, is a collaborative CHIST-ERA project with members *Paula Carroll*, *Debajyoti Biswas*, *Manya Singh* and *Yashita Jain* (UCD, Ireland), *Bernard Fortz* (HEC Liège, Belgium), *Juan Pablo Sepulveda Adriaola*, *Luce Brotcorne*, *Helene Le Cadre* (INRIA, France), *Cristian Aguayo Quintana* (ULB, Belgium), *Victor Astapov* (Taltech, Estonia), *Olegs Borščevskis* (RTU, Latvia), and *Anna Mutule* (IPE, Latvia). SEC-OREA aims to facilitate the clean energy transition for *local energy communities (LECs)* by implementing advanced analytical techniques on real-world data to inform decision-making. The work packages of the project encompass applications of machine learning and statistical models to predict solar power generation from *photovoltaic (PV)* panels and evaluate the effectiveness of publicly available estimates of PV generation, application of clustering techniques to identify reference load profiles based on the energy consumption patterns of LECs, implementation of network optimisation models to analyse the interplay of investment decisions of LECs and network expansion decisions of Distribution System Operators factoring in uncertainty in both solar power generation and electricity demand.

The UCD SEC-OREA project team organised a 2-day hybrid workshop on the 2<sup>nd</sup> and 3<sup>rd</sup> of December in the UCD Quinn School of Business in Dublin, which brought together diverse perspectives on enabling the clean energy transition and supporting Energy Communities. The event featured insightful discussions, including presentations by *Mohammad Saffari* and *Anandhi Parthiban* from the *HYSTORE EU* Project on multi-vector energy system optimization and thermal energy storage solutions; *Fabiano Pallonetto* from *IRESI* on

wind generation challenges, energy consumption behaviour, and AI-powered energy management systems; and *Paul Noonan* from UCD Estates on district heating networks and cost-emission co-optimization strategies. Topics covered ranged from multi-vector energy system optimization, wind generation challenges, and energy management strategies, to innovations in district heating networks and community engagement strategies for sustainable energy consumption. Day 2 of the workshop facilitated collaboration across the SEC-OREA work packages, highlighting the role of data integration, optimization approaches, and incorporating stakeholders'

The collage features a group photo of workshop participants, a presentation slide titled "A Risk-Aware Bilevel Model for Expansion Planning of Distribution Networks with Local Energy Communities" showing a bilevel optimization model with upper-level (DSO) and lower-level (LEC) problems, and a banner for the "SECOREA WRAP-UP WORKSHOP" dated 2nd, 3rd December 2024.

▲ SEC OREA Workshop highlights (incl. Bernard Fortz, Cristian Aguayo, Debajyoti Biswas, Juan Pablo, Paula Carroll).

concerns. A strong emphasis was placed on addressing challenges such as renewable energy integration, investment in energy-efficient systems, and achieving sustainability goals. The event underscored the importance of interdisciplinary dialogue, hands-on planning, and collaborative efforts toward a sustainable energy future. 🌐



# *SIMANTAP 15<sup>th</sup>, 2024, by STIKOM TUNAS BANGSA, in Pematang Siantar, North Sumatra, Indonesia: Global OR recognized and celebrated*

Herman Mawengkang <[hmawengkang@yahoo.com](mailto:hmawengkang@yahoo.com)>, Dedy Hartama <[dedyhartama@amiktunasbangsa.ac.id](mailto:dedyhartama@amiktunasbangsa.ac.id)>  
Gerhard-Wilhelm Weber <[gerhard-wilhelm.weber@put.poznan.pl](mailto:gerhard-wilhelm.weber@put.poznan.pl)>



▲ SIMANTAP 2024:

Keynote speech by Dorien DeTombe.

Keynote speech by G.-W. Weber.

*SIMANTAP 15<sup>th</sup> 2024* was an international and national conference for sharing knowledge and research in mathematics and its applications, and provided a platform for teachers, researchers, and practitioners from both academia as well as industry to meet and share the cutting-edge developments of mathematics, and educational mathematics-based research.

The conference took place at the *Grand Zuri Hotel*, North Sumatra, Indonesia. It was a collaboration between *STIKOM TUNAS BANGSA*, Pematang Siantar, *IndoMS SUMUT-ACEH*, Indonesia, and *APTIKOM-SUMUT* on November 28-29, 2024, dedicated to a motto from Operational Research (OR): “Sustainable Development with AI and Collaborating Knowledge Digitally”. This is of enormous importance worldwide, especially, for an emerging nation like Indonesia with its young population. The conference aimed to unite scientists, engineers, researchers, practitioners, academicians, and representatives of civil society organizations in a collaborative scientific forum. It provided a platform to share and discuss both theoretical and practical knowledge of OR, focusing on innovations in applied mathematics, statistics, and mathematics education. This event served as a pivotal stage for fostering exchanges among young researchers, primarily from Indonesia, in the field of applied mathematics. Consequently, several invited speakers and numerous regular participants were promising early-career investigators who are progressively gaining recognition and establishing their reputations on a global scale. *SIMANTAP 2024* emphasized the relevance of OR and applied mathematics as vital tools for addressing real-world challenges in industry, economics,

the environment, society, development, and education. It also offered a valuable opportunity for the younger generation to engage in contemporary scientific research and integrate into the global OR community.

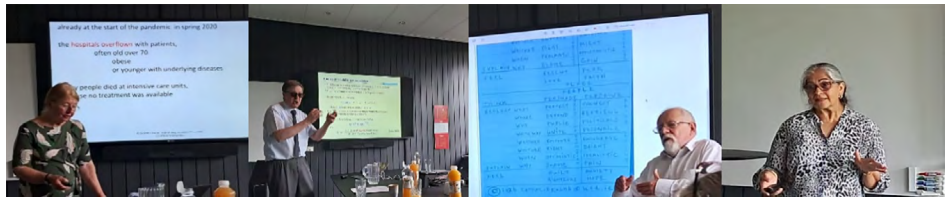
There were seven keynote speakers at the conference. These were the local leaders and representatives *Dr. Mardiningsih* (Universitas Sumatera Utara), *Dr. Alkhowarizmi* (Universitas Muhammadiyah Sumatera Utara), *Dr. Siti Rusdiana*. Universitas Syiah Kuala), *Dr. Dedy Hartama* (STIKOM TUNAS BANGSA, Pematang Siantar), and the international guests *Prof. Dr. Gerhard-Wilhelm Weber* (Poznan University of Technology, Poland): “Advancements on Aggregate Production Planning with Special Emphasis on Human Factors”, *Prof. Dr. Dorien DeTombe* (Founder and Chair International Research Society on Methodology of Societal Complexity, Amsterdam, Netherlands). Willi was also invited to the next conference highlights of *EURO 2025 Leeds* and *IFORS 2026 Vienna*.

As *Editor-in-Chief* and Conference Host, *Prof. Dr. Herman Mawengkang* extends his deepest appreciation to all local organizers, the team around the Conference Chair *Mr. H. Ahmad Ridwan Syahputera*, Chairman of TUNAS BANGSA, and *Mr. Irfan Sudahri Damanik*, who worked very hard and showed great care and warmth, to all keynote speakers, participants and all the many friends from near and far. Without their commitment, this symposium would not have become such a great success. Eventually, we wish you all robust health and big success in the next years. We from Sumatra Island hope to see you at *SIMANTAP 16<sup>th</sup> 2025!* 🌐

# Satellite Workshop of *EURO 2024* in Copenhagen, Denmark, Celebrated by EWG Ethics & OR

**Dorien De Tombe** <[doriendetombe@hotmail.com](mailto:doriendetombe@hotmail.com)>, **Jinal Parikh** <[jinal.parikh@ahduni.edu.in](mailto:jinal.parikh@ahduni.edu.in)>, **Gerhard-Wilhelm Weber** <[gerhard.weber@put.poznan.pl](mailto:gerhard.weber@put.poznan.pl)>

The *EURO Working Group (EWG)* on *Ethics and OR* (<https://www.euro-online.org/web/ewg/24/euro-working-group-on-ethics-and-or>) organized its 31<sup>st</sup> satellite event with a *state-of-the-art workshop* in Copenhagen at the *Lynby Campus* of the *Denmark Technical University*, Denmark, on June 29, 2024, a day before the commencement of the *EURO 2024* conference. This group which was created in 2001, a year after the inspiring lecture of *Professor J. P. Brans* of the *Vrije Universiteit Brussel* on "*OR, Ethics and Decision*", has been consistently involved in using *OR* for the "common good", to "make an (ethical) impact" and to address societal challenges since then. This traditional gathering was generously supported by *EURO* (<https://www.euro-online.org/>).



▲ Impressions of the event (from left to right): *Professor Dorien de Tombe, Professor G.-W. Weber, Professor Cathal MacSwiney Brugha, and Professor Nina Kajiji.*

The session opened with a warm cordial address by the session chair, *Prof. Dr. Dorien De Tombe*, to all the participants and attendees. The program included several interesting sessions including "*AI and cybercrime*" by *Prof. Dr. Ulrike Reisach*, "*Public service management analytics*" by *Prof. Dr. Cathal MacSwiney Brugha*, "*Societal problems and policy making*" by *Prof. Dr. Dorien De Tombe*, "*Analyzing, understanding and modelling the complex nonlinear behavior of human beings*" by *Prof. Dr. Cor Van Dijkum*, "*The Role of Ethics and Altruism: Mapping the Determinants of Healthcare Accessibility for Medicare Beneficiaries*" by *Prof. Dr. Nina Kajiji*, and "*OR - Applied Mathematics*" by *Prof. Dr. G.-W. Weber*.



▲ Impressions of the event (from left to right): *Speakers and attendees of the event during the break and the dinner.*

Like every year, this year too, the session chairs of the group, *Prof. Dr. Dorien De Tombe* and *Prof. Dr. Gerhard Wilhelm Weber* invited chairs and colleagues from *EURO* working groups (*EWGs*) to reflect, discuss, and make presentations on *Ethics* in *OR* and various adjacent subjects such as *decision support*, *societal complexity*, *sustainable development* and *developing countries*. This is in alignment with the group's concept and principle of informing each other on recent developments and questions in our fields as well as to change, to discuss, and to connect based on the same.

This was followed by a stimulating brainstorming session and an open controversial discussion about *OR* research in developing countries by *Prof. Dr. Ulrike Reisach* and *Prof. Dr. Dorien De Tombe* as well as regarding *AI* and the *Israel-Gaza* situation by *Prof. Dr. Cathal MacSwiney Brugha*, *Prof. Dr. G.-W. Weber* and *Prof. Dr. Dorien De Tombe*. The event was concluded by *Professor Dorien De Tombe* with a summary of the discussions held during the sessions and critical thoughts about future research on these topics that can be further explored.

The participants also got an opportunity to share their thoughts about these interesting and stimulating topics over a break during the middle of the sessions as well as a voluntary dinner. 🌍

## *The OR Society Blackett Lecture* – NetwORks and Policies: OR to the Rescue

**Sarah Davies** <[sarah.davies@theorsociety.com](mailto:sarah.davies@theorsociety.com)>

On 5 December 2024, members and non-members of *The Operational Research Society* gathered for the *2024 Blackett Lecture* at the *Royal Society*. *Professor Anna Nagurney* delivered showcasing the transformative power of operational research (*OR*) in tackling global challenges. Her presentation, titled "*NetwORks and Policies: OR to the Rescue*", emphasized *OR*'s role in addressing interconnected issues like climate change, pandemics, and inequality. *Anna Nagurney*, a distinguished professor at the *University of Massachusetts Amherst*, is renowned for her contributions to network economics, game

theory, and supply chain optimisation.

*Prof. Nagurney's* lecture underscored *OR*'s growing relevance across industries, including transportation, healthcare, and energy. Reflecting on *Lord Blackett's* legacy, she noted his likely enthusiasm for *OR*'s expansion into diverse fields like sports, government, and industry. Highlighting *OR*'s increasing popularity among students, she emphasised its vital role in addressing modern problems.

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>> Her passion for OR was sparked during her early career in high-tech defence, working on naval submarine projects. This experience inspired her to pursue a PhD at Brown University under *Dr. Stella Dafermos*, a trailblazer in transportation systems and network optimization. Recalling her mentor's influence, *Anna Nagurney* shared her journey of balancing work, studies, and marathons while carving her path in OR.

Central to *Anna Nagurney's* lecture were practical applications of OR, particularly network optimization. She illustrated the *Braess Paradox*, where adding capacity to a transport network can increase congestion due to individual, selfish routing decisions. Historical examples, such as reduced traffic congestion in Stuttgart, New York City, and Seoul following road closures, brought this principle to life. *A. Nagurney* also traced effective network management back to ancient Rome, where policies like restricting chariot use during peak hours alleviated congestion.

*Anna Nagurney* explored OR's impact on public policy, focusing on congestion pricing. Pioneered by *William Vickrey* and advanced by scholars like *Dr. Dafermos*, these strategies have reduced traffic congestion in cities such as London by encouraging behavioural changes.

Her recent research delves into supply chain complexities, a challenge highlighted during the COVID-19 pandemic. By modelling supply chains as interconnected networks, *Anna Nagurney* has identified vulnerabilities and developed strategies to optimize operations and enhance resilience. Her studies on perishable goods integrate insights from physics and biology to model degradation, while her work on labour shortages in food supply chains has informed strategies for improving their robustness.



▲ Special conference by the OR Society Blackett Lecture 2024.

*Professor Nagurney's* lecture celebrated

OR's ability to address global challenges and inspire innovation. Through her pioneering research and advocacy, she continues to motivate a new generation of professionals and policymakers to apply OR in creating a more resilient and equitable future.

You can listen to the lecture here: <https://www.youtube.com/watch?v=S-LsIEsi-m0&t=12s>. 🌐



▲ *Professor Anna Nagurney*

## Emerging Domains of Operational Research: 4th Webinar of the African Working Group “Multicriteria Decision Aid”

Taicir Loukil <[loukilt@gmail.com](mailto:loukilt@gmail.com)>

The Fourth Webinar of the African Working Group “Multicriteria Decision Aid” was organized online on January 29<sup>th</sup>, 2025, from 14:00 p.m. to 17:00 p.m. (GMT+1) at <https://meet.google.com/age-wiyp-jsp>. The webinar hosted 54 participants from Tunisia, France, Algeria, Portugal, and Kingdom of Saudi Arabia, which led to a smooth and enjoyable meeting.

The presenters, talks, and abstracts were:

*“Fostering participation and group knowledge construction in the MCDA process through collaborative value modelling”* by *Prof. Carlos A. Bana E Costa* (University of Lisbon, Portugal):

To address the challenge of effectively involving many stakeholders and experts in real-world knowledge construction and MCDA processes, we have developed the Collaborative Value Modeling (CVM) framework. CVM combines large-scale participatory Web-Delphi processes with smaller-scale decision-conferencing processes to promote agreement in different modeling stages of MCDA. CVM is designed to

be a cohesive and flexible socio-technical framework that combines analytical rigor with participatory engagement. It can be tailored to diverse and complex evaluation and decision-making contexts. We will discuss applications in real-world contexts of combining evidence with value judgments.

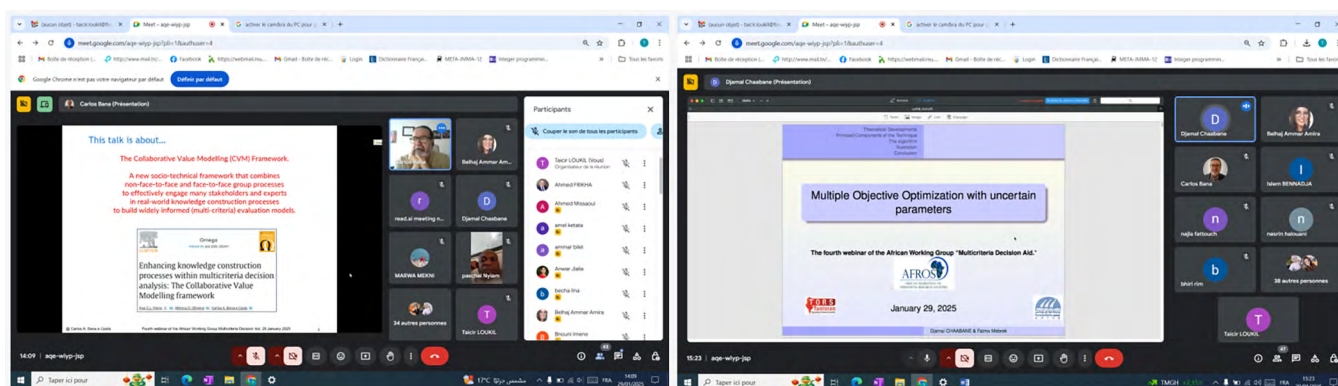
*“Optimization over the set of efficient solutions with uncertain parameters”* by *Prof. Djamel Chaabane* (University of Sciences and Technology Houari Boumediene, Faculty of Mathematics, Department of Operations Research, Algeria):

In this communication, I propose a method to solve the problem so-called optimizing a linear function over the efficient set of a multiple objective integer linear programming (MOILP). As known, this problem is particularly difficult to deal with, due to the discrete nature of the efficient set, which is not explicitly known, nor a suitable implicit description is available. The proposed algorithm based on solving a weighted Tchebychev programs to characterize the efficient solutions.

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>> The algorithm produces not only an optimal value of the linear function but also a subset of non-dominated solutions. It has been coded in MATLAB environment, and computational experiments have been undertaken in order to analyse performance properties over different problems uniformly randomly generated.

The webinar was very successful and many questions were asked which enriched the discussions and opened up the opportunity for collaboration between some participants. 🌐



▲ Impressions from the 4<sup>th</sup> Webinar of The African Working Group "Multicriteria Decision Aid":  
Prof. Carlos A. Bana E Costa                      Prof. Djamel Chaabane

## XX Summer School in Discrete Mathematics – A successful anniversary in Viña del Mar, Chile

**Waldo Gálvez** <[waldo.galvez@uoh.cl](mailto:waldo.galvez@uoh.cl)>, **Cristóbal Guzmán** <[crguzmanp@uc.cl](mailto:crguzmanp@uc.cl)>,  
**Pedro Montealegre** <[p.montealegre@uai.cl](mailto:p.montealegre@uai.cl)>, **Gonzalo Muñoz** <[gonzalo.m@uchile.cl](mailto:gonzalo.m@uchile.cl)>,  
**José Soto** <[jsoto@dim.uchile.cl](mailto:jsoto@dim.uchile.cl)>, **Ana Trujillo** <[ltrujillo@dim.uchile.cl](mailto:ltrujillo@dim.uchile.cl)>

The *Summer School on Discrete Mathematics* is a cornerstone event in the Chilean academic community. It brings together together students and researchers of Combinatorics, Computer Science, Graph Theory, Algorithmic Game Theory, Optimization, Operational Research, and related areas, for a full week of courses and collaborative work. The school is targeted at advanced undergraduate and graduate students, and each year receives many participants from Latin America, Europe, and North America. This school has had a great impact on the Chilean Algorithms and Combinatorics community, attracting new students to the area, and establishing an important event for everyone with interests in Discrete Mathematics.



▲ XX Summer School in Discrete Mathematics - group photo.

Over the years, the school has been honored to host world-renowned experts giving lectures on key topics. In this latest edition, we were fortunate to have the following excellent courses: *Kristóf Bérczi* (Eötvös Loránd University, Hungary): "Packing and Covering Problems in Matroids", *Daniel Dadush* (Centrum Wiskunde & Informatica, Netherlands): "Straight Line Complexity of Linear Programs", and *Natasha Morrison* (University of Victoria, Canada): "Algebraic Methods for Combinatorics".

Each course consisted of five lectures, and an assignment sheet was given after each lecture for the students to solve. At the end of the week, the organizers gave out prizes for the best homework for each course. The winners were *Vicente Opazo* (Pontificia Universidad Católica, Chile), *Katharina Eickhoff* (RWTH Aachen University, Germany), and *Philipp Pabst* (RWTH Aachen University, Germany).


>>



>> We would like to thank the hard work of the teaching assistants for the three courses: *Svenja Griesbach* (Universidad de Chile), *Benjamín Jáuregui* (Universidad de Chile), *Lydia Mirabel Mendoza* (Universidad de Chile), *Taruni Sai Sridhar* (Universidad de Chile), and *Mauricio Yépez* (Universidad de Valparaíso).

This year's organizing committee consisted of *Waldo Gálvez* (Chair, U. de O'Higgins), *Cristóbal Guzmán* (U. Católica), *Pedro Montealegre* (U. Adolfo Ibáñez & CMM), *Gonzalo Muñoz* (U. de Chile), *José Soto* (U de Chile & CMM) and *Ana Trujillo* (CMM).

We would like to thank the *Center for Mathematical Modelling (CMM)*, the *ACM Special Interest Group on Algorithms and Computation Theory (SIGACT)*, and *Universidad Adolfo Ibáñez (UAI)* for providing generous funds for the school's organization. We would also like to thank *Universidad de O'Higgins* and *Pontificia Universidad Católica de Chile* for providing support to student participants.

Further information on the *summer school* and its previous versions can be found on the school's webpage: <https://eventos.cmm.uchile.cl/discretas2025/>. 

## BOOK REVIEW



Section Editors: **Jinal Parikh** <[jinal.parikh@ahduni.edu.in](mailto:jinal.parikh@ahduni.edu.in)>, **Gerhard-Wilhelm Weber** <[gerhard.weber@put.poznan.pl](mailto:gerhard.weber@put.poznan.pl)>

# “Il Cognome Delle Donne”, translated “*The surname of women*”

by **Maria Grazia Speranza**

Independently Published, April 2024  
ISBN 13 : 979-8323375776

## Women in OR and STEM

**Jinal Parikh** <[jinal.parikh@ahduni.edu.in](mailto:jinal.parikh@ahduni.edu.in)>, **Gerhard-Wilhelm Weber** <[gerhard.weber@put.poznan.pl](mailto:gerhard.weber@put.poznan.pl)>

Through this book “*Il Cognome Delle Donne*”, the author, Maria Grazia Speranza has made an authentic effort to stand up for improvement in the lives of women not only in *OR-MS* & academics but also for women in general across the world. The book specifically discusses the discriminatory role that the “surname” of women plays in hindering gender equality in different dimensions and phases of their lives. It delves into a wide array of themes, including family and school education, partner selection, marital dynamics, parenthood, domestic responsibilities, self-esteem, societal prejudices, media portrayal, career advancement, and recognition in the workplace, where surnames matter. The author supplements her contention through her own personal experiences as well as those of her fellow female colleagues, including professors from universities worldwide, of whom many hold leadership positions. The book brings to the fore the multifaceted challenges that women face in navigating through the professional landscape as experts in *Operational Research*, a *STEM* discipline focused on mathematical models and algorithms, where their presence is often seen as an exception. The shared experiences of the author and her counterparts worldwide highlight the systemic barriers women encounter when they deviate from societal expectations, hindering their personal and professional growth.



▲ Book cover;  
Source: [https://www.amazon.it/cognome-delle-donne-Grazia-Speranza/dp/B0D274LTPW#detailBullets\\_feature\\_div](https://www.amazon.it/cognome-delle-donne-Grazia-Speranza/dp/B0D274LTPW#detailBullets_feature_div).

Since the author hails from Italy, she discusses how Italian surname laws continue to discriminate against women despite legal efforts to achieve gender equality. The book opens with a personal anecdote illustrating the significance that the author's parents attributed to having a son to perpetuate the family surname. This is followed by a chapter narrating the heartwarming gesture of her two daughters, who, as a birthday gift, decided to include her surname alongside their own.

The book stresses the pivotal role that the surname, laden with its symbolic weight, portrays in the obstacles that women encounter across diverse contexts including family, relationships, work, and society. The book weaves together the author's own personal journey – from childhood experiences with a brother, to navigating personal and professional paths, to excelling as a researcher, a working wife and

mother, and a leader in academia – with the narratives of esteemed colleagues from diverse backgrounds including Belgium, Spain, the United States, the Philippines, Brazil, Nepal, Palestine, and Israel. Each chapter, interconnected by thematic threads such as family dynamics, education, economic independence, workplace challenges, and the pursuit of merit, explores common obstacles faced by women across these diverse contexts. >>

>> The book begins as well as concludes with an inquiry into the role of the surname. Two chapters detail the bureaucratic processes the author's daughters, residing in Italy and Great Britain, navigated to add their surname to their father's. The enduring significance of surnames is further exemplified by the case of *Prince Philip*, who successfully added his surname to *Queen Elizabeth's*, resulting in their children being known as *Mountbatten-Windsor*. This highlights the established precedent of surnames adhering to alphabetical order, with the queen following the prince's. Two chapters, based on interviews, chronicle the experiences of two women who actively championed the right for women to have their own surnames.

Through this book, the author adeptly utilizes her own personal experiences as a case study to address the broader societal issue of gender equality. She demonstrates that despite the passage of non-discriminatory legislation, a common misconception persists that true equality has already been achieved. However, the reality is that significant cultural and social barriers to gender equality remain largely unrecognized.

This book which is composed of concise chapters, employs a fluid and engaging style that seamlessly blends news articles, interviews, personal anecdotes, and reflections on everyday life. The book is complemented by an appendix on the regulatory framework, the author's note, acknowledgments as well as a bibliography of references. Motivated by a desire to contribute to a normative solution regarding surname practices and to expose the persistent obstacles to true gender equality, this work aims to raise awareness among both those who may experience subtle and often overlooked forms of discrimination and those who may inadvertently contribute to these inequities.

A brief overview of the book's 4 chapters, translated from Italian, along with their contents is as follows:

*È arrivato il maschio* (*Male has arrived*) sets the background of how important the surname is in the author's own family as she recounts her own experience of being born as a female in a family that was eagerly waiting for a male child to arrive to pass on their family surname.

*Il regalo del cognome* (*The gift of the surname*) describes how the daughters of the author gifted her with the "surname" on her birthday.

*Storie di donne* (*Stories of women*) presents anecdotes about the struggles that the author herself and her OR colleagues worldwide have encountered by the virtue of being women.

The title of the various anecdotes presented in this chapter include: *Eléna: lavoro e libertà* (*Eléna: work and freedom*), *Le radici: voglio essere libera* (*The roots: I want to be free*), *Sunity: né utile né bella* (*Sunity: Neither useful nor beautiful*), *Piccola donna cresce* (*Little woman grows up*), *Rosiane: cognomi persi* (*Rosiane: lost surnames*), *Compagno giusto?* (*Right mate?*), *Io sono MGS* (*I am MGS*), *Una coppia di pari* (*A pair of equals*), *Ola: c'è un cucchiaino?* (*Ola: is there a spoon?*), *Il grande salto* (*The big leap*) *Il sogno infranto* (*The broken dream*), *Kathy: non ho più paura* (*Kathy: I am no longer afraid*), *Ieri, oggi, domani* (*Yesterday, today, tomorrow*), *Shoshana: Columbia o Colombia?* (*Shoshana:*

*Columbia or Colombia?*), *Lontani e vicini* (*Distant but close*), *Chiara e Laura* (*Chiara and Laura*), *Questione di merito* (*A matter of merit*), *Dimostrazione d'esistenza* (*Proof of existence*), *Giovane e carina* (*Young and pretty*), *Karen: che fatica farsi accettare* (*Karen: what a struggle to be accepted*), *Lo sguardo degli altri* (*The gaze of others*), *Cindy: studenti o budget* (*Cindy: Students or budget*), *Stile di lavoro* (*Work style*), *Elise: sto parlando a tua madre* (*Elise: I'm talking to your mother*), *Circolo vizioso* (*Vicious circle*), *Panels, Hidden figures*, *La Gold Medal* (*The Gold Medal*), *Martine: non frenate le ragazze* (*Martine: don't hold back the girls*), *Marielle: verso la parità* (*Marielle: towards equality*), *Parlare di parità* (*Talking about equality*), *Uomini eccezionali* (*Exceptional men*), and *Si può* (*Yes, you can*).

*Storie sul cognome* (*Stories about the surname*) includes various stories about "Women in OR" and their encounters to discrimination owing to their surnames. The titles of the various stories included in this chapter are: *La battaglia di un uomo* (*One man's battle*), *Il caso Cusan-Fazzo* (*The Cusan-Fazzo case*), *E tanti altri casi* (*And many other cases*), *Laura Cima: ce la faremo?* (*Laura Cima: will we make it?*), *Il quadernino rosso* (*The little red notebook*), *Il quadernino nero* (*The little black notebook*), and *Non un regalo* (*Not a gift*).



▲ Book author: Professor Maria Grazia Speranza.

Source: Photo taken by and provided with kind permission by the book author herself.

### About the author

[Professor Maria Grazia Speranza](#) is an Italian applied mathematician and operations researcher. Her research involves the application of mathematical optimization to problems including [portfolio optimization](#) and the combination of [inventory management](#) with [vehicle routing](#).

Currently a professor of operations research in the faculty of economics and business of the [University of Brescia](#), she has also served key leadership roles including that of the former vice chancellor and dean at the university, the former president of the [Association of European Operational Research Societies \(EURO\)](#) and the [INFORMS Transportation Science and Logistics Society](#), and the former president of the [International Federation of Operational Research Societies \(IFORS\)](#).

In recognition of her exceptional career and groundbreaking research, [Professor Speranza](#) was awarded the prestigious [EURO Gold Medal](#), the highest distinction within [Operational Research](#) in Europe in July 2024. She holds the prestigious titles of [IFORS](#) and [INFORMS](#) fellow for her contributions to OR as well as for academic leadership and service to international scientific and operational research societies. >>



>> Given its anecdotal real-life episodes, it can be an enriching resource and an inspiring piece of motivation for women in OR without really having to master the language.

In a nutshell, through this book, the author skillfully exemplifies how little things can contribute to making a big difference for the betterment of the lives of women not only in OR-MS but also in the larger society!

While this book stresses gender equality issues that need

to be addressed, we would be able to achieve much more if we worked united as humans rather than separately as men and women, because both men and women are like the two wheels of a bicycle working together as a unit, and will be able to better meet their own and society's needs and find the greatest fulfillment in doing so.

*Cordially thanks to dear **Professor Mosè Gallo** for important linguistic advice on this report.*

*J. Parikh and G.-W. Weber* 

## OBITUARY

# HUGH BRADLEY

Written by **Graham Rand** <[g.rand@lancaster.ac.uk](mailto:g.rand@lancaster.ac.uk)>

Hugh Bradley, who died aged 90 on November 29<sup>th</sup>, 2024, made a huge contribution to IFORS over a period of nearly five decades. He was Editor of *International Abstracts in Operations Research (IAOR)* for eleven years and Treasurer of IFORS for nine years. The IFORS that we know today owes a great deal to the dedication and talent of Hugh Bradley.

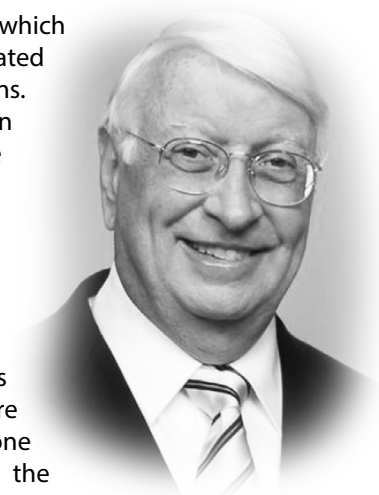
Hugh became editor of IAOR in 1969, taking over from the founding editor, Herbert P. Galliher, whom he had served as Associate Editor since 1967. The journal, bringing all OR work to the attention of the worldwide OR community by classifying and publishing abstracts, had been started in 1961 by the Operations Research Society of America (ORSA), a precursor to INFORMS, on behalf of IFORS. Soon after Hugh's appointment as editor, at the time of the 1969 IFORS conference in Venice, discussions took place which resulted in the transfer of the responsibility for the production of IAOR from ORSA to IFORS. At the next IFORS conference, held in Dublin in 1972, a review of the publishing arrangements took place, which resulted in the publishing being transferred to North-Holland Publishing Company from March 1973. In 1979, Hugh Bradley resigned as editor. All during his editorship, Hugh was employed by The Upjohn Company, Kalamazoo, Michigan, which he had joined in 1967, and where he remained for twelve years, beginning as Head of Operations Research, then advancing to Group Manager for Information Systems. His service to IFORS during his editorship had been exceptional.

Hugh had by then begun to devote his considerable energies to volunteer for ORSA and TIMS (The Institute of Management Sciences, which later joined with ORSA to form INFORMS.) He was on the Council of ORSA (1975-78) and Vice President at Large of TIMS from 1977-80. During this time ORSA/TIMS were not the only societies he served: he was a Board Member of the Pharmaceutical Management Science Association (1977-80). He served ORSA as its Treasurer (1980-83), Vice President/President-Elect (1984), President (1985), Vice-President/Past President (1986-89) – and then a second time as Treasurer (1990). Eleven years of continued service: a remarkable record. During this period, at various times, he was co-chairman of the ORSA/TIMS Finance Committee, and chaired the ORSA Affiliated Professional Activities and Nominating Committees, as well as the ORSA/TIMS Data Processing Committee; in this latter capacity, he led the development of the joint ORSA/TIMS

data processing system by which the two societies coordinated their business operations.

It is no surprise that in 1990 he was awarded the George E. Kimball Medal, an award in recognition of distinguished service to the profession of operations research and the management sciences. Further indications of his status in the profession are that he was nominated as one of three candidates to be the first President of INFORMS when it was created in 1995, and his election in the first cohort of Fellows of INFORMS in 2002.

He had not finished his professional volunteering. He turned his attention back to IFORS. First, he was Editor of Operational Research '90, the proceedings of the IFORS conference held in Athens, Greece in 1990, the last time a volume of conference proceedings was produced. He continued to serve IFORS, first as Treasurer from 1998 to 2006, and as Chairman of the IFORS Publications Committee from 2005 to 2012. He was an important voice in recognizing the need for IFORS to be sustainable going forward and his advice could be relied on to balance IFORS objectives and strategy with the details needed to sustain a healthy financial position. When Peter Bell (President, 1995-7) took over from Hugh as Treasurer, Hugh "provided extensive and very helpful spreadsheets for annual accounts as well as a comprehensive Excel file that he had assembled that summarized IFORS revenues and expenditures annually back to 1991". Hugh's successor as Chairman of the Publications Committee, who was also his predecessor in that role, reports a similar experience, when recommencing the role in 2013 after Hugh experienced a severe heart attack in April 2012, from which he made a recovery, that prevented him continuing in his voluntary service. The IFORS Administrative Committee (AC) Reference Manual, which Hugh drafted in 2006, is still used to guide the running of the AC. Hugh's contribution to IFORS conferences was also notable. >>



>> He was a leader in producing and maintaining the IFORS Conference Manual that laid out the required events that made the IFORS Triennial Conference unique. Hugh was also heavily involved in the conference budgeting process including many tricky negotiations with local organizing committees attempting to balance the need for reasonable registration fees with the financial expectations of both IFORS and the local committee.

Hugh Edward Bradley was born on November 4, 1934 in Olean, NY. In summers, he loved sailing on nearby Cuba Lake, where the family had a home. He studied piano at an early age, and later clarinet and tenor saxophone, in high school playing in the Concert Band, Marching Band, and Dance Band from which came a life-long love of “swing” era music.

Hugh graduated from MIT in 1957 with Bachelor's and Master's Degrees in Electrical Engineering. After three years as a Research Engineer with Sperry-Rand Corporation in New York, he returned to graduate school, this time to Johns Hopkins University in Baltimore, as a Gilman Fellow for two years, then a National Science Foundation Fellow in his final year. He earned a Ph.D. in Engineering, specializing in Operations Research and Statistics.

Dr. Bradley was appointed Assistant Professor of Industrial Engineering at the University of Michigan, Ann Arbor in 1963, where he taught advanced statistics and operations research, and counselled Ph.D. candidates. In 1967, at the time he began his involvement with IAOR, he joined The Upjohn Company in Kalamazoo. In 1976 he was awarded the Upjohn Prize for distinguished accomplishment. Whilst working there, and editing IAOR, he also held appointments as an Adjunct Associate Professor of Management, Economics, and Mathematics at Western Michigan University, Kalamazoo, and Adjunct Professor of Business Administration at Grand Valley

State University, in Grand Rapids. In 1979 he moved to the West Coast when he became Director, Corporate Information Systems for Syntex Corporation in Palo Alto, CA, then in 1981 Associate Director for Telecommunications and Computer Services at Kaiser Aluminum Corporation in Oakland, CA. He joined the Shaklee Corporation, in San Francisco in 1985, from which he retired in 1999 as Corporate Vice President of Shaklee and Senior Vice President & Chief Information Officer for Shaklee's largest subsidiary, Bear Creek Corporation in Medford, Oregon.

As can be seen, Hugh was a successful practitioner for most of his career, unusually for one who contributed so much to his profession. Those who worked closely with him have all commented on his gentle disposition. Mary Magrogon, secretary of IFORS (2001-24), says “Hugh was a kind and gentle person, and I very much enjoyed working with him over the years”. Andres Weintraub, President (1998-2000): “Hugh was an exceptional person. Gentle but strong in making decisions, a delightful friend. A high-level professional. Through him I came to understand the value of good accounting methods”. Paolo Toth, President (2001-3): “Hugh was the IFORS Treasurer during my term as IFORS President, so I had the opportunity to appreciate his precious advice and his availability. He was a very gentle person and a good friend”. Tom Magnanti, President (2004-6): “Hugh Bradley was a very kind, gentle, and wise man. A real gentleman. I had the opportunity to collaborate with him for many years for ORSA, TIMS, IFORS, and INFORMS and I learned a lot from watching him, in his gentle manner, have such a huge impact on our profession. He was a rare individual, a great friend, and his passing is a real loss for all of us”.

Hugh will be greatly missed by all who knew him, particularly by his family. He is survived by his wife, Carolyn, five children, nine grandchildren, and five great-grandchildren. 🌐



## NEWS

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