GROUP DECISION AND NEGOTIATION

GDN SECTION OF INFORMS

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Letter from the President

Dear Members of the GDN section,

As President of the Informs Section on Group Decision and Negotiation (2021-2022), I would like to welcome you to the fifth issue of our GDN newsletter. I would like to let you know that it has been recently decided by the GDN council that the second issue of the GDN newsletter will be released in December, instead of November. I am once again grateful to Eduarda Asfora Frej, who has been coordinating the newsletters since the first issue.

Several activities in the GDN Section have been ongoing and, once again, I would like to congratulate and thank the officers of the Executive Council (2021-2022) for their outstanding work: Liping Fang as Vice-President for Meetings, Pascale Zarate as Vice-President for Membership and Publications, Danielle Costa Morais as Secretary and Tomasz Wachowicz as Treasurer.

In the past months the General and Program Chairs have had several meetings in virtual format regarding the organization of the 22nd International Conference on Group Decision and Negotiation, which is the main annual meeting of our community. The 2022 GDN conference will be held in a hybrid format (in person & virtually), in Moscow, Russia, from June 22 to 16, if in-person presentations are permitted by public health regulations at the time of the conference. Otherwise, if in-person presentations are prohibited due to public health issues, the conference will be held entirely virtually. By the end of March, we should have some updates regarding the conference format.

Despite the GDN 2022 conference format, I strongly encourage you to submit your contributions, since the event will certainly occur, either in a hybrid format (preferentially) or entirely virtually. Deadlines for contributions are approaching: January 31 for Springer LNBIP Conference Proceedings (Full Papers) and for Local Conference Proceedings (Abstracts, Extended Abstract and Full Papers). With the progress of vaccination programs all over the world, I really hope that we shall be able to meet in-person again in 2022 in Moscow. Further information about the 2022 GDN Conference can be found at: www.gdnconference.org/gdn2022/.

I, and the entire GDN council, hope that the GDN conference can further strengthen the ties between the members of our community, lead to new collaborations between members and therefore contribute to advancing our field. In this sense, I would like to point out that the Hybrid format allows those who are not able to attend the conference on-site, for any reason whatsoever, still to have the possibility to share their contributions using the virtual format and they can also attend and participate actively in any session. Do not miss this opportunity to meet your colleagues and friends.

The GDN Section has been annually hosting invited sessions within the GDN Cluster at the INFORMS Annual Meeting. In 2021, the INFORMS Annual Meeting was held in a hybrid format (in person & virtually), in Anaheim, California, from October 24 to 27. For the third consecutive year, the GDN cluster hosted a few sessions. Four sessions were hosted by the GDN Cluster at the 2021 Annual Meeting: MCGDM: Multicriteria Group Decision Making Models; Negotiation Models and Analysis; Theory and Application for Decision Analysis; and Multiple Perspectives of GDN. Next year, the INFORMS Annual meeting will be held at the Indiana Convention Center, Indianapolis, from October 16 to 19. I strongly encourage GDN community members to submit their work and to organize sessions in the GDN cluster at the INFORMS Annual Meeting.

I would like to let you know that we are seeking nominations for the 2022 Group Decision and Negotiation Section Award. A Call will be sent soon. I would like to thank the GDN Section Award committee, which consists of the three last awardees (Raimo Hämäläinen, Liping Fang and Tung Bui) for their contribution to the GDN Section.

Finally, I would like to wish you all a healthy and happy new year. I hope 2022 comes with health, happiness, success, and prosperity for all of us.

Keep safe and healthy,

With best regards,

Adiel Teixeira de Almeida

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1. SOCIETY NEWS

Group Decision and Negotiation Conference

Call for papers: GDN 2022

You are cordially invited to submit papers to the 22nd International Conference on Group Decision and Negotiation, GDN 2022, 12-16 June 2022, Moscow, Russia.

The field of Group Decision and Negotiation focuses on decision processes with at least two participants and a common goal. Such processes are complex and self-organising and constitute multi-participant, multi-criteria, ill-structured, dynamic, creative, and often evolutionary problems. Major approaches include:

1. Information systems, in particular negotiation support systems (NSSs) and group decision support systems (GDSs)
2. Cognitive and behavioural sciences as applied to group decision and negotiation
3. Conflict analysis and resolution
4. Applied game theory, experiment and social choice
5. Artificial intelligence
6. Management science as it relates to group decision making and negotiation. Many research initiatives combine two or more of these approaches.

Group Decision and Negotiation can be performed in an intra-organisational as well as an inter-organisational context. Both consist of complex processes, including preference elicitation, proposals and counter-proposals, preference adjustment, and choice. Communication and decision making are the two key process steps in Group Decision and Negotiation and thus require sophisticated support in many ways.

Application areas of Group Decision and Negotiation include intra-organisational and inter-organisational coordination (as in operations management and integrated design, production, finance, marketing and distribution functions, such as coordination of all phases of the life cycle of a product), computer-supported collaborative work and meetings, electronic negotiations including negotiating agents and negotiation support systems, labour-management negotiations, inter-organisational, intercultural negotiations, environmental negotiations, and many others.

Papers can be submitted as full papers to be published either in Conference proceedings by Springer in the Book series of LNBIP (Lecture Notes in Business Information Processing) or as abstracts/extended abstracts/full papers to be published in Local Proceedings.

In the Local Proceedings the authors will keep the copyright. After the reviewing process, the authors could choose to replace their full paper in the Local Proceedings for abstract only. However, to be considered for the Conference Awards evaluation process, those papers should be available as full papers in the Local Proceedings, which will be on a stick that is given only to conference participants, at the beginning of the conference.

The topics are organized in conference streams that can be found on the conference website (http://gdnconference.org/gdn2022/streams/). Research in Group Decision and Negotiation has continued to expand, and many new research directions have been proposed. At GDN conferences, we encourage researchers to present research in Group Decision and Negotiation even if (in fact, especially if) it does not fit into any of the above areas. We particularly invite Bachelor and Master students to submit their work to the dedicated Student Stream.

Important dates:

1. Deadline for the submission to the Springer Proceedings: **January 31, 2022**.
2. Deadline for the submission to the Local Proceedings: **January 31, 2022**.
3. Deadline for the submission to the Doctoral Consortium: **March 16, 2022**.

Important information about GDN 2022 format

It has been decided that GDN 2022 will be held in the hybrid format of in-person presentations and virtual presentations by the choice of presenters, if in-person presentations are permitted by public health regulations at the time of conference. If in-person presentations cannot be held because of public health regulations, the conference will be held virtually in its entirety. In any case, we have decided that GDN 2022 will take place at the scheduled date and the format that is appropriate for the scheduled time (hybrid or virtual) will be selected and announced in advance. Presentation scheduling will take into account time zones of presenters.

We cordially invite you to join GDN 2022,

Rudolf Vetschera, Honorary Chair
*Fuad Aleskerov, Adiel de Almeida, and Liping Fang, General Chairs*
Danielle Costa Morais and Alexander Lepskiy, Program Chairs

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GDN 2023: Location and dates

The 23rd International Conference on Group Decision and Negotiation (GDN 2023) will be held in Tokyo, Japan, from June 11th to 15th, 2023.

Group Decision and Negotiation Cluster at INFORMS 2021 Annual Meeting

The INFORMS 2021 Annual Meeting was held in Anaheim (California), from October 24 to 27, 2021, in a flexible format: in person & virtual. The 2021 INFORMS Annual Meeting was a unique opportunity to connect and network with the more than 5,000 INFORMS members, students, prospective employers and employees, and academic and industry experts who compose the INFORMS community.
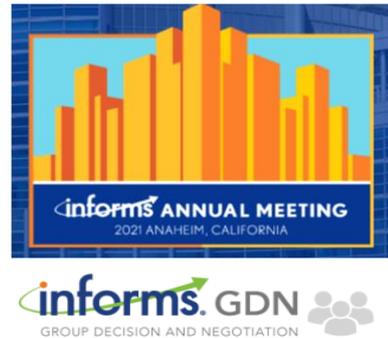
In 2021, for the third consecutive year, the GDN cluster hosted invited sessions at the INFORMS Annual Meeting:

1. MCGDM: Multicriteria Group Decision Making Models;
2. Negotiation Models and Analysis;
3. Theory and Application for Decision Analysis;
4. Multiple Perspectives of GDN.

We strongly encourage GDN community members to submit their work and to organize sessions in the GDN cluster at the INFORMS Annual Meeting.

2. MEMBERS NEWS AND AWARDS

Professor Keith W. Hipel elected Foreign Academician of the Chinese Academy of Sciences

Professor Keith W. Hipel was elected as a Foreign Academician of the Chinese Academy of Sciences (CAS) on November 18, 2021. This is the highest national academic honor to be bestowed upon foreign scientists in recognition of their scientific achievements and contributions to promoting the development of science and technology in China. New CAS academicians are elected biennially. A total of 25 foreign academicians from 11 countries were elected in 2021, bringing the total to 129.

Professor Hipel has visited China on many occasions as a foreign expert since 1982 and has had long-term academic collaborations with Chinese researchers. Since 1982, he has had over 100 Chinese graduate students, postdoctoral fellows, and visiting faculty members as part of his research group. Professor Hipel has been conferred with the title of Honorary Professor by over ten universities and research institutes in China. Based on his contributions to the development of science and technology in China, Professor Hipel was awarded the Chinese Friendship Award in 2019 and named an Honorary Resident of the Province of Jiangsu, China, in 2020.

Professor Hipel currently is University Professor Emeritus of Systems Design Engineering at the University of Waterloo where he is the Coordinator of the Conflict Analysis Group. He is Past President of the Academy of Science within the Royal Society of Canada, Senior Fellow with the Centre for International Governance Innovation, Fellow with the Balsillie School of International Affairs, and Past Chair of the Board of Governors, Renison University College.

He has authored or coauthored five books, 12 edited books, over 350 journal papers, as well as many conference and encyclopedia articles. His current research interests include the development of conflict resolution, multiple criteria decision analysis, time series analysis, and other decision-making methodologies for addressing complex systems of systems engineering problems lying at the interface of science, technology, and the environment with application to water resources management, hydrology, environmental engineering, and energy and sustainable development.

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He has been recognized with numerous other prestigious honours over his career including Officer of the Order of Canada in 2018, the 2019 Killam Prize, and the Group Decision and Negotiation (GDN) Section Award in 2013.

Dr. Haiyan Xu
Professor, College of Economics and Management
Nanjing University of Aeronautics and Astronautics
Nanjing, Jiangsu, China

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3. NEW BOOKS, PUBLICATIONS AND SYSTEMS

Collective decisions: theory, algorithms and decision support systems
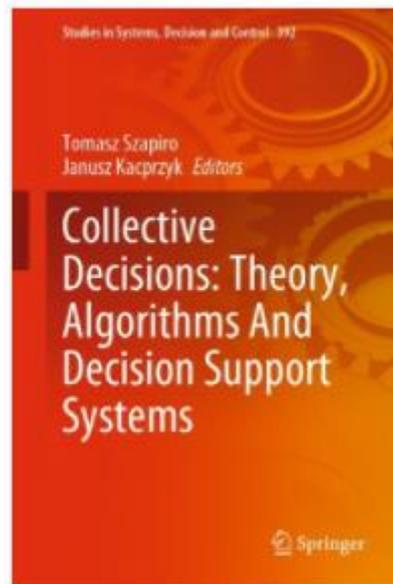
Editors: Tomasz Szapiro and Janusz Kacprzyk
Book series: Studies in Systems, Decision and control
Publisher: Springer, 2022

This volume is a result of a world wide initiative by colleagues, friends and peers of the late Professor Gregory E. Kersten (1949 – 2020) to prepare a scientific publication to be a token of appreciation of Gregory who was one of the most prominent and active researcher and scholar in the broadly perceived field of collective decisions, notably negotiations, the author of numerous influential papers, books and edited volumes, as well as the mentor and supervisor for the young generation.

The response of the world research community had been very enthusiastic and we manager to gather papers of top and most influential authors who have agreed to prepare special papers, to a large extent related to Gregory's research interests and the authors' joint works with him.

The papers present a wide perspective of various topics, approaches and tools and techniques that are of relevance for the broadly perceived collective decision making, notably in a negotiation perspective. In general, very many decisions in important and relevant contexts are made by a group of individuals or agents who operate as teams, committees, juries, panels, partnerships, etc. Very often such decisions are better than those made by individual decision makers. This advantage of collective decisions usually occurs at some costs, for instant more time needed to reach them because of a need for a deliberation, discussion and dialogue, and then for the very decision making in a collective way, for instance via consensus decision making.

In this context, negotiations are often of special relevance. They basically boils down to a dialogue between two or mode parties, individuals, small or larger human groups but more and more often agents (usually software) and their groups. Negotations are usually needed when a conflict emerges with respect to some aspect, e.g. salaries, and interests of various parties are to be satisfied. Evidently, negotiations are omnipresent in virtually all human activities and enter more and more into group decisions in multiagent systems. Their importance and omnipresence have triggered an urgent need for developing formal models, and also computer based systems, to support various kinds of negotiation processes. These models are concerned with group decisions, team decisions, social choice and voting, game theoretic models, etc. In recent times, they are more and more often augmented with the use of tools and techniques of social media, data analytics, cognitive and psychological models, etc. All this is more and more often implemented as software packages, notably as the decision suport systems (DSS).

In this volumes a wide perspective of topics related to the broadly perceived collective decisions, notably made via negotiations, is presented. In the first part, some foundations of collective decisions, in particular voting, auctioneeng, group decision making, etc. are covered. Models with roots in economics, psychology and cognitive sciences, as well as formal, mathematical ones are covered.

In the second part there are included various papers focusing on the implementation of various approaches, algorithms, and tools and techniques through computer based systems, notably of a decision support system type. First, some more general issues related to the model (knowledge) based and data based decision support systems are dealt with, with an emphasis on a need for making "better" decisions, for instance, fairer or less biased. Moreover, an analysis of a new quality that may possibly be provided by the use of Artificial Intelligence (AI) is analysed, and some new application fields, exemplified by healthcare, are advocated. A considerable attention is paid to various issues related to human intentions, preferences, autonomy, etc. Due to a critical importance of natural language in the human articulation and communication, and hence social interactions and negotiations, the

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analysis of the importance of language dynamics, and some aspects of language like sentiment in messages are considered, and the role of positive language for attaining an agreement is discusses.

The third part is quite unique as it presents how to develop and implement models, and their related decision support systems, for some very important and wide scale application cases. The first case concerns the development of a group decision support for the design and management of a large telecommunication network. This is a perfect example of a very complex system that involves multiple stakeholders and decision makers, and multiple dimensions and criteria. Tools of various fields of science should therefore be used exemplified by operations research, systems science, game theory, etc. Multicriteria group decision making and game theory are mainly employed in this case study.. The results are very promising.

The second example concerns agriculture which is of utmost importance for the economies of many countries, and also crucial in view of a growth of the world population. The case of mango is considered which constitutes an important part of the Brazilian agricultural production and exportation, and is relevant for the country's socio-economic development. The main problem considered is to determine which variety of mango to grow in new farms as the time between the planting and first production is long. The study presents a comprehensive case study of one of the greatest mango exporting Brazilian company. To cope with the complexity, a group decision process and system is proposed. The solutions proposed have proven to be very useful to help make both short term and long term decisions.

The mix of papers which cover new conceptual and theoretical developments in the field of broadly perceived group decision making, notably in its negotiations related perspective, complemented with a comprehensive coverage of two important applications that have resulted in a practical use of the results obtained, is certainly an important factor that can help make this important volume interesting and useful to a wide audience.

Tomasz Szapiro
Janusz Kacprzyk

Negotiation experiments with eNego

eNego is an electronic bilateral negotiation support system (https://webs.ue.katowice.pl/enego/), younger brother to Gregory Kersten's Inspire, designed by Tomek Wachowicz at the University of Economics in Katowice. It was developed to experiment with various tools and mechanisms for decision support in negotiations and used for teaching and research. It may use a predefined negotiation case to simulate bilateral synchronous or asynchronous negotiation, for which the support is offered during prenegotiation (in preference elicitation), actual negotiation (offers exchange), and postnegotiation (efficiency analysis) phases. Recently, it has been equipped with a prenegotiation protocol that allows the parties to declare their preferences using a holistic approach that implements a hybrid of UTA* and MARS techniques. More details about the system can be found in one of the chapters of the Handbook of Group Decision and Negotiation (Tomasz Wachowicz, Ewa Roszkowska: Holistic Preferences and Prenegotiation Preparation, https://doi.org/10.1007/978-3-030-49629-6_64) as well as in the recent preprint of the EJOR paper (Tomasz Wachowicz, Ewa Roszkowska: Can holistic declaration of preferences improve a negotiation offer scoring system? https://doi.org/10.1016/j.ejor.2021.10.008).

eNego is used each semester in the University of Economics in Katowice (by Tomek Wachowicz), the University of Bialystok (by Ewa Roszkowska), and the Bialystok University of Technology (by Marzena Filipowicz-Chomko) to organize negotiation experiments for students. Such experiments allow them to feel how negotiation processes may be structured and analyzed employing formal decision support techniques and facilitated using software systems. It also makes, as we believe, any course in negotiation or decision-making more attractive to the students.

This semester we also plan to organize the negotiation session in eNego. We kindly invite the members of our GDN community to join us with their students. We are open to any suggestions regarding the negotiation setup to make it more suited to your teaching or research purposes. The dates for experiments have not been set up yet, but either December or January seems feasible. The negotiation session usually lasts 7-10 days but requires an introductory presentation to explain how the system works and how the negotiators may use it. We offer our help in preparing the introductory handouts or slideshow.

For further information please contact us by email:

Tomek Wachowicz (tomasz.wachowicz@uekat.pl)
Ewa Roszkowska (e.roszkowska@pb.edu.pl).

Recent Publications

This section presents a short list of recent publications of members of the GDN community who expressed their interest in mention their publications in this newsletter. This list is by no means exhaustive. If you want your recent publications to appear in the next issue of the GDN newsletter, please send an email to **newsletter@gdnconference.org.**

- Ke, G.Y., Hu, XF. & Xue, XL. Using the Shapley Value to Mitigate the Emergency Rescue Risk for Hazardous Materials. Group Decis Negot (2021). https://doi.org/10.1007/s10726-021-09760-z

- Xu, H., Han, Y., Ke , G.Y. et al. Modeling and Implementation of a New Negotiation Decision Support System for Conflict Resolution Under Uncertainty. Group Decis Negot (2021). https://doi.org/10.1007/s10726-021-09754-x

- Wachowicz, T., & Roszkowska, E. Can holistic declaration of preferences improve a negotiation offer scoring system?. European Journal of Operational Research (2021). https://doi.org/10.1016/j.ejor.2021.10.008

- Frej, E.A., Morais, D.C. & de Almeida, A.T. Negotiation Support Through Interactive Dominance Relationship Specification. Group Decis Negot (2021). https://doi.org/10.1007/s10726-021-09761-y

- Caputo, A., Kargina, M. A user-friendly method to merge Scopus and Web of Science data during bibliometric analysis. J Market Anal (2021). https://doi.org/10.1057/s41270-021-00142-7

- Crump, L. (2021). Regional-Based Conflict and Confidence-Building Strategies: The Case of the Union for the Mediterranean. International Negotiation (2021), 26(3): 527–559. https://doi.org/10.1163/15718069-BJA10033

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4. GDN JOURNAL

From the desk of the GDN Editors-in-Chief

In this newsletter, we would like to share two items with you: news on the journal's editorial board and a call for special issue proposals.

When we assumed the editorship of GDN, one of the tasks that we set out to complete is to update the journal's editorial board, especially in terms of diversity concerning gender, region, and career stage. To this end, we solicited recommendations from current board members.

In this newsletter, we are happy to announce the following outstanding researchers have accepted our invitation to join the GDN Editorial Board as Associate Editors. Their terms are for five years and are renewable:

- Zhaleh S. Azad, California State University - Northridge
- Debby Damen, Tilburg University, the Netherlands
- Luis C. Dias, University of Coimbra, Portugal
- Agnieszka Rusinowska, University Paris 1 & Paris School of Economics, France
- Anne-Françoise Rutkowski, Tilburg University, the Netherlands
- Sondoss El Sawah, University of New South Wales Canberra, Australia
- Haiyan Xu, Nanjing University of Aeronautics and Astronautics, China

As many of you know, GDN has hosted various special issues over its many volumes. We would like this tradition to continue. For that purpose, we would like to invite anyone to submit a proposal for a special issue directly to us. We are looking for topics that are currently gaining interest but have yet to become widely studied. In this case, a special issue can be an ideal starting point for our community to lay a foundation. Yet, we are also open for proposals that aim to take stock of the current state of the art on a topic and solicit papers that demonstrate current advances.

We are happy to entertain rough ideas for a special issue and help you develop the proposal, so just reach out.

We wishes everyone a relaxing holiday season!

GJ de Vreede (gdevreede@usf.edu)
Mareike Schoop (m.schoop@uni-hohenheim.de)

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5. IMPRINTS

Eduarda Frej: newsletter@gdnconference.org; eafrej@cdsid.org.br

We are working on publishing the newsletter of the Group Decision and Negotiation Section of INFORMS two times a year, July and December. The deadline for contributions for the July issue is June 30, and the issue is intended to be published by the end of July. The deadline for the December issue is November 30, and the issue is intended to be published by the end of December. Contributions can be sent at any time to the editor (please see the address provided above).