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 fourth issue of our GDN newsletter. I am once again grateful to Eduarda Asfora Frej, who has been the coordinator since the first issue.

I would like to thank Rudolf Vetschera, the past president of the GDN Section, for his outstanding service, while facing the unusual challenges of this last year. Due to Rudolf's efforts, a path has been prepared for the new challenges of the GDN Section.

Several activities in the GDN Section have been ongoing and I would like to congratulate the current officers of the Executive Council (2021-2022) for their 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.

This year, the 21st International Conference on Group Decision and Negotiation (GDN 2021) had a different format due to the COVID-19 pandemic. The conference was held virtually, (i.e., entirely online), from June 6 to 10, 2021, hosted by Ryerson University, Toronto, Ontario, Canada. GDN 2021 was the first ever virtual international conference on group decision and negotiation. Even though conference attendees had to adapt their presentations and other forms of contribution for this new format, it was an amazing event that exceeded my expectations. I would like to thank the program chairs Liping Fang, Danielle Morais and Masahide Horita for their hard work to make this conference happen.

In 2021, a new award was given for the best paper published in the GDN Journal in the year of 2020, in honor of Gregory Kersten. The 'Gregory Kersten GDN Journal Best Paper Award' was announced at the GDN Business Meeting, at the virtual GDN 2021 conference. Also, a special session in remembrance of Gregory Kersten was held during the GDN 2021 conference.

This year we also launched an important publication for the GDN community: the new edition of the Handbook of Group Decision and Negotiation. I would like to thank the editors of the GDN Handbook, Marc Kilgour and Colin Eden, for their marvelous work on this new version of the Handbook. This is a product of their resolute and outstanding leadership which is greatly valued by our community. The Handbook offers a magnificent description and discussion of the rich diversity of GDN Research.

For the past two years, the GDN community has formed a GDN Cluster at the INFORMS Annual Meeting, with a few invited sessions. In 2021, the INFORMS Annual Meeting will be held in a hybrid format (in person & virtual), in Anaheim, California. The GDN cluster will host four sessions: MCGDM: Multicriteria Group Decision Making Models; Negotiation

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Models and Analysis; Theory and Application for Decision Analysis; Multiple Perspectives of GDN. For future years, we strongly encourage the members of the GDN community to submit their work and to organize sessions in the GDN cluster at the INFORMS Annual Meeting.

In 2022, the GDN conference will be held in Moscow, Russia, from June 22 to 16. We cordially invite you to submit your contributions. We sincerely hope that we shall be able to meet in-person again in 2022 in Moscow, given the progress of vaccination programs all over the world. However, it is important to note that the GDN Council has already decided that GDN 2022 will be a hybrid conference (in person & virtual). Please, have a look in the conference site: www.gdnconference.org/gdn2022/.

Keep safe and healthy,

With best regards,

Adiel Teixeira de Almeida

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1. SOCIETY NEWS

1.1. Report on the 21th International Conference on Group Decision and Negotiation (GDN 2021)

The 21st International Conference on Group Decision and Negotiation (GDN 2021) was held virtually from June 6 to 10, 2021, hosted by Ryerson University, Toronto, Ontario, Canada. GDN 2021 was the first virtual international conference on group decision and negotiation. GDN 2021 was originally scheduled to be held at Ryerson University from June 6 to 10, 2021. However, due to the COVID-19 pandemic, a world-wide health crisis, the GDN 2021 General and Program Chairs decided on January 25, 2021 that GDN 2021 would be held virtually (i.e. entirely online) on the originally scheduled 2021dates.

GDN 2021 is sponsored by the Group Decision and Negotiation (GDN) Section, Institute for Operations Research and the Management Sciences (INFORMS). Because of the COVID-19 pandemic, the 20th International Conference on Group Decision and Negotiation (GDN 2020), which was scheduled to be held at Ryerson University from June 7 to 11, 2020, was cancelled. However, two volumes of the GDN 2020 conference proceedings were published since at the time the conference was cancelled, preparations for GDN 2020 had almost reached the final stages. When announcing the cancelation of GDN 2020 on March 25, 2020, authors whose submissions were accepted by GDN 2020 were invited to attend GDN 2021 and present their work. Submissions accepted for GDN 2020 were automatically accepted for GDN 2021. Therefore, papers presented at GDN 2021 included the accepted GDN 2021 submissions and some of the accepted GDN 2020 submissions.

GDN 2021 was a truly international conference, with 76 submissions accepted from 26 countries situated in Africa, Asia, Australia, Europe, North America, and South America. 103 people attended the conference. The GDN 2021 conference program was composed of five keynote presentations, 18 parallel sessions, one GDN Springer Best Paper Competition, one GDN Springer Best Student Paper Competition, one panel, one Doctoral Consortium, an opening and a closing session, in addition to a special plenary session, "In Remembrance of Gregory Kersten." The finalists of the GDN Springer Best Paper and Best Student Paper Competitions presented their papers twice: once in the respective competition session and once in the normally

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scheduled session. A virtual Welcome Reception was also organized to enable person-to-person and small-group interactions. Presentation scheduling was able to take into account the various time zones of the presenters. During the conference, the GDN Section Business Meeting and the Group Decision and Negotiation Journal Editorial Board Meeting were held virtually.

During GDN 2021, a special tribute was paid to Gregory Kersten. Gregory (Gzregorz) Kersten, who was President of the GDN Section (2017–2019), Editor in Chief of the Group Decision and Negotiation Journal (from 2016), and Honorary Chair of GDN 2020, suddenly passed away on May 26, 2020. To celebrate Gregory's life and work, two special sessions were organized at GDN 2021: a plenary session in his Remembrance and a technical paper session in his Honour. We remember Gregory Kersten not only as an outstanding researcher whose service to the GDN community was extraordinary and dedicated, but also—most of all—as a true friend.

The GDN 2021 conference proceedings are organized and published in two volumes. After a rigorous blind review process, 12 full papers have been chosen for inclusion in a volume published by Springer (https://link.springer.com/book/10.1007/978-3-030-77208-6). The second volume is composed of 64 full and short papers as well as abstracts also selected in a thorough blind review process. Information about the second volume is available on the conference website (http://gdnconference.org/gdn2021/local-proceedings/).

We are thankful to many people for their efforts and collaboration in organizing GDN 2021. In particular, our thanks go to:

- The authors of the 76 presentations for their contributions to the conference;
- The Stream Organizers: Mareike Schoop and Rudolf Vestchera (In Honour of Gregory Kersten); Pascale Zaraté (Collaborative Decision Making Processes), Liping Fang, Keith W. Hipel, and D. Marc Kilgour (Conflict Resolution), Zhen Zhang, Yucheng Dong, Francisco Chiclana, and Enrique Herrera-Viedma (Intelligent Group Decision Making and Consensus Process), Mareike Schoop and Rudolf Vestchera (Negotiation Support Systems and Studies (NS3)), Tomasz Wachowicz and Danielle Costa Morais (Preference Modeling for Group Decision and Negotiation), Haiyan Xu, Shawei He, and Shinan Zhao (Risk Evaluation and Negotiation Strategies), and Masahide Horita, Leandro Rêgo, and Yufei Yuan (Doctoral Consortium), for organizing fantastic streams;
- The members of the GDN 2021 Program Committee and the reviewers, for their prompt and quality reviews and evaluation on all submissions;
- Professor Raimo P. Hämäläinen and Professor Liping Fang for delivering the 2021 and 2020 INFORMS GDN Section Award keynote presentations, respectively;
- Professor Fuad Aleskerov, Professor Sabine T. Koeszegi, and Professor Dawn Parker, for graciously accepting our invitations to deliver keynote addresses;

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- The Honorary Chair of GDN 2021, D. Marc Kilgour, and the General Chairs of GDN 2021, Keith W. Hipel, Adiel Teixeira de Almeida and Rudolf Vetschera, for their contributions to GDN 2021 and the GDN Section;
- The session chairs for chairing sessions;
- Ali Fares, Rodrigo Ferreira, Farokh Iaqu Kakar, Lynsey Kissane, Andrea Moon, Frances Okoye, Ebrahim Sharifi, and Sothy Son for their excellent assistance; and
- The Faculty of Engineering and Architectural Science as well as the Department of Mechanical and Industrial Engineering at Ryerson University for their financial support.

Liping Fang, Danielle Costa Morais, and Masahide Horita

Program Chairs
21st International Conference on Group Decision and Negotiation (GDN 2021)

1.2.   GDN 2021 Awards

1.2.1.   2021 Group Decision and Negotiation Section Award

The GDN INFORMS Section honors **Raimo P. Hämäläinen** for his outstanding contributions to research in the field of Group Decision and Negotiation and outstanding contributions to the GDN Section. The award was granted in the 2021 GDN conference, which was held virtually.

We congratulate Prof. Raimo Hämäläinen for the well-deserved award!

Citation:

> *Professor Raimo P. Hämäläinen has made outstanding contributions to the field of Group Decision and Negotiation (GDN), while being an internationally acknowledged researcher in a number of related fields, including multicriteria decision making, environmental modelling, systems thinking and behavioral operations research. His theoretical work includes imprecise and interval approaches in multicriteria models as well as game theoretic methods for negotiation processes. His research has led to the development of noted decision support systems: web-HIPRE for multicriteria analysis, JOINT-GAINS for negotiation support and OPINIONS-ONLINE for opinion surveys and group voting. Professor Hämäläinen has successfully applied his theories and models*

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to a number of high-impact problems, notably, in energy policy, environmental planning and nuclear emergency management. A prolific author, Professor Hämäläinen has been on the editorial board of the GDN journal, first as an associate editor and currently a departmental editor in the area of Behavior, Modeling and Group Interaction. He has been a steady participant in, and a sustained contributor to, the INFORMS-GDN conferences.

1.2.2.　　2021 GDN Springer Best Paper Award

Winners: Takahiro Suzuki and Masahide Horita
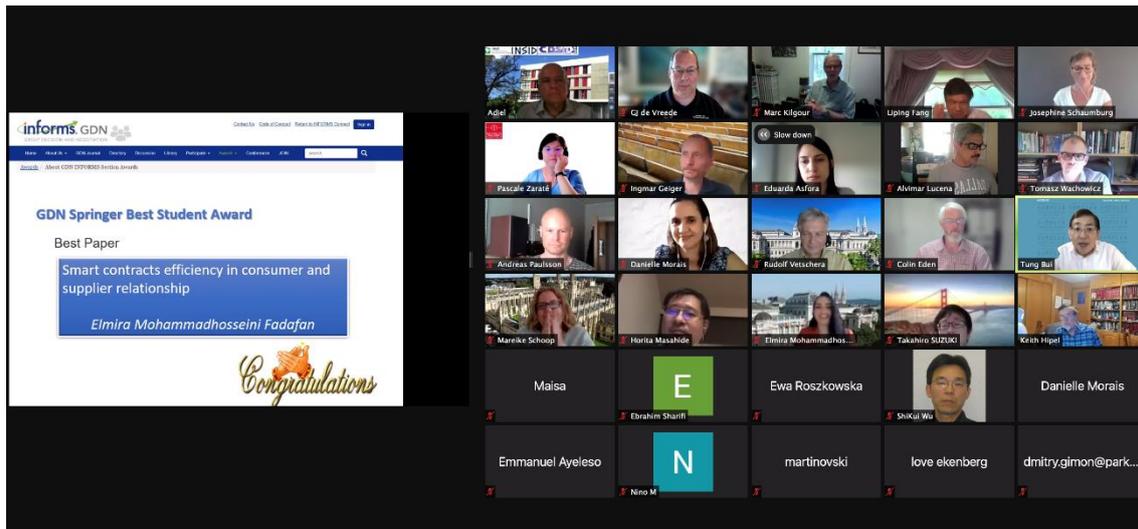**Paper:** Social Ranking Problem Based on Rankings of Restricted Coalitions
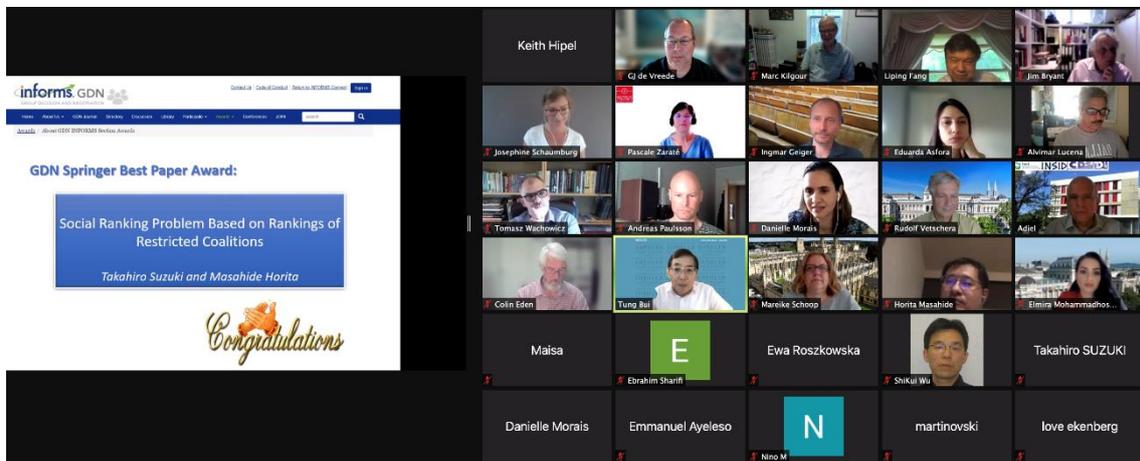
Business Meeting, GDN Conference 2021

1.2.3.　　2021 GDN Springer Best Student Award

Winner: Elmira Mohammadhosseini Fadafan
Paper: Smart contracts efficiency in consumer and supplier relationship

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Business Meeting, GDN Conference 2021

Runner-ups:

Paper: Survey-Based Multi-Stakeholder Preference Elicitation with Relatively Incomplete and Possibly Disjoint Rank Orderings
Authors: Andreas Paulsson and Aron Larsson

Paper: PredictRV: A Prediction Based Strategy for Negotiations with Dynamically Changing Reservation Value
Authors: Aditya Srinivas Gear, Kritika Prakash, Nonidh Singh and Praveen Paruchuri

1.2.4.   Gregory Kersten GDN Journal Best Paper Award

In 2021, for the first time, the *Gregory Kersten GDN Journal Best Paper Award* was given for the best paper published in the GDN Journal in 2020. Nominations were made by the departmental editors of the journal. The committee had the following members: Adiel de Almeida, Rudolf Vetschera, Liping Fang, Pascale Zaraté, Mareike Schoop and GJ de Vreede.

Winner: *Geiger, Ingmar. From Letter to Twitter: A Systematic Review of Communication Media in Negotiation. Group Decision and Negotiation, v.29, 227-250 (2020).*

Paper Summary:
In this paper, the author summarizes and synthesizes around six decades' research on communication media and their influence on and in negotiation and then

proposes new avenues for research. Over this time span, not only research has seen a dynamic development, but also the availability of communication media.

Therefore, a structured literature search and inclusion process represents the methodological backbone of the paper (section 2): To be included in the review paper, primary studies had to (1) come from peer-reviewed journals, (2) refer to negotiation, and (3) either compare negotiations in different communication media or cover specific aspects of a certain communication medium in negotiation.

The paper then exposes and discusses the most often used theories or theoretical models (section 3). Broadly speaking, they belong to two categories: Strategic communication theories focus on communication media and their characteristics on the one hand and communication tasks on the other hand. Media-richness theory and the task/media-fit hypotheses, grounding in communication, and the more recent media synchronicity theory have found traction in research and are featured in the review. Social psychological theoretical vantage points, in contrast, put the communicator-communication medium interaction center stage. In other words, they try to theorize how communicators in general and negotiators in particular interact with a certain medium and use it to their benefit. The four identified and most influential theories or models are the barrier effect, social presence theory, social information processing theory, and the communication orientation model in negotiation. In a critical assessment of the theories, the author finds a certain development over time, reconciling partly contradictory empirical findings. However, he also points out that future theory development needs to take into account four theoretical building blocks: social psychological aspects, meaningful boundary conditions, correspondence between general communication outcomes and specific negotiation processes and outcomes, and communication media combinations instead of single media only.

In section 4, the paper summarizes empirical evidence on communication media in negotiation. On the communication medium side, early papers mostly compared face-to-face negotiations to only audio or synchronous text messages. In later decades, the spotlight shifted to computer-based text in synchronous or asynchronous mode. Regarding dependent variables, earlier papers (1960s to 1990s) had a strong interest in economic negotiation outcomes, with process variables (2000s) and socio-emotional outcomes (2010s) gaining in importance later. Regarding economic outcomes, early discrepancies between communication media seem to vanish later on, most likely because negotiators got used to newer communication media. More discrepancies between empirical papers are discussed, and potential explanations and/or remedies offered.

In the discussion and outlook (section 5), the author synthesizes the current state of research and delineates obvious research needs. These include generation-specific

(today's teenagers vs. those of forty years ago) use of communication media, combinations of various communication media in a negotiation, important features of real-world negotiations, such as time differences or documentation policies.

Promising research fields also emerge from recent developments, such as social media or translation aids in some communication channels. A number of more research avenues, theoretical and empirical, show that this research field within group decision and negotiation is still an exciting endeavor.

Ingmar Geiger (author)
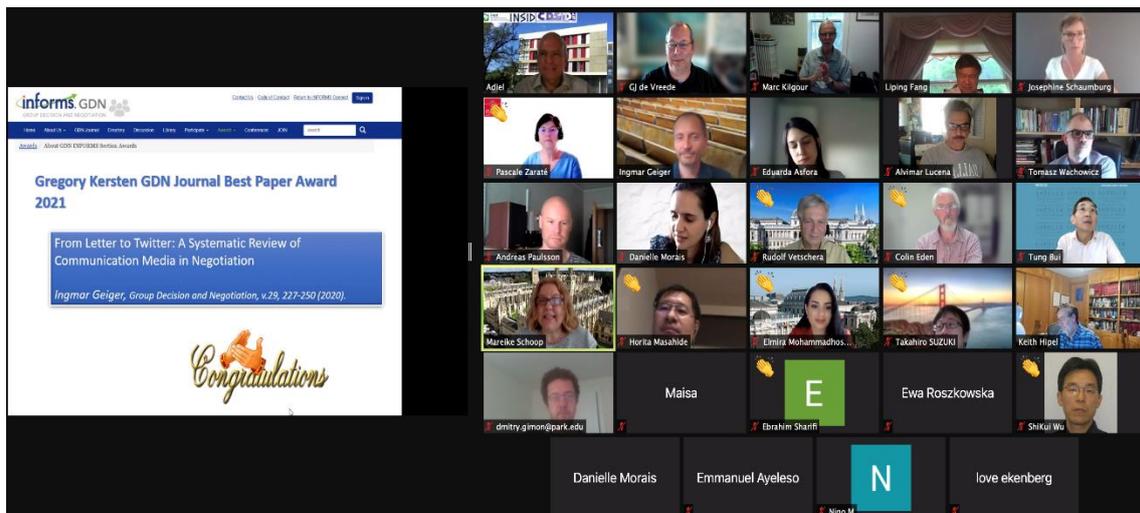
Business Meeting, GDN Conference 2021

More information about the awards and awardees, and past and future GDN Conferences is available at the [GDN INFORMS website](#).

1.3.   GDN 2022: Call for Papers

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:

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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/gdn2021/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

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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: **December 15, 2021**.
2. Deadline for the submission to the Local Proceedings: **January 31, 2022**.
3. Deadline for the submission to the Doctoral Consortium: **March 16, 2022**.

1.4. Group Decision and Negotiation Cluster at INFORMS 2021 Annual Meeting

The INFORMS 2021 Annual Meeting will be held in a flexible format: in person & virtual, in Anaheim (California), from October 24 to 27, 2021. The 2021 INFORMS Annual Meeting is 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, the GDN cluster will have four 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.

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2. NEW BOOKS/PUBLICATIONS

2.1. Group Decision and Negotiation Handbook

The new GDN Handbook is published! The book is basically divided into eight parts:

I. **Introduction**
II. **Justice and Fairness in Negotiation**. What *should be* the objective of a group decision, or a negotiation? In this section, the implications of ideas of justice and principles of fairness on the outcome of a group decision or a negotiation of are explored.
III. **The Context for Group Decision and Negotiation**. In what circumstances should Group Decision and Negotiation principles and practices be invoked? In this section, the main issue is how GDN processes can fit into real problems.
IV. **Crowd-Scale Group Decisions**. Many group decisions involve so many parties that communication is the major issue. In this section, the focus is on support systems aimed at communities, along with approaches to using voting to make a group decision.
V. **Game Theory Developments for Group Decision and Negotiation**. Game Theory has had a major influence on negotiation and group decision modeling, as demonstrated by several chapters in this section on approaches to negotiation and group decision that are, or are inspired by, game theory.
VI. **Group Support Systems**. This section contains a review of approaches to supporting groups, including not only how the support systems work but also how they can be used improve decision-making and improve the group's understanding of itself.
VII. **Multiple Criteria Analysis for Group Decisions.** Multiple criteria methods, which are well developed for single decision-maker problems, can be applied to group decision problems. In some instances, provision for uncertainly may be important.
VIII. **Electronic Negotiations**. Negotiating agents may negotiate with humans or other agents. This section contains a review of techniques, successes, and outcomes, as well as delineating the current status and likely developments of automatic negotiation.

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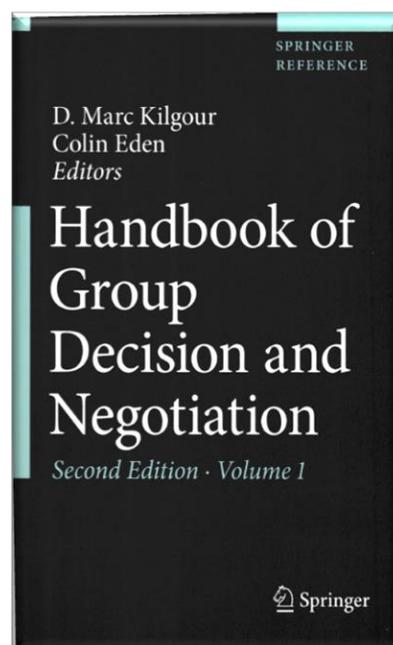
Social Media:

The Springer Social Media team has posted about Handbook of Group Decision and Negotiation on their social media platforms, as part of their #FreeAccess campaign for titles recently published in hardcover.
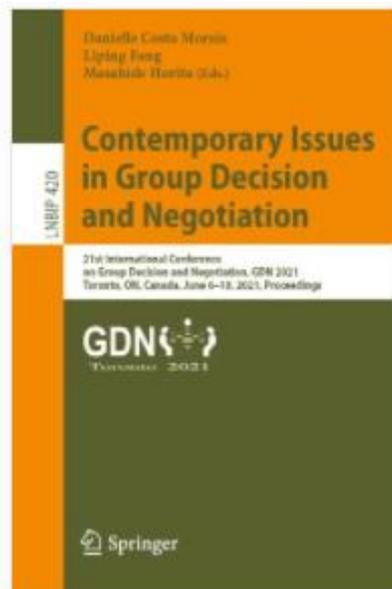
Twitter: https://bit.ly/3h8y0sI

Facebook: https://bit.ly/2TkBWxI

2.2.   GDN 2021 Springer Proceedings

The Springer Proceedings of GDN 2021 is published:

- Morais, D. C., Fang, L., & Horita, M. Contemporary Issues in Group Decision and Negotiation. Springer Lecture Notes in Business Information Processing LNBIP 420, 2021.

2.3. 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.**

- Crump, L. (2021). Informal regional institutions and national resilience: The case of the Pacific Alliance. In N. Crespo and N. Simoes (Eds.), *Handbook of Research on the Empirical Aspects of Strategic Trade Negotiations and Management* (Chapter 2, pp. 28–52). Hershey, PA: IGI Global. https://doi.org/10.4018/978-1-7998-7568-0
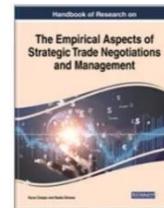
- Lu, J., Zhang, Q., & Zhang, G. Q. (2020). *Recommender Systems: Advanced Developments* (Vol. 6). World Scientific. https://doi.org/10.1142/11947.

- Merlone, U., & Lupano, M. (2021). Third party funding: The minimum claim value. *European Journal of Operational Research*. https://doi.org/10.1016/j.ejor.2021.04.059

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3. SCHOLARSHIP ANNOUNCEMENT

The Responsible Research in Business and Management (RRBM) and its co-sponsors are offering up to eight scholarships of $10,000 each to doctoral students in business schools to conduct dissertation research that follows the <u>principles of responsible research</u>. The research topic should focus on **economic inequality, racial, gender or other forms of social justice in organizations**, thereby contributing to meeting one or more of the United Nation's <u>Sustainable Development Goals.</u>

Important dates:
Applications accepted beginning : November 1, 2021
Application deadline: December 1, 2021
Award decision: March 1, 2022

Details about the application process can be found at:

<u>https://www.rrbm.network/daretocare/</u>.

4. IMPRINTS

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

Danielle Morais: dcmorais@cdsid.org.br

Ginger Ke: gingerk@mun.ca

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