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## A tribute to Rudolf Vetschera

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### Abstract

On the occasion of the 65th birthday of Prof. Dr. Rudolf Vetschera, colleagues from all over the world contributed their works in order to compile an issue that is meant as a tribute to his achievements, wisdom, and kindness.

This issue is dedicated to Prof. Dr. Rudolf Vetschera on the occasion of his 65th birthday. Rudolf Vetschera has served as a member of the editorial board of the Central European Journal of Operations Research (CEJOR) for the past 15 years and has been a co-editor for more than ten years. In addition, he has been an active member of other prestigious editorial boards (e.g., C&OR, EJDP, GDN, ITOR) as well as in several scientific societies (e.g., EURO, GDN, GOR, INFORMS, MCDM). Dr. Vetschera is also an extraordinarily productive researcher, as substantiated by the “BWL Lifetime Ranking” provided by Forschungsmonitoring (2020), in which he is among the top 1% of achievers. He has coauthored more than one hundred papers with several of them being cited more than one hundred times (e.g., Hofacker and Vetschera 2001; Vetschera and De Almeida 2012; Stummer et al. 2015); according to the classification by Way et al. (2017) and Feichtinger et al. (2020), his individual productivity thus represents the “busy pattern” ( $Q1$ ). Besides his impressive research credits, Rudolf Vetschera has influenced several generations of young researchers—two of them, from rather different age cohorts, served as guest editors for this issue—and has greatly furthered the decision sciences, specifically, the fields of decision support systems, multi-criteria decision-making, negotiation analysis, and behavioral OR, by collaborating with colleagues from all over the world.

In preparing the issue, we contacted several of these colleagues and asked them to contribute: most immediately agreed, while others regretted that they could not

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produce suitable work at such short notice (we hereby would like to apologize to them for the tight deadline). Ten manuscripts survived the review process and were accepted for inclusion in the issue. We asked the authors to let us know (i) when and where they collaborated with Rudolf Vetschera and (ii) what was particularly remarkable to them in their experience with him. Thus, the papers in this issue are ordered chronologically, and the contributors' answers to the second question are presented below with an outline of the respective paper.

Adiel Teixeira de Almeida has met Rudolf several times at EURO and GDN conferences (since 1991), where they started to share their vision about preference modeling and decision processes. They have received each other in their respective universities several times, as a result of which they have engaged on joint research and published some papers. Recently, they have been working together as Vice-President and President, respectively, of the INFORMS GDN section council, and they have been co-chairs of GDN conferences. They have also shared good moments in their friendship, sometimes accompanied by their families, including at operas and concerts. Eduarda and Lucia have met Rudolf at GDN conferences, where he deliberated over their presentations on new developments for the FITradeoff method and congratulated them on their GDN Springer Young Researcher Award in 2018. In their paper for this issue, De Almeida et al. (2021) suggest the combination of holistic and decomposition paradigms in preference modeling. This combination improves the efficiency and consistency of preference modeling, thereby improving the underlying models for decision support systems.

Sigifredo Laengle met Rudolf Vetschera in 1992 in Konstanz, Germany, when he was Rudolf's first (or second) doctoral student. He remembers this time as an exciting experience, because Rudolf created the right atmosphere: by inspiring without controlling and by requiring rigorous, but flexible, work. Rudolf perpetually strived to combine a high level of expertise with a thoughtful analysis that integrated different points of view. Today, as a university professor himself, Sigifredo believes his initial experience as a doctoral student deeply affects his daily academic life. He is infinitely grateful for Rudolf Vetschera's professionalism and inspiring example. Laengle's (2021) contribution to this issue presents an inclusive framework of the Nash demand game using viability theory. The results show integration possibilities for the bargaining theory that accurately captures the complexity of the real world.

Richard Hartl met Rudolf Vetschera the first time in the early 1990ies at an OR conference. They became colleagues at the University of Vienna in 1996. From 2016–2019 they worked together with Margaretha Gansterer and Karl Doerner on a very successful FWF-funded research project. The project was led by Rudolf Vetschera and all members of the team were very impressed by his commitment and his expertise in tackling research questions with several different approaches. During the years together at the University of Vienna, Margaretha Gansterer and Richard Hartl have appreciated the scientific cooperation with him that led to a successful joint publication, as well as his efficient and well-balanced administration as head of institute and dean. In their contribution to this issue, Gansterer and Hartl (2021) propose a combinatorial auction system for furthering transport collaboration in the logistics industry. In this setting, the authors investigate whether participants face a prisoner's dilemma, that is,

whether carriers profit from declining the cooperative strategy. This research question is tackled by a broad computational study.

Franz Wirl is a colleague of Rudolf Vetschera at the University of Vienna since 2000, where he has enjoyed their many intriguing conversations. He admired him for staying firm and polite in difficult situations (never between them and we all know that academic arguments can get very tough because of the little what they are about). Franz Wirl followed Rudolf Vetschera as a vice-dean of teaching and recalls that Rudolf set the standards so high that he found it difficult to meet them and therefore resigned. Thomas Bauer met Rudolf Vetschera during his time as a PhD student. He remembers him as a respectful and helpful senior researcher who always had a sympathetic ear for his younger colleagues. In their contribution to this issue, Bauer and Wirl (2021) introduce a principal-agent framework for studying how a leader (i.e., the principal) can affect the effort of her followers (i.e., the agents). She can do so not only by providing financial incentives (as is the case in a standard principal-agent model) but also through her own effort because, in this framework, followers recognize their leader as a role model and, thus, imitate her behavior to some degree. This extension leads to bilateral externalities, as the principal's effort affects the agent and vice versa.

Karl Doerner met Rudolf Vetschera the first time in the year 2000 at several "adaptive Fridays" of the special research program SFB Adaptive Information Systems and Modelling in Economics and Management Science. They became colleagues at the University of Vienna in 2014. In 2015, they set up a small working group in the field of Industry 4.0 together with Richard Hartl. Jasmin Grabenschweiger joined this working group in the same year. It is admirable how efficient Rudolf Vetschera is. He is constantly supervising many master and PhD theses, teaching more than expected, and he is also very active in scientific services (e.g., head of the program committee of EURO2021, president of the INFORMS Group Decision and Negotiation Society). Nevertheless he is very active in research and he finds time in developing the models, implementing the solution techniques, and evaluating the numerical results in many of his papers by himself. In their paper in this issue, Grabenschweiger et al. (2021) deal with a vehicle routing problem in which customers can be served either at their home address within a certain time window or at a locker box station with heterogeneous locker boxes; in the latter case, customers can get compensation payment. The authors propose a metaheuristic solution method with which they strive to minimize total cost.

Christian Stummer was about to finish his dissertation project when Rudolf Vetschera was appointed as a full professor at the University of Vienna in 1996. They never were in the same research group but still, from 2001 onwards, they published joint papers, often attended the same conferences (which always turned out to be very nice), collaborated in a research project, and worked together in the administration of the faculty (as the dean and the director of studies, respectively). While writing their first paper together (published in CEJOR; Stummer and Vetschera 2003), Christian was genuinely impressed by Rudolf's great commitment to their joint project. He feels that Rudolf Vetschera is among those people who have had a major impact on his approach to research and his enthusiasm for collaboration. In this issue, Stummer and Kiesling (2021) introduce a business gaming simulation that uses an agent-based market model. This novel approach accounts for important factors of innovation diffusion, such as consumers' heterogeneity or market dynamics due to word-of-mouth

communication. The paper presents the model and details first-hand experience of employing the business gaming simulation in the classroom.

Mareike Schoop has known Rudolf Vetschera for almost two decades. They met at a GDN conference and have become close collaborators working on joint projects and exchanging students. Mareike has always valued Rudolf's extensive expertise on negotiation research as well as his approach to research in general. She is grateful that Rudolf has become a dear friend over the years. The paper provided by Schoop (2021) draws attention to the lack of emphasis on the communication perspective in negotiation research. It reviews the existing research and highlights the integration of the reviewed ideas in the Negoisst system.

Luis Dias and Paula Sarabando have known Rudolf Vetschera for over a decade, having met at several conferences. They have collaborated intensively during research and teaching visits at the University of Coimbra and the University of Vienna, from which several joint publications have resulted. Luis and Paula were—and still are—quite impressed by the breadth of Rudolf's interests and knowledge and also by the rigor and hands-on attitude he puts in his work (while still managing to have fun together!). In their contribution to this issue, Dias et al. (2021) show that using the disaggregation paradigm in multi-criteria decision analysis makes it possible to create an additive value function framework from the holistic judgments of decision-makers. This approach utilizes choice-based questions instead of the conventional ranking of the alternatives. The method is applied in an empirical study concerning the preferences of a population (i.e., vehicle buyers in Portugal) toward vehicle technologies.

Pascale Zaraté met Rudolf Vetschera in 2012 during the GDN conference held in Recife, Brazil, where he won the GDN section award. During all these years, they met several times during EURO, IFORS, GDN, or ICDSST conferences, and they collaborated in PhD committees and joint projects. Pascale emphasizes Rudolf's huge abilities in managing difficult situations such as being the President of the INFORMS GDN section and President of the EURO 2021 conference program committee: in all these positions, Rudolf showed negotiation skills as well as rigor. Pascale appreciated these qualities a lot and she was inspired by his sense of diplomacy. In their contribution to this issue, Fernandez et al. (2021) introduce a new decision support system named Logikós. This system enables the usage of an analytic hierarchy process on multiple websites, thereby providing a less demanding decision-making process for rational decision-makers on complex purchase decisions.

Ayşegül Engin met Rudolf Vetschera in her first PhD course at the University of Vienna in 2013. She considers herself incredibly fortunate for having the opportunity to work with him as a university assistant and even more so for being able to continue as a postdoc researcher (as it means that the fun continues), where she finds sharing the scientific joy from their achievements to be priceless. Ayşegül is fascinated by Rudolf's never-ending curiosity and his open mind: not only does he listen to new ideas with an open ear, he always finds a way to enrich them. His knowledge, structured methodology, and polite but firm stance in scientific disputes has had a major impact on her research and attitude toward science. She is especially grateful to him for his encouragement and support in challenging times. In her work in this issue, Engin (2021) proposes a novel framework for a well-known and frequently used inventory in behavioral OR studies, that is, for the cognitive reflection test. This framework puts the

cognitive reflection test in the theoretical context of dual-process theories. While the conclusion of the framework does not contradict the published results in the literature, it disentangles the theoretical constructs about the decision processes that are at work.

In conclusion, we are grateful for Rudolf Vetschera's achievements, advice, and support. It is our hope that he will remain active in the field (for the issue of optimal time allocation in active retirement for professors, he might see Sánchez-Romero and Prskawetz 2020). His wisdom and kindness are an inspiration to all his friends and colleagues.

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