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## Welcome to SN Operations Research Forum!

SN Operations Research Forum

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## Welcome to *SN Operations Research Forum*!

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Operations research is a fascinating field. We have the entire spectrum from sophisticated and deep theories to applications that make huge impacts on industries, societies, and the sciences. We cross disciplines, involving mathematics, computer science, engineering, and business/economics, to name only those at the core. We identify and formalize new problems, we formulate mathematical models, we work with data, we design and analyze algorithms, we implement software, we interpret and quantify the impact of the solutions we create, and we accompany our research to see it shine in practice. Operations research applications are literally everywhere. Despite this diversity, if we were to agree on the essence of operations research, it would be to quantitatively support decisions, an essential “technology” in our modern world.

When we editors were preparing the launch of this new journal, the *SN Operations Research Forum*, colleagues asked us the obvious: why another journal? Certainly, we do not need just another journal, but instead, we need publication outlets that are able to respond to the evolution we witness: the evolution of our field, operations research, the evolution in scientific culture, and as an implication, the evolution of the ways we share our research.

Number one is obvious. Operations research, as a discipline, is evolving, and it always did. The most recent example is the synergy with artificial intelligence, machine learning, and data science. While this constant change in topics and focus can be well accommodated by classical journals, they are more challenged by the increasing diversity in what we consider a research result and how we share such results with the community. Besides the original scientific article, we produce software for others to use, provide tools to ease the application of operations research, and blog about our failures or our projects, often also reaching a non-expert audience, explaining what we are doing and why it is worthwhile. We share data and results from our experiments, participate in coding challenges, and produce educational videos. This development

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directly contributes to building a community for which we do not only send a message unidirectionally, but help each other in forums, openly share, and provide, invite, and obtain feedback. And, we want to do this fast with immediate effects. This is why we find many contributions on social media, on personal websites, on public software repositories, on preprint archives—often enough only there. Imagine the librarians in a hundred years trying to curate today's research output!

We certainly do not claim that we can address all of these items with our new journal. But, we promise to closely observe and actively participate in these developments, and to offer as many aids to support the new needs as we can. We already know today that we cannot accomplish this alone, but that this will be a community effort. As the name “Forum” says, we would like to make this a place where the entire operations research community can and will meet.

Here is the package we start with, that we expect to adapt over time. Of course, we solicit original research articles, surveys, and reviews in all areas of operations research. We also publish book and event reviews, short communications, trends and perspectives, and also opinion pieces. Of large interest are formats and results that may have a hard time getting published elsewhere: truly interdisciplinary works; articles that focus on the impact in practice, also articles that describe the hurdles of putting operations research in practice; failed experiments and wrong paths taken to learn from; trends we see for the operations research community, science, publication culture, and societal impact. Also, well-presented science that is understandable to and explicitly addresses the general public. This could also be in blog or video format. In fact, we encourage authors to accompany all application-oriented work with additional material that explains the implications, significance, or impact of a result. We would like to publish descriptions of research software and how to build and use tools. We would like to learn from and share experience.

We encourage contributors to make their work most widely accessible and visible. Besides the optional additional explanatory material, this implies making all data publicly available, ideally also the code, in order to help achieve reproducibility of results. If proprietary data cannot be made public, authors should provide additional, synthetic data that support the result in the same way as the original data. We editors collaborate with the publisher to provide technical support for hosting these supplementary materials, for example, on the journal's website.

For some ideas, we do not fully know yet how to accomplish them. Think, for example, of the concept of pre-registration of experimental studies (compare <https://cos.io/prereg/>). In empirically working disciplines, one describes a study before the data is collected. The experiment is evaluated (and accepted) solely based on the relevance and quality of the research question. The later scientifically described results of such an approved experiment will be published no matter whether the outcome was positive or negative. We welcome suggestions for how pre-registration can be rewardingly interpreted and developed for computational work in operations research. This call for suggestions extends to how to install two-way communication on articles, versioning of articles, and other collaborative and iterative approaches.

And of course, we need to talk about open access to research. Funding agencies, governments, and the increasingly open research culture demand to have research results openly accessible to everyone. The OR Forum is not an open access journal. Maybe it will become one, but currently, we have a hybrid format, through which authors have the option to publish open access, of course. Also, the content published in the first 2 years will be made

freely available during this time. And even after that, the *SN OR Forum* will also be enabled with the SharedIt feature, which all Springer Nature hybrid journals are currently equipped with as well. SharedIt will allow anyone with electronic access to the journal to share complete versions of any article with friends and colleagues for free in-browser reading. We believe that this helps to rapidly disseminate new ideas and results. Even though all this does not make the research results entirely free, researchers will be able to build on each other's works, regardless of whether their institutions have a journal subscription.

Finally, a word on publication speed. We start the journal with (only) a classical, anonymous peer-review process. We know that good reviewing takes time, and we know that many in our community are overburdened with reviewing work already. We will not trade speed for quality. However, the duration of the remaining publication process can be kept to a minimum. We assign every accepted contribution directly to an issue, and it will appear in final and citable format almost immediately after acceptance. Time will tell us whether we should experiment 1 day with post-publication reviewing, which could increase publication speed even more, but will face us with discussions about how to define and ensure quality. Dissemination of research is and stays an exciting field!

Some readers may wonder why we chose to do our little publishing (r)evolution with a traditional publisher. Actually, we were discussing alternatives that are fully open and that are run entirely by the community. We believe in both. We also see that future generations need to be able to access the knowledge and experience we produce today. At the moment, we lack the imagination that this can totally be accomplished decentrally, given the increasing diversity of formats. A bit pathetically, you could say that we believe that the publishing (r)evolution is possible, maybe even necessary, from within the current system, not entirely replacing it. Therefore, we are extremely happy that we found a publisher that is willing to (r)evolve with us.

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This new journal is an invitation. Yes, of course, we welcome submissions of all your work that you find most relevant to the profession and the community. But even more so, we welcome your ideas and your help. Your perspectives and views on the future of operations research, on the ways we can publish our works in a most useful manner, on the ways we give and get feedback on our research, on our needs as a community. We would like to create and develop this journal together with you, you the operations research community. Let us do this experiment together. Get in touch.

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