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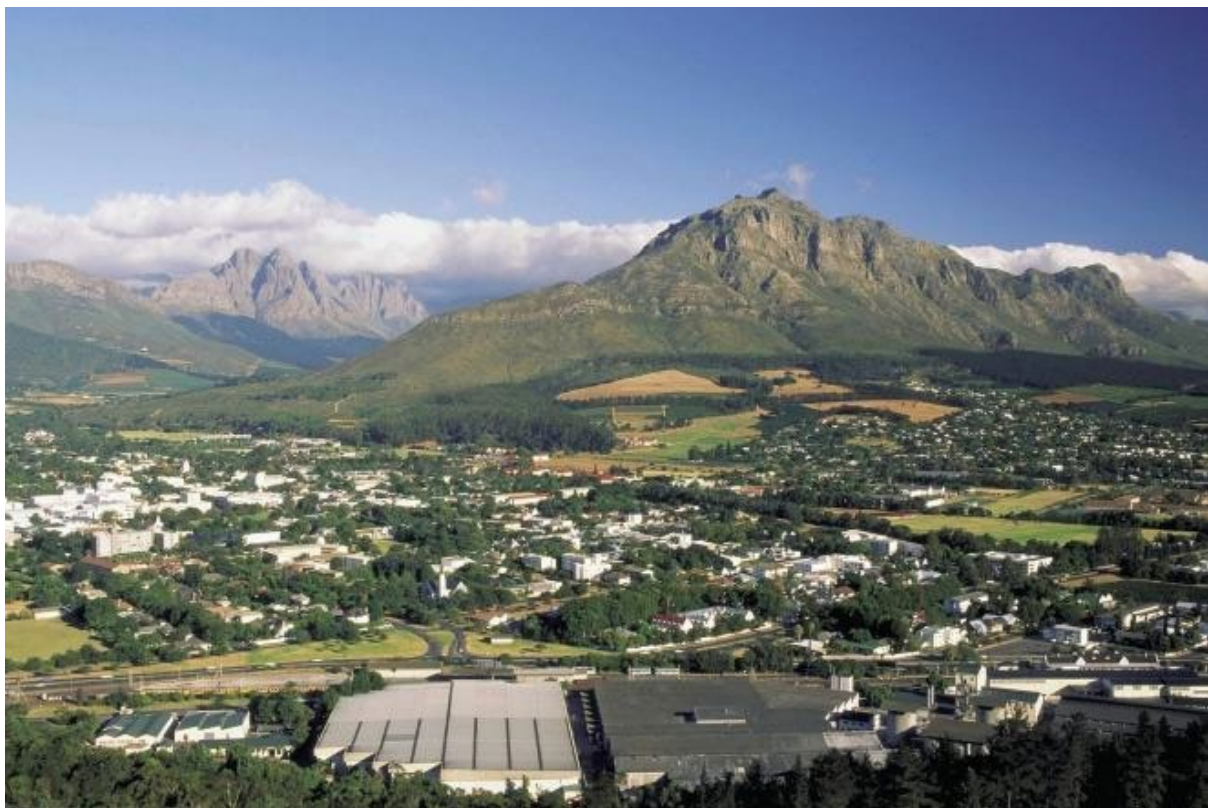
Guest Editorial

SRBS Special Issue and ISSS Yearbook 2021

Theme of the Special Issue:

Systemic Change towards Sustainable Development: Innovative and Integrative Approaches

This special issue is in line with the aspirations of the International Society for the System's Science's (ISSS) aims to support the United Nation's Sustainable Goals. It is with this intention in mind that a theme for the ISSS annual meeting to be held at Stellenbosch University Centre for Complex Systems In Transition was proposed to be held in July 2021. The theme of the conference which is also the theme for this special issue is to encourage thinking more broadly about how to look at the UNSDG's more holistically.



Due to the onset of Covid-19 the annual meeting of ISSS planned for 2020 had to be cancelled. Therefore, we had no papers submitted or presented at the conference that accompanied the 64th annual meeting of ISSS that could be used for this special issue. We invited the keynote speakers who had agreed to present at the conference to submit papers to this special issue. We requested them to submit papers based on some of the ideas they would have presented at Stellenbosch. So now you have an opportunity to listen some of these keynote speakers through the article included in the special issue

The systems field is an umbrella for holistic thinking across disciplines and this special issue reflects that transdisciplinary nature of the systems sciences, thinking and practice.

We always start our ISSS meetings with an early morning round table that helps people coming to our annual meetings to renew their relationships, form new relationships and help new members to

get to know our broader community. These meetings are called the ISSS Round Table and were designed and organised by Sue Gabriele. In this special issue we get to honour and appreciate Sue Gabriel's work with an article she has contributed about the *Systems Thinking Round Table* as a practical tool to support systemic renewal and sustainable development. The Round Table process has been refined over twenty years and has been used as part of several social systems gatherings before it was introduced to ISSS in 1989. It has also been adopted at some workplaces and it is flexible to be designed to suit the context. The paper explains the role the Systems Thinking Round Table can play to meet the challenges we face today including the impact of the Coronavirus pandemic that is affecting our daily lives. After a discussion on challenges faced by social systems to facilitate learning the article argues that old ways of thinking lead to flawed theory and practice and we need to look at systems theories to update our theories and practices to learn better. The idea of Systems Thinking Round Table was inspired from the seminal work of Lave and Wenger (1991) to transform education from a teaching curriculum to a learning curriculum. The article provides detailed descriptions of the Systems Thinking Round Table process and proposes that it can serve as a rapid way to share knowledge from a diverse range of participants to help us move towards sustainable development.

Michael Jackson who, a past president of ISSS, continues his work on the second stage of *Critical Systems Practice* continuing his work from the ISSS 2020 Yearbook. In this special issue he takes us through Stage 2 called *Produce*. Produce follows *Explore* (Jackson, 2020) to designing an intervention strategy based on critical systems thinking and practice (Jackson, 2019) to set objectives for an intervention and to structure and schedule its delivery. To do this Jackson advocates that the interventionist needs to appreciate a variety of systems methodologies to choose an appropriate one for the intervention, and then choose the right models and methods so that the objectives of the intervention can be set to then structure and schedule the intervention. The reason why we need to seek variety is to respect 'pluralism' in doing this as it is an essential commitment to Critical Systems Thinking. Explore asked us to pay attention to stakeholders (including those who are marginalised and future generations) to consider sustainability and environmental issues. This is critical to sustainable development as one of the main stakeholders we need to consider are vulnerable populations and future generations in ensuring climate justice (Mollendorf, 2015)

The paper by Ray Ison (also a Past President of ISSS) and his co-authors Kevin Collins and Ben laquinto suggests a way to transform the dissemination of research findings from a linear model of innovation to one based on praxis or 'theoretically informed practical action for innovation and change' (Ison et al. 2021, p. xx). The authors feel that this modality of research practice could support the implementation of UN SDG goals. They report on a systemic inquiry carried out with practitioners in the Australian urban-water sector out in that contributed to social learning as an example to illustrate their arguments. Their inquiry is based on a holistic multi stakeholder approach drawing on systems theories, similar to those advocated by Jackson in this special issue to carry out critical systems practice. The authors have used three conceptual platforms in designing their inquiry: learning theories and designed learning systems, systemic inquiry, and social learning. Their approach was guided by the work of Wenger (1998) on community-of-practice which resonates with the article on Systems Thinking Round Table by Sue Gabriele in this issue and promotes social learning as a way of dealing with issues of sustainable development based on Lave & Wenger (1991). The authors also suggest that systemic inquiry can serve as a meta-process to that of programmes and projects (Ison, 2017) and this links to the paper by Sankaran et al. in this special issue which investigates projects and programs in the light of sustainable development. The paper gives a detailed account of the systemic inquiry that can be replicated in other situations dealing with policy issues to support sustainable development. The authors advocate that theory and practice should work together and encourages researchers to actively engage in collaborative learning with practitioners to support transition management (Loorbach & Rotman, 2010). The paper by Sankaran

et al. in this special issue also discusses how project management can transition to the societal level demands for sustainable development and the praxis-based research practice advocated by Ison et al. could help with that transition by engaging in theoretically informed practical action.

The article by Rika Preiser and her co-authors from Stellenbosch University (where ISSS 2020 was to be held) and the Stockholm Resilience Centre proposes that to implement sustainability transitions and a just Anthropocene future new ways of engagement to foster systemic thinking to act is needed. They suggest that we need to change our ideas about traditional change management and move towards cultivating a consciousness towards a shared future that could lead to creating transformative spaces to engage in processes of co-exploration. This paper links to the ideas proposed by Ison et al. in this special issue in calling for transformative spaces using facilitated processes to create novel modes of engagement. The authors argue that in a world that is getting faster and becoming more complex and interconnected we need to realise that it is not under control anymore and we are at a precipice urging that different ways of approaching sustainability issues is urgently needed. They suggest that we need to rethink concepts such as resilience, development and change wearing a complex adaptive systems lens realising that multiple feedback loops occurring at different scales can create intended and unintended consequences. Moving away from traditional view on managing change could help us to see the role of small pockets or niches of innovation to trigger transformative change. This also reflects the transition of project management discussed by Sankaran et al. in this special issue as several niches supported by sociotechnical regimes can create change to cope with societal transitions. The article also points out that divergent views and values need to be considered in facing sustainability challenges in the context of African nations and other cultures that may have a different view on issues of sustainability. The authors advocate convening transformative meeting spaces for people to engage in dialogue and immersive learning journeys similar to the Systems Thinking Round Table described in an article by Sue Gabriele in this special issue. The authors also suggest that the role of researchers needs to change from being knowledge producers but to become process facilitators and echoes the views Ison et al., 2013 and the article by Ison and his coresearchers in this special issue. The authors argue that relational outcomes from participatory processes of co-exploration can promote transdisciplinary sustainability research (Schneider et al., 2021).

The article by Gerald Midgley and Erik Lindhult takes us through two journeys. One on innovation studies and the other on systems sciences and systems thinking. The development of innovation theories from technological innovation to innovation ecosystems has led to an understanding of non-technological social and organizational innovations (Tidd and Beasant 2013). The authors feel that the systems thinking field has not placed a lot of emphasis on innovation and a conversation between systems and innovation scholars is needed to foster systemic innovation. After studying five different strands from the systemic innovation literature, they suggest that viewing systemic innovation as a process that involves people thinking in terms of systems can take us to the next level of theory and practice. The authors suggest that by conceiving systems as 'systemic praxis' where people dynamically and interactively engage in theorizing as well as practical action could help to transform situations to enhance value (Colvin et al., 2014). This is in line with participatory engagement processes advocated by both Ison et al. and Preiser et al. in this special issue. The authors also emphasise the importance of making boundary judgements to highlight the importance of marginalization in developing innovation systems together that resonates with the point raised by Preiser et al. in this special issue to consider values of marginalised populations. The authors offer a new conceptualization of systemic innovation to help innovators use systems concepts and practices to co-create new value with their stakeholders. They also leave the readers with areas for future research that could contribute to systemic innovation theory and practice. The systemic innovation process developed through this article can assist in creating systemic change towards sustainable development.

The article by Janet McIntyre Mills urges us to embrace all living systems including humans, animals, plants, and the earth for anthropocentric social, economic, and environmental decision making to respect all living systems. The author argues that the root cause of climate change, pandemics, poverty, and conflict are interrelated and that non-anthropocentric rights need to be considered so that we show responsibility and accountability towards future generations. This is also emphasised in Jackson's article in this issue that asks us to consider future generations in our consideration during the *Explore* stage of Critical Systems Practice. The author argues that current ethical frameworks are inadequate to protect the biodiversity in which we live. McIntyre-Mills proposes that the way forward for humanity to extend the idea of property rights to multiple species in our lands and develop an Ecocide law. The author points out that the Covid-19 pandemic has highlighted how cross species infections can become more prevalent as human beings are encroaching on the habitat of wild animals like bats (Goodall, 2020). The author suggests that a long-term sustainable approach is needed as more intensive forms of agriculture, mining, and urbanization at the expense of the habitat poses an existential threat. This is similar to the view expressed by Preiser et al. in this special issue that we are at the precipice and concerted action is needed. According to McIntyre-Mills this requires us to adopt a multispecies endeavour with a shared habitat beyond an anthropocentric view of climate change and working towards a sustainable planet

The article by Roelien Goede turns us toward sustainability of business intelligence systems, used in strategic decision making in organisations, and urges designers of such systems to consider multiple perspectives in any organization where such systems are being developed based on available data. The author argues for a critical (Kantian) systems perspective to help us to develop a right system. The author argues based on the Kantian systems (Kant & Guyer 1996), ideas of Ulrich in Critical Systems Heuristics (1983) and Habermas on knowledge production (1971). The idea that multiple perspectives need to be considered in any endeavour, whether it is hard or soft systems resonates with the articles of Jackson, Ison et al., Presier et al. and Midgley et al. in this special issue who advocate considering multiple perspectives.

The article by Sankaran, Jacobsson and Blomquist uses the work carried out by scholars of the Sustainable Transitions Research Network (Geels, 2002; Markard, 2017) to examine the evolution of project management through two periods. The premodern period when projects were implemented before project management was recognised as a profession on its own and the modern period when it has become a recognised profession. The purpose of doing this is to predict if project management which has traditionally delivered initiatives with when the goals of the project and methods to be used were quite clear to deliver sustainable development initiatives in a volatile, uncertain, complex, and ambiguous state we find ourselves to achieve global sustainability. The authors have traced the transition of project management as a management innovation as opposed to a technology innovation that has addressed societal needs since prehistoric times through technological niches that have been supported by socio technical regimes to meet changes at the landscape level using the multilevel perspective of sociotechnical transitions. They propose a conceptual model for current project management practices to move to sustainable project management and use the multilevel perspective to predict how this evolution is likely to occur. Their article resonates with other article in this issue Ison et al. on theory informed action can help project management to transition to sustainable projects management.

Thus, we have a collection of articles that extend from theory to practice and real examples to allow readers to embrace strategies to develop innovative and integrative approaches towards systemic change towards sustainable development.

The guest editors would like to thank all the authors who contributed articles to this special issue as well as all the reviewers who gave them useful feedback to improve their articles.

We hope that you will read these articles, or at least those that interest you, to help you with your own practice to contribute to global sustainability.

The guest editors would also like to the Editor of SRBS, Professor Amanda J Gregory and her production team headed by Ms Arthchelle Apuya for working with a tight schedule to produce this special issue.

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