

## **Preface**

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### **Rita Senise\***

Tekinnova Nordic AB,  
P.O. Box 56023, SE-12017, Stockholm, Sweden  
Email: ritasenise@tekinnovanordic.com  
\*Corresponding author

### **Ricardo Yogui**

AGI/PUC-Rio,  
Ed. Cardeal Leme – 12o andar,  
Rua Marquês de São Vicente, 225, Gávea,  
22451-900 Rio de Janeiro, RJ, Brazil  
Email: yogui@puc-rio.br

### **Jorge Arbache**

Sector Privado CAF  
Av. Canaval y Moreyra 380  
piso 13 Lima 27, Peru  
Email: jarbache@caf.com

### **Jacob S. Paulsen**

Embaixada da Suécia/Sveriges Ambassad,  
SES – Av. das Nações, Quadra 807, Lote 29,  
70.419-900, Brasília-DF, Brazil  
Email: jacob.paulsen@gov.se

### **Mira Kajko-Mattsson**

KTH/EECS/SCS,  
Electrum 229, SE-164 40 Kista, Sweden  
Email: mekm2@kth.se

**Biographical notes:** Rita Senise is a consultant, researcher, sustainability theorist, and S&T analyst. She holds a PhD in Technology (Dr. Tech.) from Royal Institute of Technology (KTH), Sweden. She is an Expert for EU COST (European Cooperation in S&T/EU RTD Framework Programme). She has conducted northern-emerging market studies and research, which investigate the transition path, foresight linkages, and methods in innovation system for sustainability in selected case studies. As consultant, she offers tailored advice to multinationals in sustainability and science-based targets (SBTs), environmental and health compliance, circularity and sustainable development goals (SDGs).

Ricardo Yogui is a Professor of Industrial Engineering Department and member of the Innovation Agency at PUC University of Rio de Janeiro (PUC-Rio, Brazil), and a Guest Professor at the Fundação Getúlio Vargas (FGV) and Ibmecc Business School. He is the author of *Innovation Framework©Open Model for Innovation Strategic Planning*. He has been acting as facilitator to guide and support practice-led innovation networks through Swedish and Brazilian triple helix innovation actors, named industry, academy and government. He collaborates with innovation think tanks such as ECOA/PUC-Rio, Fortec, ANPEI and Business Innovation Network (BIN).

Jorge Arbache holds a PhD in Economics. He is the Vice President for Private Sector at the Development Bank of Latin America (CAF). Previously he was the Secretary of International Affairs of the Ministry of Planning, Development and Management, Brazil. He was also the chief economist in the Ministry of Planning, senior economic advisor to the Brazilian Development Bank (BNDES), and senior economist at the World Bank in Washington, DC. He is a Professor of Economics at the University of Brasilia with more than 28 years of experience in the areas of government, academia, international organisations and private sector.

Jacob S. Paulsen is the Director of the Science and Innovation Section at the Embassy of Sweden in Brazil. He holds a PhD in Civil Engineering from Royal Institute of Technology (KTH). He was a former project manager at the Swedish Standards Institute (SIS), the Nordic Swan Ecolabel, and senior research officer at FORMAS (The Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning). He represented Sweden in the European Research Area (ERA)-net for cooperation along with 21 countries. From 2012 to 2016, he was a Visiting Professor at the University of Brasilia (UNB).

Mira Kajko-Mattsson is an Associate Professor in software engineering at School of Information and Communication Technology at KTH Royal Institute of Technology. Her expertise lies in industrial lifecycle software processes. She is an active member of SEMAT (Software Engineering Method and Theory) as a co-creator and co-founder of a newly accepted software engineering OMG standard, called Essence, establishing a basis for software engineering theory.

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It is our great pleasure to introduce a selection of articles published in this special issue under the title ‘Innovation, technology and sustainability: Brazilian and Swedish experiences’. It is devoted to the Brazilian and Nordic practices, particularly that of Sweden, encompassing empirical and multidisciplinary work, and exploring comparisons, contrasts, and cooperation between the regions. The focus is on research of innovation strategies and methods in the scope of advancing science, technology and innovation (STI) for Sustainable Development Goals (SDGs) of the UN 2030 Agenda.

This special issue is a pioneering initiative supported by the *Swedish-Brazilian Research and Innovation Centre (CISB)*, bringing together leading experts on their experiences of meaningfully engaging in research and evaluation. This collection of articles shares multidisciplinary studies in open innovation, innovation and triple helix in aerospace systems, innovation financing case studies and performance measures, ICT cutting-edge research, and sustainability empirical analyses. The authors include researchers from the Brazilian Army’s Technological Innovation and Management Agency (AGITEC), the University of São Paulo (USP), the Federal University of Paraná

(UFP), Federal University of Minas Gerais (UFMG), and the Royal Institute of Technology (KTH, Sweden). Articles are summarised as follows.

Frederico Coelho, Lourenço Araújo, Murilo Menezes, André Barbosa, Vinícius Silva, Carlos N. Silva, and Paolo Monti presented the work emerged from the academic cooperation between the Computational Intelligence Lab at UFMG, Brazil, and the ONLAB Laboratory of the KTH Royal Institute of Technology, Sweden. Through COGNET data, a project funded by the European Community, the authors developed studies on the association between mobile data and energy consumption load curves.

Ligia L. Fernandes, Giselle F. Rosa, Leonardo O. Araújo and José L. Andrade Jr. discussed the technological innovation applied to the defence industry. They provided analysis of the Brazilian Army use of the triple helix model and open innovation as cooperation models in research in order to generate innovation. Accordingly, the focus is on the Army's Open Innovation Arena case inspired on the Swedish triple helix model.

Matheus L. Borges, Izabel Zattar and Marcel Matsuaki analysed innovation criteria for the selection process of micro, small and medium enterprises projects in the Inovacred Program from the Financing of Studies and Projects (FINEP), one of the main Brazilian institutions responsible for financing innovation. Results show two proposals for innovation criteria based on recommendation of experts from agencies accredited to Inovacred.

Kleber Celadon and Roberto Sbragia investigated collaborative practices and professional cultures that influence open innovation. Results are expected to contribute to the management literature and practitioners. In-depth case studies were conducted in two different expatriate groups, Embraer Brazilian workers (at Saab in Sweden) and Kuhn-MB in Brazil, in order to investigate their collaborative practices and professional cultures.

Brazil and Sweden have intensified their cooperation dialogue at Science and Technology transfer multilateral level, beyond the economic field and qualified investments. Existing bilateral agreements focus also on the joint activities as the Sweden-Brazil Innovation Weeks, an annual umbrella activity for Swedish and Brazilian actors in the STI area. The contributions of this special issue to the Brazilian and Swedish collaboration highlight different facets: from disseminate research findings aligned with Sweden and Brazil experiences, to provide scientific issues for the strategic partnership within the areas of STI. This issue is of interest to scholars, decision-makers at research organisations and government agencies, industry and enterprises undertaking applied research and development to drive innovation.

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