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## **PANEL 3: PRACTICING WHAT WE PREACH? REFLECTING ON ENVIRONMENTALLY SUSTAINABLE RESEARCH PRACTICES OF THE IS COMMUNITY**

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## **PRACTICING WHAT WE PREACH? REFLECTING ON ENVIRONMENTALLY SUSTAINABLE RESEARCH PRACTICES OF THE IS COMMUNITY**

*Panel*

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### **Abstract**

Over the past decade, research on IS solutions for environmental sustainability evolved and produced a modest but firm body of knowledge. Despite this progressive understanding about ICT's solution potential for environmental sustainability, our research practices seem widely unaffected by these insights. Most of us travel by air for work several times a year, to conferences, research stays, or guest lectures. Our community meetings do not seem well aligned with ecological goals. We research and apply technologies, such as blockchain or artificial intelligence, without sufficiently acknowledging the enormous amounts of energy they consume. It raises the fundamental question: Do we practice what we preach? While recognizing the good intentions IS research pursues, should we no longer ignore the environmental 'elephant in the room'? In this inclusive panel discussion, we openly debate these issues. Thereby, we intend to capture the status-quo of the sustainability of our research practices and develop recommendations on how to improve it and ways of measuring the carbon footprint of some key activities.

*Keywords: Environmental sustainability, Research practices, Conference practices, Panel.*

## 1 Introduction

Over the past decade, the Association for Information Systems (AIS) has promoted the research of IS for environmental sustainability. Within the institutional frame of special interest groups (SIG) (e.g., SIGGreen and SIG ICT4D), association-wide initiatives (e.g., Bright ICT Initiative or Sustainability Task Force), conference tracks, and journal special issues (Elliot and Webster, 2017; Gholami *et al.*, 2016; Malhotra, Melville and Watson, 2013), research on IS solutions for environmental sustainability evolved and produced a modest but firm body of knowledge (Sedera *et al.*, 2017) covering a substantive range of application domains, such as energy, mobility, and organizational work practices.

Despite this progressive understanding about ICT's solution potential for environmental sustainability, our research practices seem widely unaffected by these insights. Most of us travel by air for work several times a year, to conferences, research stays, or guest lectures. Our community meetings do not seem well aligned with ecological goals. We research and apply technologies, such as blockchain or artificial intelligence, without sufficiently acknowledging the enormous amounts of energy they consume.

Some fundamental questions arise: Do we practice what we preach? How much integrity and credibility does our research on IS for sustainability hold, if we do not practice sustainability ourselves? What can we change in our research practices to make them more sustainable in the future? Where can we find compromise, where not?

While we fully acknowledge the good intentions that our community pursues with its research, we should no longer ignore the environmental 'elephant in the room'. In this panel discussion we openly and respectfully debate these issues. We want to create a space for sharing our experiences, concerns, and wishes on various domains of our research practices. Thereby, we intend to capture the status-quo of the sustainability of our research practices including ways of measuring the carbon footprint of some key activities and develop recommendations on how to improve it.

## 2 Panel Structure

The panel is opened by a quick summary of existing knowledge on the topic of sustainable research practices (see Section 2.1)—setting the stage for the next 90 minutes of reflection and debate—and then follows three guiding questions (see Sections 2.2 to 2.4). These questions aim at both sides of the coin: the environmental costs and benefits of conducting IS research. The first two questions steer the panelists towards reflecting on how their personal research practices affect the environment and how this situation can be improved. The third question closes the panel by reflecting on the societal impact of existing and future IS research and how to increase its impact.

### 2.1 Why we should care about sustainable research practices (5min)

Researchers carry an above-average carbon footprint of which roughly two-thirds are caused by air travel (Fox *et al.*, 2009; Le Quéré *et al.*, 2015). With a yearly average of 2-3 trips per person, researchers fly 5-6 times more often than a regular UK employee (Le Quéré *et al.*, 2015; Stohl, 2008). Even though data about the environmental effects of research practices is scarce and biased towards research fields from the Environmental Sciences discipline, it is reasonable to assume that other research disciplines—including IS research—exhibit similar emission patterns (Fox *et al.*, 2009).

In response, scientists might counter that they represent a biased sub-group within the population of the world (Spinellis and Louridas, 2013) and that—especially for scientists involved in sustainability-related research—there might be long-term paybacks that could far outweigh the initial carbon expenditures (Attari, Krantz and Weber, 2016).

This opening section is designed to briefly set the stage for the panel. It shall create awareness among the audience and invites the panellists to introduce themselves and voice their opening statement.

## 2.2 How do IS research practices affect the environment? (25min)

Drawing on existing literature about the environmental impact of research (Le Quéré *et al.*, 2015; Rosen, 2017), we suggest the following two categories to guide the panel in debating how IS research practices affect the environment: research conferences and research methods. However, the panel is open for other categories that might emerge during this panel section.

In 2008, a conference trip caused on average approximately 800 kg CO<sub>2</sub> travel emissions, which equals 7% of an average individual's total CO<sub>2</sub> travel emissions per year (Spinellis and Louridas, 2013). In addition to travel emissions, there are other practices, such as lodging and catering, that might further render conferences environmentally unsustainable. Together with the panellists and the audiences, we want to reflect on IS practices considering the question: *How do IS conference practices affect the environment?*

IS research methods become increasingly data intensive (Berente, Seidel and Safadi, 2019). Processing of large data sets emerges as an important part of our daily business. Simultaneously, recent evidence from natural-language processing research highlights the so far widely neglected carbon footprints of common artificial intelligence models, which particularly explode during finetuning for accuracy (Strubell, Ganesh and McCallum, 2019). We sense a general sustainability issue of data and computation-intensive methods—not only in research—and pose the following question to the panel: *How do IS research methods affect the environment?*

## 2.3 How can we make IS research practices more sustainable? (45min)

After collecting and evaluating effects of IS research practices on the environment, this section of our panel turns towards improvement potentials that might render these practices more ecological. Remarks and challenges identified in previous sections are picked up and used as cues to spur a creative exercise.

Pondering our very own practices, it is oftentimes not easy to decide *where to draw the line between well justified and poorly justified reasons for sub-optimal ecological behaviour* (Fox *et al.*, 2009). Shall we turn down invitations to keynotes or guest lectures only because of associated emissions? Shall we forego a panel on sustainable research practices as AIS asks panellists from around the world to attend a conference in Marrakech? It seems there is no black or white decision. We invite our panellists and audience to share their decision-making processes and explore possible heuristics that might serve as general guides to our work choices.

Over time, sustainable IS research has generated a notable body of knowledge investigating various ICT solutions that can afford organisations and individuals in reducing their carbon and waste emissions (Sedera *et al.*, 2017). Such solutions can range from environmental indicator reporting (e.g., printing paper consumption) affording sustainable sensemaking to work virtualization (e.g., video conferencing) affording sustainable practicing (Hanelt, Busse and Kolbe, 2017; Seidel *et al.*, 2018; Seidel, Recker and vom Brocke, 2013). But *why do we not use these ICT solutions, which have been researched and found to be good, more frequently to make our own work practices more environmentally sustainable?*

In this issue, we want to steer the panel towards a positive, creative, and inclusive dialogue. Debating change of routines conjures defensive attitudes that tend to focus on possible drawbacks. Therefore, we set out to carefully craft an open debate considering drawbacks as well as unexpected advantages, which might be frequently overlooked. Alternatives to current unecological conditions are put forward and discussed in the light of their associated costs and benefits. The objective is to synthesise a list of educated and feasible recommendations *how to make IS research practices more sustainable*.

## 2.4 How can we increase the societal impact of sustainable IS research? (15min)

After discussing the sustainability of our own work practices from a rather admonishing perspective, we close the panel with more encouraging reflections. Acknowledging the modest but firm contributions of IS research on sustainability over the past decade, we want to explore with the panel *how to increase*

*the societal impact of existing and future IS research on environmental sustainability.* Instead of asking “do we practice what we preach?”, we look at “how do we preach?” and “do we preach enough?”

In this closing issue, we are interested in scientific practices that go beyond the rigorous generation of relevant knowledge on IS and sustainability. *How can we communicate our findings better? How can we increase the chances that the knowledge we created becomes embedded in societal debates and, eventually, finds its way into policies and daily routines?* To address these questions, we invite the panel to ponder about the heterogeneous audiences—ranging from scholars to managers, policy makers, and our own students—that research on IS for sustainability must speak to and whose positive and negative reactions it must face. On the one hand, these questions aim at triggering reflections on teaching and policy advisory practices; on the other hand, they point towards more fundamental and debatable questions on *how normative and political the stance of researchers might become.*

### **3 Debated Issues**

Prior to the panel at ECIS 2020, the panellists were supplied with the literature referred to in this panel proposal to help them embed into the overall debate. Additionally, they separately prepared statements representing their positions towards the three debated issues. These statements were openly coded to identify converging and diverging positions ahead of the panel.

While all panellists agree on the relevance of sustainable research practices, they put forth different ideas on how to achieve this objective. We see two sides emerging in our panel: Panellists on the one side take a more liberal position calling for incentive-based change approaches and voluntary commitments. Panellists on the other side take a more normative position calling for rigid guidelines and a top-down “greening” of IS research.

Many responses in the preparatory statements revolve around the notion of virtualized conferences and daily work practices (e.g., meetings). For some panellists, physical presence cannot be replaced by virtual conference systems, especially when it comes to informal networking. Others clearly advocate the ‘electronic reinvention of traditional conferences.’ The panel will further explore the advantages and disadvantages of electronic conferences and intends to find potential compromises.

The panellists diverge in their opinion on how drastically or binding potential rules and principles shall be, and which stakeholders (e.g., AIS, universities, researchers) shall design and control these rules, if at all. While the panellists find it non-trivial to decide when to physically attend a conference due to the absence of general heuristics that help mediate the partially conflicting personal and ecological interests, the majority of the panel rejects binding rules in the face of academic and individual freedom. The panel discussion aims at exploring potential heuristics, rules and governance structures further.

A last debated issue emerging from the coded responses refers to the compatibility of existing incentive and evaluation schemes (e.g., the UK Research Excellence Framework) with increasing expectations concerning societal and political engagement. While some panellists state that evaluation schemes still lack performance measures in terms of societal impact, others point to existing impact case studies that have been successfully acknowledged by current research evaluations frameworks. Yet, others claim that the IS research community still insufficiently rewards researchers who study problems with a societal impact. How measures mitigating this insufficiency could look like, and how the IS community can successfully balance both worlds, will be discussed further in the panel.

### **4 Panel Organization**

Johann Kranz will serve as the panel moderator. His purpose is to guide the debate alongside the above-mentioned issues and questions. He will facilitate interaction with the audience by opening the debate for questions and remarks. Furthermore, remote audience members will be able to post their questions and remarks during the panel. Roman Zeiss will serve as facilitator of the video stream and online commentary functionality.

## 5 Panellists

The following panellists have made a commitment to serve on the panel.

**Roman Beck** is a Full Professor within the BusinessIT department at IT University of Copenhagen. He is Head of the European Blockchain Center. As Blockchain economist, his research focuses on the role of changing nature of work due to Blockchain with focus on governance and value creation in decentralized systems. He is Head of the Danish ISO TC 307 Blockchain & Distributed Ledger Technology standardization group and Convenor of ISO TC 307 WG5 Blockchain Governance standardization. He represents Denmark at the European Blockchain Partnership Technical Working Group in Brussels and is member of the OECD Blockchain Expert Policy Advisory Board.

**Roya Gholami** is a Full Professor at NEOMA Business School. Prior, she has worked at University of Illinois (US), Carnegie Mellon University (US), Aston University (UK), and National University of Singapore. She has published and presented papers in international journals, refereed conferences, and book chapters in areas of IT Value (economic, environmental, societal), IT Adoption and Diffusion, and IT for Development. She has initiated a special issue on “IS Solutions for Environmental Sustainability” in *Journal of Association for Information Systems*, served as ad-hoc Associate Editor for *MIS Quarterly* and been involved in editorial review board of a few journals, special issues and books such as special issue of *MIS Quarterly* on ‘Co-creating IT Value: New Capabilities and Metrics for Multi-Firm Environments’, *Journal of Information Technology for Development*, and *International Journal of Information Systems and Social Change*.

**Saonee Sarker** is the Rolls Royce Commonwealth Commerce Professor, and Professor of IT at the McIntire School of Commerce in the University of Virginia. She also serves as the Senior Associate Dean at McIntire. Her publications have appeared in outlets such as *MIS Quarterly*, *Information Systems Research*, *Journal of Management Information Systems*, *Journal of the Association of Information Systems*, *Decision Sciences Journal*, *European Journal of Information Systems*, *Decision Support Systems*, *MIS Quarterly Executive*, and *Information and Management*, among others. Her research has also been funded by the National Science Foundation (NSF). In the past, she has served as an Associate Editor at *MIS Quarterly*, *Decision Sciences Journal*, and *Communications of the AIS*, and has received the Outstanding Associate Editor award at both *MIS Quarterly* and *Decision Sciences Journal*. She currently serves as a Senior Editor of *MIS Quarterly*.

**Richard Watson** is a Regents Professor and the J. Rex Fuqua Distinguished Chair for Internet Strategy in the Terry College of Business at the University of Georgia. He was Research Director for the Advanced Practices Council of the Society of Information Management for nearly a decade and is a former President of the Association for Information Systems. In 2011, he received the Association for Information Systems' LEO award, which is given for exceptional lifetime achievement in Information Systems. As a visiting researcher at the Research Institute of Sweden (RISE) Viktoria in Gothenburg, he is engaged in establishing and applying Maritime Informatics to the European shipping industry. The University of Liechtenstein has established with government support a Center for Digital Capital Creation based on the ideas in his recent book, *Capital, Systems, and Objects*. He is on the editorial board of *Energy Informatics* and the Information Systems department editor for *Management & Business Review*, both new journals.

**Edgar A. Whitley** is an Associate Professor (Reader) in Information Systems in the Department of Management at the London School of Economics (LSE) and Political Science. Edgar has a BSc (Econ) and PhD in Information Systems, both from the LSE. He is the co-editor of *Information Technology and People*, Senior Editor for the *Journal of Information Technology* and the *AIS Transactions of Replication Research* and an Associate Editor for the *Journal of the AIS*. He has served as research co-chair for the European Conference on Information Systems, track co-chair for the International Conference on Information Systems and was previously an associate editor for the *European Journal of Information Systems* and *MIS Quarterly*. He is an AIS distinguished fellow Cum Laude and a recipient of a 2019 Excellence in Education award at LSE.

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