Is the Smart City losing traction – and what may come next?

Wednesday 6 December - Thursday 7 December, Radisson Blu Atlantic, Olav V'S Gate 3, 4002 Stavanger, Norway.

Programme

Programme Schedule:

Wednesday December 6

	Room Kannik/Sølvberg/Valberget	Room Kjellandsalen
08:30 – 09:00	Registration	
09:00 – 09:30	Welcome	
09:30 – 11:30	Keynote Panel 1	
11:30 – 12:30	Lunch	
12:30 – 14:00	Session A-1 Upscaling energy flexibility as communities	Session A-2 Beyond Smart Mobility
14:00 – 14:30	Coffee Break	
14:30 – 16:00	Session B-1 Wireless communication for smart cities	Session B-2 Democracy and Inclusion
17:00 – 19:00	Reception at Innoasis, Sverdrupsgate 27, 4007 Stavanger	

Thursday December 7

	Room Kannik/Sølvberg/Valberget	Room Atlantic Hall
08:30 – 09:00	Registration	
09:00 – 10:30	Session C-1 Nature based solutions and green infrastructures	Session C-2 Justice in the Smart City
10:30 – 11:00	Coffee Break	
11:00 – 12:30	Session D-1 Data and Datafication in Smart Cities	Session D-2 Collaborative innovation and experimentation towards sustainability transitions
12:30 – 13:30	Lunch	
13:30 – 15:30	Keynote panel 2	

*See keynote and panel abstracts on pages 3-10

Keynote Panel 1 (Kannik)

Moderator: Anders Riel Müller, University of Stavanger

Spaceship in the Desert: Energy, Climate Change, and Urban Design in Abu Dhabi

Gökçe Günel, Associate Professor of Anthropology, Rice University

In 2006, Abu Dhabi launched an ambitious project to construct the world's first 'zero-carbon' city: Masdar City. This talk investigates the construction of renewable energy and clean technology infrastructures in oil-rich Abu Dhabi as the era of abundant oil supplies slowly comes to an end. It explores the production of Masdar City in Abu Dhabi and shows how the Masdar City project was instrumental for economic diversification in the United Arab Emirates, helping generate a green brand image. At the same time, it demonstrates how the renewable energy and clean technology infrastructures of Masdar City fueled an aspiration for the manageability of ecological problems, where business models and design solutions would contain and resolve climate change without surrendering hope for increasing productivity and technological complexity. The talk responds to the debates on whether Masdar City and its multiple infrastructures were successes or failures and examines the potential of evolving projects.

Dr. Günel's research focuses on how urban environments transform in the face of energy and climate change-related challenges. Her latest book 'Spaceship in the Desert: Energy, Climate Change and Urban Design in Abu Dhabi' (Duke University Press, 2019) focuses on the construction of renewable energy and clean technology infrastructures in the United Arab Emirates, concentrating on the Masdar City project. Currently, she is at work on a second book provisionally titled 'Energy Accumulation.' This book seeks to criticize the unilinear logics of the energy transition narrative by studying the emergence of a Turkish-built floating power plant in Ghana.

All that is digital melts into solid: The experience of smartness in Barcelona

Ramon Ribera Fumaz, Professor of Economic and Urban Geography, Internet Interdisciplinary Institute, Open University of Catalonia

This presentation critically reflects on the material urbanisation of contemporary Barcelona and its conflicting relationship with Smart City urbanism. To do so, I will explore the case of the 22@ innovation district, the so-called first publicly-lead innovation district project in the world, established in 2000. Built upon the post-industrial, working-class neighbourhood of Poblenou, the 22@ innovation district has been simultaneously the material laboratory, expression and realisation of Barcelona's Smart City and alternative digital imaginaries and strategies for the last 15 years: a strategic, public-private approach to engineering the smart city (2008-2010), a market-oriented approach to selling the self-sufficient city (2011-2015), and a radical 'new municipalist' approach to commoning the smart city (2016-2023). Looking at more than two decades of urban development, I will argue that besides the local efforts to control and produce a thriving digital economy ecosystem or alternative smart cities, dynamics of financialisation, assetisation, and the reproduction of specific supplies of labour-power have fused with supply-side urban entrepreneurial placemaking processes to produce a dystopian urbanism that has entered in crisis, is heavily contested and exposes the flaws of techno-deterministic promises of the Smart City.

Dr. Ribera Fumaz is the group líder of the Urban Transformation and Global Change Laboratory (TURBA) at the university's Internet Interdisciplinary Institute. His research explores the urban geographies of capitalism from an interdisciplinary perspective, particularly focusing on the spatial, technological and environmental dimensions of uneven development. His current interests focus on the political geographies of global urbanism, particularly the political economy of digital urbanism.

'We have never been smart': Reflections on the increased servicification of housing and the reinforcement of the material world by way of digitalization.

Maja de Neergaard, Associate Professor, Mobility, Space, Place and Urban Studies, Roskilde University

In my contribution, I draw on joint empirical research from Copenhagen and Stockholm about the way contemporary smart housing and dwelling is increasingly reliant on a host of services enabled and steered via digital platforms. The digitalization of housing takes many forms that range from minor applications such as voice assistants for simple, mundane tasks to fully purpose-built apartment buildings that are digitally managed and serviced. I discuss some of the 'classic', structural issues that smart housing raises, and include some of historical context to better unpack the phenomenon. In concluding I argue how the envisaged fluidity of automation of digitalized housing in fact reinforces multiple material, social, and natural domains. Throughout history, as Latour contends, people have always mixed together their social and natural environments in complex ways. As we enter post-smart times, there is plenty of testimony of how the digital era is no exception.

Dr. de Neergaard's current research explore smart cities and smart housing environments. The notion 'smart' has gained tremendous interest, and impact, during the past 15 years. It concerns the increased attention to use digital technologies and large datasets to automate much of our built environments and infrastructural systems. Often for the sake of creating more sustainable cities and living environments. Her research is concerned with how smart, or automation, meets cities and housing environments. What transformations take place? Do the promises hold? What are the struggles and challenges?

Keynote Panel 2 (Kannik)

Moderator: Jens Kaae Fisker, University of Stavanger

Democracy and the Age of Urban Artificial Intelligence: Thinking Relationally

Casey Lynch, Assistant Professor, Geography, University of Twente

Recent scholarship highlights the emerging importance of artificial intelligence (AI) technologies in imaginaries and plans of urban governance. Applications of 'urban AI' include various forms of autonomous transport, robots and chatbots for maintenance and social services, AI for urban planning and computer vision for urban data collection and analysis, among others. These developments often build on earlier smart city innovations, extending data collection and visualization into new analytical and decision-making functions. Critics have long argued that smart city logics are overly technocratic, turning key political questions of access, justice, and sustainability into technical problems. Observers worry that the rise of AI urbanism will compound this democratic

deficit while creating new concerns around the displacement of human labour and decision-making, perhaps even raising the prospect of 'autonomous cities' run primarily by AI. This presentation will argue that thinking critically about democracy in the age of urban AI requires a rethinking of many inherited assumptions about the nature of AI, including ideas of intelligence and autonomy. In particular, it will argue for a relational approach that traces the evolving cognitive and affective entanglements of humans and machines and recognizes the ways differently-situated urban subjects come to know and interact with AI systems in practice.

Dr Lynch is a digital, urban and political geographer. His work examines how processes of digitalization are materialized, territorialized, experienced, and potentially contested in cities. I aim to critique dominant processes of digitalization—in particular those based on surveillance, extraction, and corporate control—while also exploring alternative approaches oriented around social and economic justice and sustainability.

Urban realities of digital agendas: What's next after square one?

Constance Carr, Senior Research Scientist of Geography and Spatial Planning, University of Luxembourg.

It has been over five years now since the announcement that Sidewalk Labs was chosen to develop the lands along Toronto's waterfront. This not only crystallized fantasies of a digital paradises, but also sparked years of controversy that this development was a form of post-political power-brokering (Carr & Hesse, 2020/22) that characterizes privatizing urban governance strategies (Nelischer 2023) of the digital growth machine (Rosen & Alvarez León 2022). Turning the lens to the Seattle and Washington Metropolitan Areas where Amazon.com has its headquarters, one sees unaddressed social-spatial urban cleavages as corporate infrastructural and market control consistently takes priority. The outstanding question is therefore not a normative one about better digital futures, but (an older question) of how to deal with the urban trajectories resulting from state-supported corporate decision-making and how they might be better mitigated: What is next on corporate agendas? How will cities prepare or respond? How can this be predicted?

Dr. Carr's work has focussed on urban sustainable development practices, focussing on such issues as: planning contradictions in urban regions under growth pressure; emerging suburban or post-suburban spaces and the respective dilemmas therein; governance structures in small states; dilemmas in infrastructure provision (housing vs transport); and the degree to which urban sustainability endorses social exclusion. Currently,Dr. Carr is immersed into two projects that address contemporary urban problems underpinned by post-political, market-led development, and the condition that cities are increasingly corporatized.

Beyond the smart city: The political construction of technology-based economies in the urban field

Ugo Rossi, Professor of Economic and Political Geography, Gran Sasso Science Institute.

In my contribution to the panel, I analyse the key role of the state and the 'strategic urbanization' of its conduct in the construction of tech-driven economies in the 'urban field' at the time of techno-monopoly capitalism. I focus on what I define the 'corporatized state' as the legacy of the smart-city era. Drawing on my field research, I explore the rise of the corporatized state in urban economies,

highlighting the move beyond the competition state of the earlier phase of post-Fordist capitalism. In particular, drawing on my empirical research on the Apple Academy in Naples, I highlight the performative dimension of state intervention in the age of techno-monopoly, as I define it. In doing so, I show how technology-based urban economies are strategically constructed through a performative politics involving both the local and the national states, based on acclamation practices and other collusive engagements with corporate elites.

Dr. Rossi's research focuses on urban and regional development from a perspective of critical and radical human geography. He is interested in technology-driven urban economies and their societal governance, having conducted field research in recent years on smart-city strategies, start-up urbanism, platform labour, and tourism-driven urban revival. His research also engages with progressive experiments in local politics, particularly from the perspective of the urban commons and new municipalism. At the regional level, his work prioritises the standpoint of the 'southern question', looking at the ways in which the peripherality, marginalisation and abandonment of the southern regions of Italy and Europe are constantly reproduced over time.

Parallel Panel Sessions

Panel Sessions A:

Parallel Session A-1: Upscaling energy flexibility as communities (Kannik)

Twin transitions of digitalisation and decarbonisation through electrification need energy flexibility solutions. And to meet the sheer urgency and quantum of energy transition needs, energy flexibility solutions need rapid upscaling. What if the answer to this challenge lies in communities, and if the answer can even help fix the longstanding inequities rampant in society? For some, that's a terrifying thought. For others, a utopia. For us, it is a topic worth discussing, based on years of work with research projects to collaborate internationally on these themes!

Panellists:

- Mathias Lindkvist, postdoc, RESCHOOL, University of Stavanger
- Kristjana Shkembi, ENERTOWN, University of Stavanger
- Maja de Neergaard, Roskilde University

Moderator: Siddharth Sareen University of Stavanger/University of Bergen

Parallel Session A-2: Beyond Smart Mobility (Kiellandsalen)

What does the smart city concept mean for urban mobility? And to what degree do smart mobility initiatives overlap with other prevailing objectives in sustainable urban mobility planning, such as transit-oriented development, accessibility, reduced car dependency, improved public and soft travel, travel behaviour change, improved public health, active aging, justice, and quality of life and travel?

The panel represents research topics extending mobility beyond the aim of moving people around with innovative transport technology but rather a means of access. It addresses topics such as climate neutrality and environmental impact, health perspectives, and mobility justice of access, and equality of accessibility. We will discuss the potential and effectiveness of different measures that aim at more sustainable urban mobility, underlying motivations and barriers, as well as how to move the mobility paradigm from transport to accessibility.

Panel presentations:

- '**What implications does the smart city paradigm have for urban mobility?**' Morten Loe Ryen, University of Stavanger
- 'The role and potential of cycling for sustainable mobility in Nord-Jæren.' Ray Pritchard, NORCE
- 'How can health be a motivator for change in commute travel?' Ayda Jouvadi, University of Stavanger
- 'The role of new mobilities and technology among young elderly urban travellers.' Daniela Müller-Eie, University of Stavanger.

Moderator: Daniela Müller-Eie, University of Stavanger

Parallel Sessions B:

Parallel Session B-1: Wireless communication for smart cities. (Kannik)

Wireless technology is crucial in developing and implementing innovative city initiatives, from autonomous vehicles, intelligent buildings, and public safety to traffic management. This panel discusses the technology revolution and the implementation challenges of transforming smart cities in practice. Lastly, we discuss upcoming use cases that can be implemented in the future smart city.

Panel Presentations

- 'Wireless Technology Revolution for Smart City: the promises and the pitfalls' Annisa Sarah, 5G-MODaNeI project, University of Stavanger
- 'Wireless Communications for Tunnel Safety', Aitor Martin Rodriguez, Kapasitetsløft Tunnelsikkerhet (KATS) Project, University of Stavanger
- 'Public Networks to Serve Smart City initiatives', Tore Kristoffersen, Project lead Private 5G, Lyse AS/Ice Communications

Moderator: Steinar Meiling, Nordic Edge

Parallel Session B-2: Democracy and Inclusion (Kiellandsalen)

Smart city projects have in recent years experienced a turn to participatory methods in order to make these projects more democratic and inclusive. This is also the case in Stavanger. What are some of the experiences with participation, what have we learned and where should we focus in the future?

Panel Presentations:

- 'Energy justice and democracy as an abductive inquiry.' Kristiane Lindland, University of Stavanger
- 'Participation and transformation in urban contexts.' Thomas Macintyre, University of Stavanger
- 'Children's participation in smart city planning.' Johana Montalvan Castilla, University of Stavanger

Moderator: Ramon Ribera Fumaz, Open University of Catalonia

Parallel Sessions C

Parallel Session C-1: Nature based solutions and green infrastructures (Kannik)

More than US$ 50 trillion has been invested globally in new urban infrastructures (buildings, green spaces, roads, drainage systems) by 2030. However, how such infrastructures can contribute to climate

adaptation and mitigation is still uncertain. Urban infrastructures sometimes contribute to environmental degradation in cities, including air pollution, flooding, and water contamination. Therefore, over the past few years, Nature-based Solutions (NBS) have been adopted as an effective approach to protecting, managing, and restoring city ecosystems. NBS aim to imitate nature in building the cities. NBS can provide over one-third of the cost-effective climate mitigation needed between now and 2030 to stabilize warming below 2°C, achieving nature's mitigation potential of 10-12 gigatons of CO2 per year.

Panel Presentations:

- 'Interlinking the silos: How to stimulate a new debate on more greenery in cities.' Mina Di Marino, NMBU.
- 'Biodiversity and Ecosystem Functions as Pillars of BioCities.' Hans Martin Hanslin, NIBIO
- 'Multifunctional green infrastructures: The critical aspect for making sustainable and liveable cities.' Maria Korkou, NINA and University of Stavanger.
- 'Bringing NBS knowledge to the future engineers: The experience of the BUILD project.' Ari Tarigan, University of Stavanger:

Moderator: Ari Tarigan, University of Stavanger

Parallel Session C-2: Justice in the Smart City (Atlantic Hall)

In recent years the right to the smart city has become a popular conceptual and political term extending Henri Lebfevre's famous concept of the Right to the City into the digital age. The right to the city is an explicit call for the just city, but what does justice mean in the context of Stavanger?

Panel Presentations:

- 'Towards analytical framework for studying complex spatial justice issues.' Jens Kaae Fisker, University of Stavanger.
- 'Are smart cities just cities? The contribution and prospects of social innovation.' Eleni Damopoulou, University of Stavanger
- 'Viewing the smart city through a Mobility Justice lens.' Morten Ryen Loe, University of Stavanger

Moderator: Maja de Neergaard, Roskilde University

Parallel Sessions D

Parallel Session D-1: Data and Datafication in Smart Cities (Kannik)

Datafication is the process of converting various aspects of life into digital data for analysis and informed decision-making. The drive towards datafication is rooted in a belief in the capacity of data to represent social life, sometimes better or more objectively than pre-digital (human) interpretations. Yet, in the context of cities many of the problems persist to exist. What is the promise

and limits to datafication. What kind of data do we need or is it data we need? And what about the ethical aspects?

Panel Presentations:

- 'Ways to improve city planning guidelines and regulations using data-based analytical tools.' Todor Kesarovski & Fabio Alberto Hernandez, University of Stavanger
- 'The grand technological promise and ethical dilemmas in Norwegian child welfare services: social workers' experiences and expectations' Hulda Mjøll Gunnarsdottir, University of Stavanger
- 'Data quality assessment in smart cities datafication.' Carl Chineme Okafor, University of Stavanger

Moderator: Casey Lynch, University of Twente

Parallel Session D-2: Collaborative innovation and experimentation towards sustainability transitions. (Atlantic Hall)

The panel session will explore the importance of collaboration, innovation, and experimentation in driving sustainability transitions through the role of regional actors. It will highlight the potential of collaborative approaches and novel ideas to address sustainability challenges and foster a transformative change in a regional context.

Panel Speakers

- 'Evaluation of urban climate change experiments.' Veronika Budovska Lorentzen:
- 'Does geography matter for a collaborative eco-innovation?' Xiangyu Quan, University of Stavanger
- 'Green start-ups and incumbent firms: Collaborating for sustainability.' Andra Riandita, University of Stavanger

Moderator: Anders Riel Müller, University of Stavanger

Co-organizers and partners: