**Research Sessions : “Evaluation Committee Selection”**

Plenary room August 22, 2018 1:30 pm - 3:00 pm

**[Dr. Anna Ståhlbröst](https://openlivinglabdays.com/speakers/dr-anna-stahlbrost/)**

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In the opening session of the Research Track, top 7 papers selected by the Evaluation Committee will be presented. These papers are

**Constraints on upscaling and social inclusion in smart city living lab experiments and ways to anticipate them: lessons from four “smarter” labs** by Francesca Cellina, Roberta Castri, Mario Diethart, Thomas Höflehner, Nicola Da Schio, Marc Dijk

**Category:** Research in-progress

**Abstract**

The ‘Smart City Living Lab’ is an emerging approach in European cities, referred to projects devised to design, test and learn from innovative socio-technical practices (i.e. ‘new ways of doing something’) in real-time and in urban contexts, with a diversity of stakeholders. However, successful implementation of new practices in the reality of LLs does not guarantee the large-scale adoption required to reach their full effect in resource efficiency. Also, there is a risk of exclusion of social groups not matching the required ‘smart citizen’ profile. Acknowledging such drawbacks, we focused on how to foster upscaling and avoid social exclusion, developing a novel approach that anticipates such problems, and testing it through ‘smarter’ LL experiments addressing mobility-related topics in four European cities. In this paper we summarize the key constraints we have identified and comment on the strategies we implemented in our Living Lab activities in order to cope with them.

***Keywords:*** *living lab; inclusion; upscaling; smart city; mobility.*

**Innovation Management in Living Lab projects: the Innovatrix Framework** by Dimitri Schuurman, Aron-Levi Herregodts, Annabel Georges, Olivier Rits

**Category:** Innovation Paper

**Abstract**

Despite being described as ‘orchestrators’ and innovation intermediaries, the Living Labs literature on concrete guidelines and tools for innovation project-related innovation management is scant. Within this paper, we propose the Innovatrix, an innovation management framework built upon existing business model and innovation management tools and frameworks and iterated based on practical experience in Living Lab projects. We illustrate its added value within three practical case studies that lead to three propositions regarding innovation management in Living Lab projects. First, Innovatrix helps to scope the user involvement activities, which leads to a more efficient use of resources. Second, Innovatrix forces the project owner to focus on a limited number of customer segments, which increases the efficient spending of the scarce entrepreneurial resources. Third, Innovatrix allows to capture the iterations and pivots that were made during an innovation project, which helps to link outcomes with certain Living Lab activities.

***Keywords:*** *Living Labs; Innovation Management; Business Modeling; User research; Assumption; Validation; Testing.*

**International Innovation Sprint Bridging the Sustainability Gap between Metropolitan Core and Peripheries** by Tuija Hirvikoski, Kaisla Saastamoinen and Mikael Uitto

**Category:** Innovation Paper

**Abstract**

Generally, RDI work takes place at the core of Metropolitan areas where the best innovation resources, Universities, and Research Institutions normally situate. At the same time, the periphery of Metropolitan that provides the core area with many vital resources can itself suffer from migration loss, brain drain, loss of jobs, and the many challenges related to ageing population and long distances or poor logistics. In this paper we aim to contribute to the discussions on the role of science, technology and innovation in society and particularly in making cities and communities inclusive, resilient and sustainable (UN SDG 11). We adopt perspectives and concepts from innovation literature and policy documents to introduce Innovation Sprint as an innovation intermediary tool. We explain how the sprints were designed and experimented first in Taiwan and then in Finland. In both cases, multidisciplinary and international Sprints were taken to a remote community to observe, understand, and then to co-create innovative solutions with and for the local stakeholders. We also discuss the ways the Sprint might bridge the sustainable development gaps between the urban, peri-urban and rural areas where the intensity of knowledge, technology, and monetary resources can vary substantially.

***Keywords:*** *Innovation Sprint; Living Labs; sustainability gap; science, technology and innovation in society; ICT solutions making cities and communities inclusive, resilient and sustainable*

**Learning with Community: Developing Citizen-Led Housing** by Shaofu Huang, Ruth Deakin Crick, Melissa Mean, Carolyn Hassan, Colin Taylor

**Category:** Research Paper

**Abstract**

Creating a flourishing city and delivering the Sustainable Development Goals in urban development is a complex challenge because of the interconnectedness between the different goals as well as the diverse perspectives and prioritisation of values among stakeholders. To navigate through this complexity and effectively orchestrate changes at the scales needed, innovation programmes have to be co-produced by and with stakeholders. Effective co-production requires mindful leadership and skilful facilitation. We introduce a learning framework which helps innovators and change programme leaders to facilitate an integrated approach to stakeholder engagement, so they can lead their project effectively and stimulate desired, community-led transformation. We examine the conceptual underpinnings of the framework, drawing from evidence in the literature about motivation and decision theories, co-production, learning, and resilient agency. We then describe how this framework has been developed in a case study of a citizen- led housing project in Knowle West, Bristol, UK and how the solution developed responds to the urban challenge themes of the Urban ID project: mobility & accessibility, health & happiness, equality & inclusion, carbon-neutral city, and environment & ecology. We highlight the importance of framing co- production as a learning journey and the need for the effective facilitation of both the behavioural processes of getting things done and the learning facilitation processes which enable people to change their minds and behaviours. These lead to the argument that mindful leadership in both thought and action and the development of a collaborative learning infrastructure are important success factors for coproduction in Living Labs.

***Keywords:*** *citizen-led housing, urban diagnostics, learning infrastructure, stakeholder engagement*

**Participatory software development via Living Labs: A case of Deajeon** by Hee-Sook. Yoo, Su-jin. Jung, Seong-gyu. Park, Miran. Cho

**Category:** Innovation Paper

**Abstract**

Over the past few years in Korea (Republic of Korea), demands for welfare policies to prepare for an aging society and to secure a social security have been grown. Responding to the growing needs of people, Korea Government is running the research and development (R&D) projects using Information Technologies (eg. Software, IoT, AI, big data etc.) to make public services which resolve the social issues efficiently. The Living labs is considered as one of research and development methods, which aims to close the gap between technical and social innovation by enhancing collaboration between different relevant stakeholders (Kopp, Haider, & Preinesberger, 2017, p.61). Hence, NIPA (National IT Industry Promotion Agency) has tried applying the Living Labs on software development projects to make software solutions for local community. Compared to the conventional research and development projects, Living Labs has a slower pace spending more time and efforts on communication with relevant stakeholders (issue exploration, demand definition etc.), but it’s more effective way to reflect concrete demands of users on research and development projects.

***Keywords:*** *Living Labs, software development, co-creation, software solution, stakeholders*

**Transnational piloting for smooth internationalization of health-tech start-ups** by Päivi Haho, Metropolia and Virpi Kaartti

**Category:**Innovation Paper

**Abstract**

Health-tech business is increasing all over the global markets. Startups need agile and cost-efficient methods to study the needs and opportunities in foreign markets. Thus, the purpose of this paper is to advance the understanding of internationalization of health-tech startups and to discuss the practical issues related to transnational living lab practices based on a case study of health-tech startups. Finally, a preliminary model for transnational health and well-being living labs is introduced.

***Keywords:*** *transnational living lab, lean startup, lean global startup, internationalization, health-tech*

**User needs and expectations as a challenging factor for successful living lab research initiatives involving older adults: The DDRI Experience** by Tiziana C. Callari, Louise Moody, Nikki Holliday, Ed Russell, Janet Saunders, Gill Ward, Julie Woodley

**Category:**Research Paper

**Abstract**

Despite the number of Living Labs now in existence worldwide and in Europe, there is still a limited amount of academic study and literature to guide their set-up and running. We were particularly interested in ethical guidelines and frameworks to guide research engagement and participation as Coventry University along with partners sought to develop and establish a new LL. This paper, therefore, intends to shed light on the ‘user engagement’ aspect, in particular when older adults, and adults with cognitive and physical impairments are involved. To do so, we recruited n=6 residents and n=2 family members from two residential living environments partners of the DDRI programme, a LL pilot initiative led by Coventry University. Methodologically, semi-structured interviews were conducted and the Qualitative Content Analysis (QCA) method used to make sense of the data. A deductive coding frame was built informed by the study goals, and its categories included (among others) ‘user engagement’, ‘user commitment, ‘user expectation’, ‘user needs’, ‘nature of participation’. The results report on the participant views and concerns about these LL research topics, and provide (ethical) insights for future research collaborations.

***Keywords:*** *User needs, User expectations, Nature of participation, Ethical issues, Living lab, Older adults, Family*

**Research Session I : “Actors motivations, needs and expectations”**

Plenary room August 22, 2018 3:30 pm - 5:00 pm

**[Dr. Anna Ståhlbröst](https://openlivinglabdays.com/speakers/dr-anna-stahlbrost/)**

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In this session, Research Papers under the theme “Actors motivations, needs and expectations” will be presented

**Living labs as instrument for societal change: the role of intermediary actors and activities** by Jos van den Broek, Timo Maas, Isabelle van Elzakker, Jasper Deuten

**Category:**Research in-progress

Abstract not provided

***Keywords:*** *Living labs, societal challenges, intermediaries, experiments*

**Models for Living Lab’s sustainability. Evidences from Italy and the Netherlands** by Edoardo Gualandi and Luca Leonardi

**Category:**Research in-progress

**Abstract**

Living Lab is either part of, or constitutes an Innovation Network of people, private firms and public institutions. The Living Lab has the potential to convey value to the entire network but it requires the support and commitment of its stakeholders to operate at full regime and ensure long-term viability. For this reason, financial sustainability is one of the main challenges for any Living Lab. With the current paper, the objective is to understand how long-term viability can be reached through a sustainable business model based on the right collaboration mode in a multistakeholder environment. This research proposes a theoretical framework in which is stressed the importance for the Living Lab of the innovation network and of the creation and demonstration of value to the stakeholders. Then, based on this framework, three practical cases are analyzed: Stratumseind Living Lab in Eindhoven, the AUAS field labs in Amsterdam and the ARCA Textile and Clothing Living Lab in Palermo. From the observation of the three Living Lab, this paper proposes a distinction between product-oriented and policy-oriented Living Lab and presents some meaningful implications of the two approaches to sustainability.

***Keywords:*** *Living Lab, Sustainability, Innovation Network, Value creation, SocialInnovation, Stakeholder Commitment.*

**Motivational Goals for using Electronic Health Record Applications** by Rachel Burrows, Sonja Pedell, Leon Sterling, Tim Miller, Antonette Mendoza

**Category:** Research in-progress

**Abstract**

The deployment of Electronic Health Records (EHRs) across Australia has provided a platform of possibilities for new technology developers. However, the lack of enthusiasm by multiple health-care providers and patients reveals how many existing applications fail to address the needs of these stakeholders. We conducted interviews with GPs and software company representatives (being partners of our Living Lab) to understand their goals of engaging with EHR-enabled technology, with a focus on their emotional goals. We then constructed a motivational goal model to represent the technology goals that are relevant to our case study. This approach to gathering technology requirements enabled us to elicit, organise and communicate the functional, quality and emotional goals for EHR-enabled technology. Results illustrate our living lab process and reflect on a variety of goals that may be supported by EHRenabled technology. The goal model will be evolved and utilised in the planning of future phases of this living lab project.

***Keywords:*** *Goal Model, Living Lab Case Study, Electronic Health Record, Emotions*

**Smart Campus: a route using 4G and 5G** by Esmat Mirzamany and Joe Barrett

Abstract not provided

**Spectrum Analysis Digital Arts-and-Culture Assets and the Future of Co Creating Decentralised Technologies** by Olivier Zephir, Soenke Zehle, Olivier Buchheit

**Category:**Innovation Paper

**Abstract**

The rise of decentralized ledger (bookkeeping) systems that operate as public transaction archives to store value records (such as payments in a cryptocurrency) and maintain consensus about agreements also seems to promise solutions for the problem of scaling trust-based decision-making processes. Once linked almost exclusively to finance (“cryptocurrencies”), the “blockchain space” has become a terrain of social and technological experimentation. While these changes are likely to substantially transform the way, we organize our collective actions, few digital content creators; artists, designers, and other actors not directly linked to processes of technological innovation are currently involved. In this essay, we describe how such a co-creative approach to such involvement can be developed through the public prototyping of Spectrum, a blockchain-based tool for digital creators. What we found is that such an approach offers opportunities to more fully comprehend value chains, but also highlights need for co-creation approaches that cut across existing audiences and bring in new actors. This matters because blockchain-based strategies for technology design are about to transform the way we create, share, and cooperate. Given the promise and potential stakes of shifting the creation of digital arts-and-cultural assets to infrastructures based on such distributed ledger technologies, it is crucial that artists and other digital creators engage with the design both of these infrastructures and the systems of governance structuring their operation.

***Keywords:*** *Digital arts-and-culture assets,* blockchain*, decentralised technologies, co-creative design, open data*

**The Austrian Real-World Laboratories – How to manage multi-stakeholder engagement in the wide field of mobility research** by Lina Mosshammer, Doris Wiederwald

**Category:**Innovation Paper

**Abstract**

Pursued by the Austrian Federal Ministry for Transport, Innovation and Technology, the Urban Mobility Lab (UML) initiative was created in order to complement mobility research with a Living Lab support structure to bring findings of research and development into real-life practice. Regarding the Sustainable development goals the laboratories help facilitating sustainable cities and communities (SDG 11) and foster innovation (SDG9) in the field of mobility. Five Urban Mobility Labs are funded and supported for four years, starting in 2017. Each UML has a specific regional trait – from a port area, to a city district to whole cities and their surroundings. Topics covered by the UMLs range from active mobility, passenger mobility, to freight transport. The support of open innovation in a mobility living lab with a range of services and thereby speeding up the innovation process requires the exchange and coordination of multi- actor cooperation frameworks. The Urban Mobility Labs bring together stakeholders from all different levels starting from the user level to regional and national policy level. The close collaboration with local, regional and national authorities to provide real-life test environments as well as to strategically steer and embed projects in fast track innovation is one of the unique selling points of the laboratories.

***Keywords:*** *living labs, mobility labs, co-creation, stakeholder engagement, public partnerships, test environments*

**The Developing Process of the Digital Game Which Supports Well-being of Small Children** by Päivi Marjanen, Janne Pirttikoski, Vesa Valkonen and Viktoria Tiainen

**Category:** Research in-progress

**Abstract**

The concept of well-being, both planet and individual, is clearly visible in the Sustainable Development Goals. In this article the focus is on the individual’s wellbeing, more closely on children’s well-being. In this article is described the developing process of the digital game to evaluate and support the well-being of children aged 5-8. The aim is to develop tool whereby subjective well-being data from small children can be collected in a digital format, with a fun, child-friendly way. The description follows the steps from idea to first prototype. Developers of the product consist actors of children’s services, HEIs students and game designer from the private sector from the metropolitan area of Finland. The ecosystem which works around the game idea gives different kinds of knowledge, skills and test bed to develop a solution. The designing process was carried out as a Research and Development activity at Laurea University of Applied Sciences and it is part of the Finnish national LAPE project that is part of the government’s top program.

**Research Session II: “Governance and process-related areas”**

Room 17 (Level -1) August 23, 2018 9:00 am - 10:30 am

In this research session, papers under the theme “Governance and process-related areas” will be presented

**“Daegu Living Labs” as City Innovation Platform** by Hee Dae Kim

**Category:** Innovation Paper

**Abstract**

The purpose of this study is to introduce the components, operational mechanism, operational philosophy, and sub-models of Daegu Living Labs, and illustrate how they are bringing changes to the city by creating sustainability. Daegu Living Labs are a platform that transforms the city into superstructure and infrastructure. The superstructure is a program that trains innovation processes called ‘Stimulation – Training – Facilitation – Diffusion’, aiming to increase Smart Citizens and innovation facilitators. The infrastructure is a process of co-creation with a citizen panel in a specific place, such as an alley living lab, a social living lab, and a smart living lab. The infrastructure is aimed at solving the problem in the context and involved Smart Citizens and Facilitators trained in the superstructure. The top and bottom are interconnected through Daegu Living Labs Governance and spread through the Creative City Global Forum. As Daegu Living Labs expanded its voluntary citizen panel, the city’s direct democracy became more active, and the creative individual, alleys including living labs were linked to each other in a multi-layered manner, increasing the density of innovation in the city. Daegu Living Labs are assisting the city to substantially achieve the UN’s SDGs agenda, such as Making resilient and sustainable city, ensuring learning opportunities, achieving gender equality, Building resilient infrastructure.

***Keywords****: Innovation Platform, Daegu Living Labs, Resilience, Citizen Science, Social Living Lab, Alley Living Lab, Social Innovation, Sustainability Development Goals*

**Developing a mutualized R&D for network organizations based on Living Lab methods: the transformation of Sion military airport into a commercial airport** by Emmanuel Fragnière, Benjamin Nanchen, Marine Héritier, Randolf Ramseyer, Magali Dubosson and Joelle Mastelic

**Category:** Research Paper

**Abstract**

When faced with a radical disruption, a firm must be innovative regarding its new services in order to survive. In the particular case of industrial firms, this goes traditionally through R&D departments. In the field of services, it is more complicated because the production and the consumption happens simultaneously and always involves the consumer as a co-creator of value (Vargo & Lusch, 2004). In the context of this research project, we aim to develop a newly conceptualized framework for adapting the R&D function to the service sector based on Living Lab methods. The R&D function could be externalized since usually the customer journey is based on an unordered series of touchpoints involving different service providers with the active participation of customers. A living lab is often presented as being at the junction of open and user innovation. We thus propose a new model where the living lab is integrated into the formal framework of the “à la Frascatti” R&D process in order to break the linearity of the latter by including co-creation. This model allows the living lab to be better accepted in typical “industrial mentalities” and, due to the formalism of the R&D process, to rely rather on systematic and rigorous academic disciplines (for exploration, experimentation and evaluation) than on less formal practitioner approaches. The case study of the renewal of Sion Airport will be presented in this paper to test its feasibility. There is a major disruption in its service offer, transforming it from a military to a touristic airport. So, all kinds of services have to be developed from scratch. For instance, the Lab organized last year the mandatory crash plane simulation on the tarmac, required by the Federal Office of Civil Aviation (FOCA). In this paper, we present an applied research project, which is about the creation of a reception area more accessible, welcoming and functional for crews and their passengers of business jets.

***Keywords:*** *Living Labs, Service Design, Airport Services, Tacit Knowledge*

**Living Labs – an Approach for achieving Sustainable Change in City Logistics** by Nina Nesterova, Hans Quak, Tariq van Rooijen

**Category:**Research Paper

**Abstract**

The Living lab is an approach that allows for improving the co-creation processes, putting the end-users at the heart of innovation, realizing new business models, looking for new roles for traditional stakeholders in the innovation process, and a more directed innovation preparation and deployment process. This article describes experiences of eight European cities in setting up and developing living labs in city logistics within the CIVITAS 2020 CITYLAB project and draws upon the CITYLAB Deliverable 3.4 “Practical guidelines for establishing and running living laboratories”. It provides a distinction between logistics service living labs and city logistics transition living lab. The article shares experiences on setting up and operation of the living labs and added value from using living labs set up.

***Keywords:*** *city logistics, living labs, co-creation, sustainable transition.*

**Living-Lab-as-a-Service: Exploring the market and sustainability offers ofLiving Labs in Germany** by Justus von Geibler, Julius Piwowar, Annika Greven

**Category:**Research Paper

**Abstract**

For more than 10 years Living Lab are emerging as new social participatory structure engaging societal stakeholders (such as public administrations, companies, civil society and research organizations) in collaborative environments. This paper presents the results of a mapping and assessment of living labs in Germany being a part of the national innovation system. The research objective of this paper is to explore the German living lab market and its offerings, which can support the innovation process of start-ups and SMEs; in a particular for the development of sustainability innovation. Beside a geographical mapping the following characteristics of living labs have been assessed: (a) degree of institutionalization; (b) sector; (c) key actor, and (d) services offered. Nine different services have been identified and assessed based on literature review and evaluation of living lab websites. The services cover customer-oriented and user-integrating services as well as sustainability assessments. The results of the mapping were validated and discussed with research- and practitioners experts in three workshops. We conclude that living labs can be seen as an emerging element within in the national innovation system capable of driving sustainability innovations based on the services offered.

***Keywords:*** *Living lab, mapping, services, open innovation, user-centred design, sustainability*

**Schools4energy: a living laboratory for energy awareness in schools** by Carmelina Cosmi, Filomena Pietrapertosa, Giuliano Sarricchio, Michele Giordano, Monica Proto, Marco Tancredi, Monica Salvia

**Category:** Research in-progress

**Abstract**

Schools4energy is a laboratory of sustainable experimentation for the implementation of good practices that aims to promote conscious and virtuous energy behaviours and energy efficiency in the schools. The activities, developed in the framework of the INTERREG MED PrioritEE project, involve the students, the teachers and the staff personnel of Primary and Lower Secondary Schools of the Municipality of Potenza. The Schools4energy laboratory is made up of three integrated modules (School race, Artists for energy, Energy at stake) based on different methodologies (analytical methods, co-creation and gamification) in order to increase the interest and the involvement of students and enhance their preferences and talents. The proposed activities pursue multiple objectives: to increase students’ knowledge and skills on energy, to raise awareness on energy consumption, to encourage energy consumption reduction, to promote behavioural changes.

***Keywords:*** *Multi-stakeholder engagement, Actors Motivation for Sustainable Actions, Public Schools, Energy Efficiency, Behavioural changes, Awareness raising*

**The Circle of Mediators: Towards a governance model for tackling sustainability challenges in a city** by Anne Äyväri,Annukka Jyrämä,Tuija Hirvikoski

**Category:** Research Paper

**Abstract**

Cities can take an active role in creating enablers, such as open innovation platforms, living labs to enhance innovations that can contribute to solving sustainability challenges. In this conceptual paper, we introduce a new governance model, the Circle of Mediators, to facilitate the birth and activities of multi-stakeholder teams to innovate and create solutions. We aim to contribute to discussions on multistakeholder governance, sustainability is seen as the context that forces cities to engage in such activities due to the complex nature of global challenges and need for (interdisciplinary or even) transdisciplinary and multi-stakeholder competencies to solve these challenges. The Circle of Mediators orchestrates the establishment of open innovation ecosystems and their innovation co-creation, experimentation and adoption activities, thus making cities and communities inclusive, resilient and sustainable, in accordance with the UN SDG 11 (United Nations 2015). The focus is on the new governance model looked at from mediating and living lab perspectives and experiments with two Finnish cities and sponsored by the EU Cohesion Six City Strategy project. The paper’s contribution builds on the development of the conceptualisation of the new Circle of Mediators model and the identification of research and an action path for both researchers, managers as well as policymakers.

***Keywords:*** *mediator,* circle *of mediators, sustainable cities, cities as living labs, innovation ecosystems, governance*