

Impression of ARISE symposium on Sustainable living

During the Sustainability week of the University of Twente, the ARISE network organised a one-day symposium on the topic of “Sustainable Living” on October 9th. ARISE’s research focuses on the development and adoption of sustainable innovations for energy-efficient smart systems that support living, working and transportation in the built environment. During the symposium, 175 people gathered to explore sustainable living along the sub-themes Housing, Mobility and Consumption. The symposium aimed to connect students & staff from the UT and other 4TU universities, Saxion, companies, and policy makers to learn and interact with each other.

The first key note lecture was given by Marjan Minnesma from Urgenda. Urgenda is well known for successfully suing the Dutch Government for insufficient actions to prevent dangerous climate change. Minnesma focused her lecture on solutions for the upcoming energy transition and ways to ensure the future of our planet.

Dr. Christian Struck, a researcher from Saxion then took over to talk about sustainable dwellings and the need for transitions towards a future-proof built environment.

Rolf Oldejans, a representative from the City of Enschede came to talk about Green Metropolis Twente. The lecture focused on examples of what is currently being done within Enschede to create a more sustainable city and the role a municipality can play to help this transition.

Finally, Dr. Pawel Owczarek, CTO from Sound Energy presented their innovation in thermal acoustics: transition waste heat via sound to cool buildings. Sound energy is a great example of how advances in technology can help cut emissions while creating profit.

After the plenary session concluded, participants enjoyed a nice vegetarian lunch before heading off to the afternoon parallel sessions. Three sessions took place on the themes of Housing, Mobility and Consumption.

Sustainable consumption and production

In the parallel session of **Sustainable consumption and production (SPC)**, we had contributions from the chemical, textile, agriculture and packaging industries. Those industries have their own particular history in relation to their environmental and social challenges. The goal of the SPC session was to learn about research projects that promote, directly or indirectly, sustainable consumption by innovating products and production processes. We started with the presentation of Prof. Boelo Schuur who is Professor of Separation Technology in the cluster Process & Catalysis Engineering at UT. His key research field is sustainable separation engineering. The title of his presentation was : “*Biorefineries and circular economy approaches from a chemical engineering perspective*”. As second speaker in this session, Ms. Paula Konter, director of Texperium (Textile Research Center located in Haaksbergen) presented some of the innovative sustainable Texperium projects in partnership with different private and public organizations. Dr. Cecilia Stanghellini from Wageningen University and Research Centre contributed to this session with her work entitled “*Agricultural production: what is sustainable?*” displaying great expertise on greenhouse climate simulation and management; crop yield and resource use efficiency; economy and environmental impact of greenhouse crops. The last presentation was done by Dr. Bjorn de Koeijer, industrial Design Engineer from UT who is specialized in packaging design, Cradle to Cradle, and circularity. During his PhD, he focused on interventions enabling the structured integration of sustainability and circularity in product-packaging development. The title of his presentation was: “*The development of packaging as a facilitator of product sustainability*”. Questions and discussions took place right after each of the presentations with active participation of attendants.

Sustainable housing

During the parallel session of **Sustainable housing**, we had three speakers from academic, company and research institute exchanging their knowledge about circularity and sustainability in building. Prof. Bauke de Vries from TU Eindhoven discussed about different measures to calculate the circularity of the building, while Berri de Jong from Plegt Vos, Dutch Construction Company, spoke about the modular building. Furthermore, Otto During from RISE Research institutes of Sweden explained about student housing made of bio-based concrete. There were very interesting interactions and discussion on the topic with the audience.

Sustainable mobility

During the parallel session of **Sustainable mobility**, e-mobility was the main focus, yet we had fascinating contributions about mobility infrastructures by Dr. Henny ter Huerne from Overijssel Province, and the recycling of rubber from car tires by Hans van Hoek from the University of Twente. From researchers of the University of Twente, E-mobility topics were covered by various aspects; hydrogen car from Dr. Bastian Mei, adoption of electric vehicle by Marlise Wester, financial and ecological modelling by Alonzo Sierra and mobility as a service Dr. Steven Haveman. The session was quite dense in terms of the number of presentations and many interactions with the audience.

The final plenary lecture was delivered by Prof. Arjen Hoekstra, from the University of Twente. Hoekstra focused on the environmental footprint of humanity and reflected on how our consumption and trade behaviours translate into our water, land and carbon footprint. The day then concluded with a networking drink where participants had the opportunity to interact with speakers from the day. 4TU.CEE was one of the organisations that financially supported this event.