



FOOD 2030: Towards Sustainable Agri-Food Systems
International Congress | 5–6 September 2018 | University of Hohenheim

Reporting from the parallel sessions

TOPIC A1: Prevention of non-communicable diseases, particularly obesity, sarcopenic obesity, and the metabolic syndrome

Stephan Bischoff

- Malnutrition is not only undernutrition but also “bad nutrition” occurring for example in obesity (2 sides of the same coin): 25-40% in hospitals, 20-25% in nursing homes, 15-20% in home care
- Sarcopenia & sarcopenic obesity → impact on morbidity + mortality
- Need for adequate biomarkers (B. Seethaler)
- Risk of highly processed food for obesity in Africa (Ole Boysen)
- New protein sources from algae (Ulrike Neumann)
- New tools (machine learning etc.) to improve nutritional habits (Nadiya Boyko)



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TOPIC A2: Food and agricultural approaches to reduce malnutrition

Hans K. Biesalski

- Research gap in home gardening – lack of evidence for impact on stunting and 1000 day development – needs a multidisciplinary approach
- “Shaking hands with the devil” (more animal products in the diet) will improve child development in particular in the 1000 day window
- Livestock is a key component in livelihood strategies of poor households

TOPIC B1: Is zero hunger at zero land use change possible? Future land use strategies: Restoration, intensification or land expansion?
Ken Giller

- Large yield gaps offer major opportunities to increase food production from existing agricultural land
- Greater attention needed to *structural transformation* of farms and farming systems and understanding key drivers
- Integrated sustainability analyses need to consider biodiversity impacts, (soil) resilience, equity among land users as well as productive potential

TOPIC B2: Trade-offs and synergies between climate mitigation and food security

Georg Cadisch

- Contribution of diet change/trade policies on climate mitigation
- Influence of CC on food quality and diversity, health and environmental impact
- Model/climate uncertainties and public confidence (fake news)

**TOPIC B3: Adaptation to global social and environmental change:
Technical, digital and social innovations**
Hans-Jörg Lutzeyer

- Diverse food systems include different cultures (diaspora), resilience of supply chains and research investment in neglected crops (e.g. plantains)
- Farmers, consumers, citizens, need to state what they expect of “smart” farming solutions for their future
- Use participatory tools (technology platforms), map knowledge and innovation and agree on research objectives

TOPIC C1: Evaluation of policy instruments for sustainable food production and healthy nutrition

Christine Wieck

- Across countries, food systems are diverse and accordingly,
 - assessment, policy options and transformation paths differ
- Public policy or voluntary private solutions are both options that may support the transformation of the food system,
 - but market impacts and trade-offs must be well understood
- To facilitate the dialogue and negotiation between stakeholders about policy options and trade-offs,
 - measurement indicators must be available, that are transparent, comparable and capture the trade-offs

TOPIC C2: New approaches in food design

Jochen Weiss

- Producing ingredients sustainably (using a lower refinement approaches) can also yield healthier ingredients and improve consumer trust, but a holistic food system approach is needed to make this viable
- New food sources such as microalgae and insects are very promising and could really provide solutions to the big challenges today, but require that whole new value chains are developed from production, to fractionation, product design and manufacture taking economic and consumer acceptance considerations into account
- There are new analytical (Raman, fluorescence, chemometric etc.) and computational tools (e.g. Nelder-Mead) emerging that lend themselves not only to aid in optimizing food manufacturing, but allow for a better description of food system processes in general, which in turn can facilitate the building of new models and simulations



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TOPIC C3: Sustainability advances for the production of high value food components

Lutz Fischer

- Change of human habits is necessary
- Bio-surfactants, alternative protein sources, innovative process technologies
- Strategic collaboration of industry, research, media, politicians and consumers