

The Convergent Innovation Webinar Series: Farm, Food and Diet

Inventing “One-World” Solutions for Lifelong Wellness and Sustainable Economic Growth

Charting the emergence and impacts of digital agricultural platforms in Africa



Dr. **Heike Baumüller** is a Senior Researcher and Coordinator of the Program of Accompanying Research for Agricultural Innovation (PARI) at the Centre for Development Research (ZEF) at the University of Bonn, Germany. Her research focuses on the role of digital technologies in raising the productivity of smallholder farmers, improving the functioning of agricultural markets and facilitating agroprocessing in Africa. Prior to joining ZEF, she was a Senior Research Fellow with the Energy, Environment and Development Programme at Chatham House in London, researching the environmental and socio-economic dimensions of trade in natural resources. Previously, Dr. Baumüller coordinated the Environment and Natural Resources Programme and led the implementation of projects on fisheries and biotechnology at the International Centre for Trade and Sustainable Development (ICTSD) in Geneva. She holds a PhD in Agricultural Sciences from the University of Bonn, a Master of

Environmental Studies from Macquarie University, Sydney, and a Bachelor in Environmental Studies from Cognitive Science from the University of Exeter, UK.

May 2, 2024

11:00 am EST

(2 hrs in length)

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Chair: Laurette Dubé (Scientific Director of MCCHE)

Co-Chair & Moderator: Fadel Ndiame (Professor of Practice at MCCHE; CEO of Food System Transformation Solutions)

ABSTRACT: Digitally-enabled services (D4Ag services) have been proliferating across Africa in recent years to offer markets for inputs and outputs, financial services or information to farmers and other agricultural actors. However, despite the rapid growth in local service providers, the D4Ag services market remains fragmented and only few services have managed to scale. To improve access and reach, D4Ag services are increasingly being offered as part of digital platforms that combine and integrate different types of services. This talk provides an overview of the D4Ag platform economy in Africa, with a focus on Kenya, Nigeria and Ghana which are at the forefront of digitalization in agriculture on the continent. A number of platform case studies will offer insights into the business models behind these platforms and analyse how the business models differ from traditional platform models. The talk will also shed light on the distributional effects of D4Ag platforms by discussing how different supply chain actors are being affected by the emergence of digital agricultural platforms and how platforms are impacting local markets.

PANEL DISCUSSION: A panel with scientists, business and policy leaders will discuss how scientific and technological developments and ontologies bridging farm, food and human behavior, can accelerate the design and long-term performance of convergence platforms ecosystems targeting achievable and time-bound real-world solutions placing human and environmental health at the core. This will advance the design of integrative digital architecture and governance framework to scale up how real-world data generated by individuals and institutions within and across disciplines and sectors can contribute to a World reset on convergence economy. Capitalizing on digital transformation of science and society, convergence economy takes a person-centered approach to bridging organizations and systems across sectors and jurisdictions, fully acknowledging that developed and developing worlds share the same planet, for world-scale transformation toward sustainable prosperity and affordable nutrition and health.

ABOUT THE SERIES: The **Convergent Innovation Webinar Series** features cutting edge science, technology and innovation in agriculture, food, environment, education, medicine and other domains of everyday life where grand challenges lie at the convergence of health and economics. Powered by data science, artificial intelligence, and other digital technologies, this disciplinary knowledge bridges with behavioural, social, humanities, business, economics, social, engineering, and complexity sciences to accelerate real-world solution at scale, be it in digital or physical contexts. Initiated in the agri-food domain, the series is now encompassing other grand challenges facing modern and traditional economies and societies, such as ensuring lifelong wellness and resilience at both the individual and population levels.



Chair: Laurette Dubé, initially trained as a nutritionist, also holds degrees in finances (MBA), marketing (MPS), and behavioral decision-making/consumer psychology (PhD). Dr. Dubé is Full Professor at the Desautels Faculty of Management, McGill University. Her research focuses on the study of affects, behavioral economics, and neurobehavioral processes underlying consumption, lifestyle, and health behavior. Her translational research examines how such knowledge can inspire effective interventions. She is also the founder and scientific director of the McGill Centre for the Convergence of Health and Economics, a unique initiative to push the boundaries of science to tackle societal and economic challenges and foster individual and collective health and wealth.



Co-Chair & Moderator: Fadel Ndiame, Ph.D. is Professor of Practice at McGill University and CEO of Food System Transformation Solutions (FSTS). Dr Ndiame, a Senegalese national, is keen to match economic opportunities available to smallholder farmers with agricultural investment programs that have impact. Throughout his career Dr. Ndiame worked with global development institutions, Researchers, SMEs, and Farmer organizations to increase smallholder incomes and livelihoods involves providing demand-driven, income enhancing services for members, including access to inputs, services, and markets. His work involves aligning and integrating AGRA's investments with the interventions of national governments and other development partners. He is a thought leader, influencer, and mentor. Dr. Fadel Ndiame holds a PhD in Sociology of Rural Development from Wageningen Agricultural University and a MSc degree in Agricultural Economics from Michigan State University. He brings with him 30 years' experience in agriculture and economic development policies and programs.

Panellists:



Dr. Kumaraswamy Ponnambalam is a Professor of Systems Design Engineering, University of Waterloo, Ontario, Canada with over thirty-five years of experience working in design optimization under uncertainty with applications in energy, agriculture, and other water-related systems. He is a systems dynamic modeler, increasingly linking this to artificial intelligence and machine learning considering sustainability, equity, decolonization, among others. He has conducted research with projects in Canada, India, Netherlands, Iran, Venezuela, and Trinidad and Tobago.



Ebenezer Miezah Kwofie is an assistant professor of food systems sustainability and resilience in the Department of Bioresource Engineering on the Macdonald campus of McGill University. Prior to joining McGill as a faculty, he held a joint appointment at the Biological and Agricultural Engineering, Chemical Engineering, and the Food Science Department, University of Arkansas, Fayetteville. Between 2016 and 2020, he served as manager of International Food Systems Development projects at McGill, coordinating projects in Zambia, Malawi, Ethiopia, Bolivia, and Honduras. These projects were focused on enhancing food systems sustainability and strengthening capacity of stakeholders (farmers, farmer cooperatives, food enterprises, Non-Governmental Organizations, local government departments). He completed his PhD at the Bioresource Engineering Department, McGill University, working on circular economy pathways for agro-waste utilization.



Sarah De Saeger is the Director of the Centre of Excellence in Mycotoxicology and Public Health at Ghent University; full professor (Faculty of Pharmaceutical Sciences); Coordinator of MYTOX (association research platform) and MYTOX-SOUTH (ITN, international thematic network); member of Food2Know and Cropfit; and member of Ghent University-Shanghai Jiao Tong University – Chinese Academy of Sciences (Shanghai Institutes of Biological Sciences) - Joint Laboratory on Mycotoxin Research.