



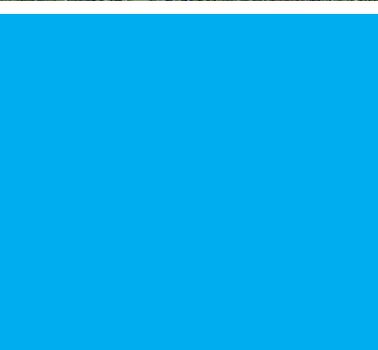
# FOSC

ERA-NET Cofund on  
Food Systems and Climate

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[www.foscera.net](http://www.foscera.net)



## About FOSC

FOSC is the European Research Area Network (ERA-Net) Cofund action on Food Systems and Climate. FOSC is built upon and supported by the experience from FACCE-JPI and LEAP-Agri. The consortium consists of 28 partners from Europe, Africa and Latin America. FOSC pulls together resources for a joint research programme and is supported by the European Commission (EC) through an ERA-Net Cofund grant.

## How to feed 10 billion people?

FOSC addresses one of our world's major challenges: How to feed 10 billion people by 2050. Ensuring food and nutrition security in the long-term while containing global warming within 1.5 or 2.5 °C, will require major changes on a societal-level and a systemic transformation of our food systems. Important aspects to acknowledge in this are:

- current patterns of food consumption and production increase pressure on already scarce natural resources;
- climate change undermines food systems and reduces food security;
- environmental degradation puts additional pressure on food production
- consumer behaviour patterns favour the predominantly short term vision of food systems; and
- availability of food is highly unequally distributed around the globe.

## FOSC ambition

The ambition of FOSC is to implement a range of joint activities to contribute to the creation of a strong and effective trans-national research and innovation network between Europe, Africa, and Latin America.

FOSC aims as well to contribute to the coordination and synergism between national and international research programmes that are relevant to food security under climate change.

The challenge of achieving food and nutrition security within the context of sustainable food systems calls for increased investment and collaboration. It is aspired that the partnership will increase invest-

ments in R&D&I through a coordinated regional mechanism aimed at reducing fragmentation.

## Activities of FOSC

FOSC initiates and organises additional activities to foster collaborations and enhance impact of research on food systems and climate in Europe and beyond:

- the preparation and implementation of a joint call for proposals (FOSC call 2019);
- the deployment of innovative instruments for alignment and collaboration in R&D&I;
- a second call or alternative research funding activity for multi-actor research projects;
- capacity strengthening;
- stakeholder engagement;
- support to policy making;
- infrastructure development;
- organize trainings for researchers; and
- communication and dissemination of results emerging from activities.



## Joint call of FOSC and SUSFOOD2

The 14 partners of the Joint Call Board from the ERA-NETs FOSC (Food Systems and Climate) and SUSFOOD2 (SUStainable FOOD production and consumption) launched on May 17 2021 the Joint Call for Proposals on:

### Innovative solutions for resilient, climate-smart and sustainable food systems

#### Key information

The joint network consists of partners from 13 countries: Algeria, Argentina, Belgium, Estonia, Finland, France, Ireland, Italy, Morocco, Norway, Romania, Turkey and the United Kingdom. They committed 7,8 million euro for transnational research. The call for proposals closed on 16 August 2021.

The scope of the call is to fund projects that facilitate the transition from current linear food systems to resilient circular systems, including an optimal use of resources and less vulnerability to shocks under consideration of the interdependencies within the systems and its stakeholders.

Submitted proposals include research on one of the following topics:

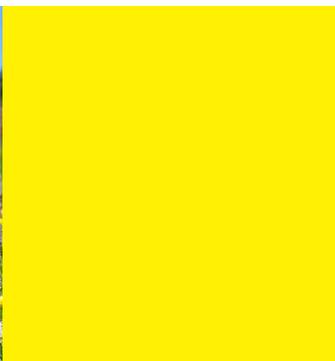
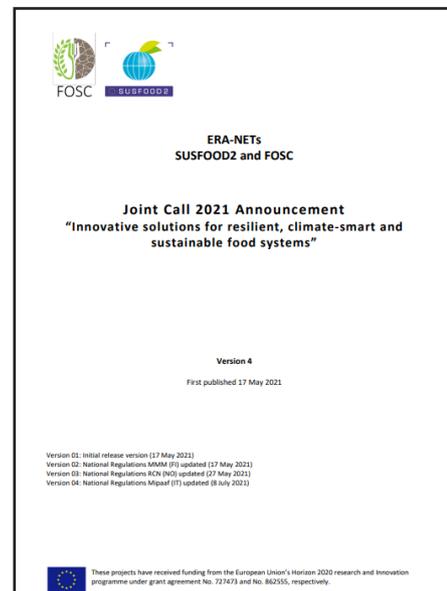
**Topic I: Innovations to improve food systems sustainability, with a focus on increasing resource efficiency and reducing waste**

**Topic II: Food Systems adaptation and resilience to system shocks**

FOSC and SUSFOOD2 envisage that the transition towards sustainable and resilient food systems requires a system approach including a multi-actor approach and a multi-disciplinary approach. These cross-cutting issues were to be considered and individually adapted by each project in order to increase the projects' value and impact.

The joint call received a total of 31 transnational research project proposals. Topic I received 23 proposals and topic II received 8 proposals. The submitted project proposals include collaborations of more than 195 research partners.

The proposals are assessed for eligibility by the Call Office and the national funding bodies and are evaluated by international peer-reviewers following the criteria and procedure stated in the Call Announcement and Evaluation Guidelines. Based on the experts' evaluation, the final selection decision by the Call Board will be announced earliest in December 2021.



## FOSC 2019 co-funded call

The first major activity of FOSC is was the organisation of a trans-continental call in the field of food systems and climate. Aim of the call: to support scientifically excellent, trans-continental R&D&I projects that contribute to the knowledge base on food systems and climate change. The call had a funding budget of approximately 16 million euros, including the EC-cofunding. The call was launched in 2019 and used a two-step procedure. 17 Projects were selected for funding.

### Key information

The EC co-funded call supports basic and applied research and is focused on the interactions between climate and food systems: assessing the consequences of climate change on agri-food markets and developing sustainable and resilient food value chains in the context of changing food need and patterns (diets).

The projects are multidisciplinary and/or transdisciplinary and address the following topics:

- assess climate change-related risks for food value chains, including impacts on producers, prices, availability, quality, international trade and food security, and resulting changes in consumer behaviours;
- promote innovative technology deployment to build sustainable and resilient food value chains influenced by changing food needs and patterns, and to develop better efficiency of the inputs and outputs of food systems;
- improve resilience and reduce volatility in agri-food production and food markets to sustainably improve food security in the context of climatic variation; and
- reduce food losses under climate change, including novel approaches to valorise side streams and reduce food waste.

FOSC has the ambition to address both spatial scales and time scales with the funded projects.

Spatial scales: local analysis for case studies at landscape and farm scales and projections at the regional level. This includes comparisons between different regions (and projects) as well as global analyses.

Time scales: the 2050 time-horizon is selected and transitions between current conditions and 2050 are studied considering relevant scenarios integrating multiple drivers, including climate trends and climatic variability with special attention to risks caused by extreme weather events and demographic evolution.

The requirements of the call were that consortia consist of teams from a minimum of 4 countries from 2 continents, with at least 2 European countries and 2 countries from Africa and/or Latin America. The projects are envisaged to to have a duration of 3 years and start in 2021.

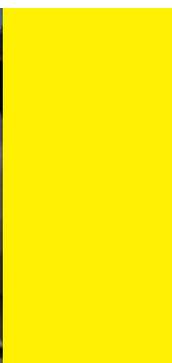
### Expected impacts

Expected impacts from the projects are:

- support of the transition to carbon neutral agriculture and food chains;
- increased understanding of the effects of climate change on global food value chains; and
- development of solutions posed by environmental changes to the food system.

### Evaluation and outcomes

FOSC received 71 pre-proposals. From this, 43 consortia have been invited to submit a full proposal. Full proposals were evaluated and ranked by experts. The funding bodies followed the ranking list and 17 projects were selected for funding. Consortia consist of 4-11 partners from 4-8 countries and the duration of most projects is 36 months. Currently the last national funding letters are being finalized.



## Participation of countries, 2019 call

The consortium of the cofunded call exists of 26 funding agencies from 21 countries and 3 continents. They allocated national or regional research budget to support this call (co-funded by the EC). This resulted in a total funding of approximately 16 million euros (including EC cofund contribution) and the selection of 17 projects. Additionally, in some projects researchers participate on their own budgets.

### Number of projects by country

Algeria, 5 projects  
 Belgium, 3 projects  
 Burkina Faso, 1 project  
 Egypt, 5 projects  
 France, 6 projects  
 Germany, 9 projects  
 Honduras, 1 project  
 Hungary, 1 project  
 Ireland, 1 project  
 Italy, 5 projects  
 Ivory Coast, 1 project  
 Kenya, 9 projects  
 Morocco, 7 projects  
 Norway, 4 projects  
 Panama, 0 projects

Senegal, 3 projects  
 South Africa, 9 projects  
 Sweden, 3 projects  
 The Netherlands, 5 projects  
 Turkey, 3 projects  
 United Kingdom, 3 projects

Researchers participating on their own funds:

Brazil, 2 projects  
 Japan, 1 project  
 Mexico, 1 project  
 Tunisia, 1 project



Figure 1: FOSC Consortium and additional funders, FOSC Call 2019



## FOSC projects kick-off workshop

The seventeen FOSC projects kicked-off with a 2-day online workshop on 15 and 16 June 2021, hosted by the Hungarian Ministry of Agriculture and co-organized by Wageningen Research from the Netherlands.

### Day one

The opening session, chaired by Ákos Kristóf, started with a welcome speech from Dávid Bencsik, Deputy State Secretary of the Hungarian Ministry of Agriculture. FOSC coordinator Maurice Héral from ANR welcomed the project teams and introduced the FOSC ERA-NET Cofund. From the European Commission, Hans-Jörg Lutzeyer, Senior Research Policy Officer from DG Research and Innovation gave a key-note speech on the EU-AU Food and Nutrition Security and Sustainable Agriculture (FNSSA) priority and Horizon Europe. Lucia Pacillo, Research Programme Administrator from EC-REA elaborated on the role of the European Research Executive Agency and Horizon 2020.

In the next session, chaired by Martine Vernooij from FOSC Communication, the FOSC Knowledge Platform to be developed was introduced by Stefano Grando and Alice Albertini from MIPAAF. Nine projects presented themselves by pre-recorded presentations followed by real-time Q&A, discussions and information exchange by the projects. Technical support was provided by Vanda Fűzesi and Valéria Csonka.

The projects presented on the first day were ThermoK, URBANFOSC, Sus-Agri-CC, BICEPS, SECUREFOOD2050, CLIMAQUA, CHIAM, BLUE-CYCLING and CREATE. The research topics of these projects include new techniques to improve soil, to reduce food waste, food chain modelling and innovate ways to integrate food production systems and to include agriculture and aquaculture.

### Day two

At the start of the second day, Ákos Kristóf welcomed everybody back and introduced the key-note speech from Raimund Jehle from the FAO Regional

Office for Europe and Central Asia. Raimund Jehle presented the trends and investments in agricultural research and the importance of research and innovation for agriculture.

The session on the FOSC programme on the second day was chaired by Christine Bunthof from FOSC Communication. It started with a presentation about the call organization by the FOSC call office, Denise Gider from BLE and an introduction of the FOSC ethics board by Olivier Le Gall, Chair of the FOSC ethics advisory board. The rest of the morning was reserved for presentations by eight projects by diverse and informative videos. Project presentations were followed by Q&A sessions and an active exchange of information and ideas.

The projects presented on the second day were NutriGreen, TRUSTFARM, SALAD, SAFOODS, BIO-BELIEF, CRRISP, C4C, and PHEALING. The topics of these projects include research on new and local farming techniques for resilient and sustainable food systems, and research to improve crop resilience, nutritional value and post-harvest losses.

In the afternoon a communications workshop was given. Nikki De Clerck from ILVO explained about projects communication activities and the procedures for monitoring and evaluation of the projects. Participants were engaged in a session about use of social media for research projects and all teams were encouraged to start their outreach.

The workshop was productive and well attended with 191 participants on the first day, and 172 participants on the second day. There was a good representation of all projects and many of the funder organisations.



## The 17 projects of the 2019 call

All 17 projects selected for funding contribute in innovative ways to sustainable food systems under climate change. Each project is a collaboration between researchers from multiple countries and continents. The projects will run for a maximum of 3 years and have starting dates from April 2021 onwards. Each project is presented by a fact sheet that can be downloaded from the FOSC [website](#).

### URBANFOSC

*Urban Food Resilience under Climate Change Challenges.*

URBANFOSC addresses the triple challenge of achieving food and nutrition security in African (secondary) cities by addressing the interaction between rapid urbanization, climate change and the increased production for international value chains. The project aims to contribute to transformative adaptation strategies that enhance the resilience of urban food systems in connection with climate impacts on agricultural production in the urban hinterlands.

### CREATE

*Cross-Border Climate Vulnerabilities and Remote Impacts of Food Systems of the EU, Turkey and Africa: Trade, Climate Risk and Adaptation.*

Knowledge and research on cross-border climate vulnerabilities and impacts of a geographic area is still a new topic in the scientific literature. To address remote climate risks and impacts related to food systems, CREATE will develop a novel cross-border climate risk/impact assessment methodology for food value chains based on embedded resource use (e.g water, land, carbon) trade concept that maps representative connections between European socio-economic activities and remote climatic hazards in Africa and in Turkey.

### SECUREFOOD2050

*Improving resilience and food security in 2050 climate through soilless precise agricultural techniques and irrigation with wastewater properly treated by innovative technologies to ensure food safety.*

The project aims to explore options to mitigate the impact of climate change by using innovative technology to increase the availability of water for

irrigation, to reduce total water use and to reduce the dependence on fertile land on countries with predominantly sandy soils. The aim is to reduce the exploitation of water and soil by replacing fresh water by treated waste water and to investigate the use of aeroponics and biochar assisted cultivation systems as soilless agricultural techniques for crops.

### CLIMAQUA

*Establishing an innovative and transnational feed production approach for reduced climate impact of the aquaculture sector and future food supply.*

In conventional aquaculture, feed production is responsible for 50% of greenhouse gas (GHG) emission. CLIMAQUA works on an innovative process for converting and recirculating aquaculture side-streams in algae-based feed production for aquacultures. The aim is to substantially reduce GHG emission by considering geographic and site-specific characteristics and to design site specific cultivations for almost completely ingestible feed.

### PHEALING

*Post Harvest losses mitigation by improved plant HEALING.*

Plant healing represent an important genetic potential to reduce post-harvest losses with limited reliance on storage facilities. The PHEALING project explores natural plant healing mechanisms and microbial antagonists to determine new methods that prevent post-harvest losses applied across a wide range of crop varieties. The project will build on a collaborative work with farmers and processors that will enable identification of specific post-harvest losses as well as the bottlenecks in the implementation of novel methods, fostering transdisciplinary approaches.



## CRRIsP

*Climate Resilient and Responsible Innovations in Potato.*

Climate change will lead to new and more severe abiotic and biotic stresses in potato production systems globally. These are likely to affect the entire value chain of potato. The project aims to contribute to the knowledge base of the potato value chain by deploying innovative tools and solutions in variety development, seed systems, agronomy and post-harvest losses. CRRIsP will be analysing the trade-offs and synergies of innovations and their applicability to different (production) systems and will contribute to capacity building and engagement in knowledge exchange on the potato value chain.

## NutriGreen

*Promoting Green Nutrition for the Sahel region.*

Yields of staple foods in the Sahel region are set to decline due to climate change, adding more pressure on the already highly strained local food systems. Indigenous vegetables and tree crops could fill this shortfall. They are highly nutritious, well-adapted to the local climate, less affected by pests and diseases and therefore require fewer inputs. NutriGreen will research these plants through sustainable nutri-sensitive food value chains to understand how their production and consumption can be amplified.

## C4C

*CropsForChange; Tackling the global warming effects in crops.*

Global warming is expected to negatively affect the plant reproductive processes. This will hamper the normal fruit and seed development and thus limit crop yields. The C4C project aims to face the impact of heat and drought stress in solanaceae and cereal crops. The project will study genetic resources and chemical analytical approaches to identify key genes involved in the response to stresses. This information will set the basis to transfer the acquired knowledge in breeding processes which will lead to the development of lines with an improved adaptation to global warming and water shortage.

## CHIAM

*Integrated chia and Oyster mushroom system for Sustainable food value chain in Africa.*

Enhancing food and nutrition security in Africa is essential to improve livelihoods for resource-poor individuals and households. This requires an increase in the efficiency and sustainability of local primary production, and the availability of diverse and nutritious food products. The CHIAM project aims to contribute by creating a circular agro-system with improved chia seed, oyster mushroom and the effective use of by-products as feed and for biogas production.

## Sus-Agri-CC

*Innovative biofertilizers boosting yield of cereals and horticultural crops under global climate change.*

Knowledge obtained from essential plant and soil sciences must be connected to innovative applications in agriculture and plant cultivation to find solutions for the internationally shared challenges of sustainable agricultural and biomass production. Sus-Agri-CC aims at the development of cultivation techniques and biofertilizers that boost plant yield, recycling of agro-industrial wastes into compost and biostimulants, and developments in the quality, novel functionalities and tolerance to abiotic stresses in crops.

## BLUE-CYCLING

*Integrated aquaculture and agriculture for resource-efficient food production.*

Integrated aquaculture-agriculture is an resource-efficient technology that allows for nutrient, water and energy recycling within the concept of safe and sustainable food production. Due to its controlled environment, it is able to deliver fresh food with minimal resource inputs despite external climatic conditions. BLUE-CYCLING aims to advance current aquaponic designs by developing this technology from farm to fork through innovation in existing integrated fish production techniques and greenhouse designs in conjunction with permaculture and agroforestry.



## SALAD

*Saline Agriculture as a Strategy to Adapt to Climate Change.*

Climate change increases the salinity in agricultural soils by sea-level rise and more frequent droughts. Progressing salinisation is one of the major drivers of soil degradation in Europe and North Africa, exerting increasing pressure on conventional farming. SALAD aims at improving the resilience of food production in saline agricultural areas by supporting the development of innovative salt-tolerant crops, developing crop cultivation in saline conditions and innovative market techniques and instruments and knowledge exchange.

## Thermok

*Thermophilic breakdown of keratin-laden biomass waste.*

Keratin is a recalcitrant structural protein that makes up the major component of feathers, hair, horns, hooves, etc. Keratin-laden tissues represent a significant challenge for the animal rendering industry. Thermok addresses the application of selected anaerobic thermophilic bacteria which can be optimised for keratin-laden waste degradation as well as the understanding of the enzyme activities within the bacteria responsible for this degradation. The project aims to convert waste in valuable products including peptides, amino acids, feed and fertilizers.

## BIO-BELIEF

*BIOfortification of common Bean to promote healthy diet and Food security in a context of climatic variation.*

Common bean is a staple food in many regions in the world. Bean seeds are a major source of minerals. However, these minerals are scarcely bio-available. Besides, about 60% of common beans produced worldwide are grown in regions subjected to climate stress. The BIO-BELIEF project aims to select new biofortified and drought resilient bean lines, in order to promote a healthy diet in a general frame of food security.

## TRUSTFARM

*Towards Resilient and sUStainable integrated agro-ecosystems Through appropriate climate-smart FARMing practices.*

Agriculture in the Mediterranean and Sub-Saharan Africa is increasingly challenged by climate change. TRUSTFARM will design integrated agro-ecosystems based on the selected pathways with on-farm trials to cope with climate change. These innovative pathways contain the identification of crops resistant to heat and disease, soil and water conservation techniques and the adaptation of best practices in animal husbandry.

## SAFOODS

*Strengthening African FOOD Systems in the face of climate change and food insecurity.*

Despite their importance for health, fruits and vegetables are poorly considered in most food security and climate change studies. SAFOODS considers the need for reshaping the West-African fruit and vegetable food system to sustainably contribute to food and nutrition security, with an emphasis on poor urban consumers. The main objective is to assess climate change-related risks on fruit and vegetable and to co-design innovations with actors of food chains. The project uses both the reduction of food losses and the diversification of cropping systems and foodsheds as complementary strategies.

## BICEPS

*Biochar integration in small-holder cropping systems – economy, food product value chains, climate change resilience and soil fertility.*

Biochar integration in small-holder agriculture is a transformative adaptation of the food production system to achieve climate mitigation, climate resilience and sustainable intensification. This project aims to quantify the contribution of biochar to climate change resilience, improved food security and profitability and to address knowledge gaps regarding biochar use in small-holder agriculture contexts in sub Saharan Africa.



## Introducing the FOSC partners

The FOSC Partnership is a dedicated collaboration on Food Systems and Climate spanning three continents. For each newsletter Martine Vernooij interviews some of our partners. We present their ideas about FOSC by asking them questions about their motivation to join FOSC, their hopes for FOSC and the important themes and needs regarding Food Systems in their country. In this edition we give the floor to: AM, NRF and ILVO.

### AM

The Hungarian Ministry of Agriculture (AM) is a consortium member in FOSC and a contributing partner in Work Package 5, which deals with the Communication, Exploitation and Dissemination of project results. AM was Co-Task Leader of the organisation of the Funded Projects' Kick-off Workshop which was held in June 2021 as an online event.

We speak with Vanda Riedel-Füzesi about the organising teams' (Valéria Csonka, Ákos Kristóf and Vanda Riedel-Füzesi) experiences and impressions concerning the kick-off event, the challenges for the food system that Hungary will face in the coming years and their hopes for FOSC.

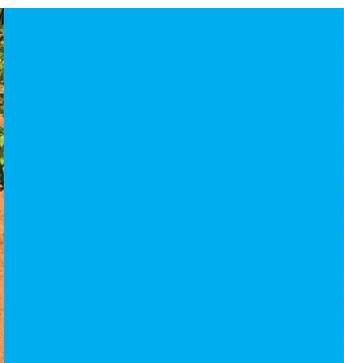
Vanda: "It has been an exciting challenge for me and my colleagues to get involved in the work of the consortium team as FOSC is one of the few ERA-NETs that our ministry has ever taken part in. It is an additional pleasure that we could make it possible for project researchers, consortium members and other stakeholders via the projects kick-off workshop to meet, share views and ideas and get the projects started, even if only virtually. It was great to see that researchers from different continents could be brought together and engaged in dialogues which resulted in collaborations to reach the common targets."

As for the challenges concerning food system that Hungary will face in the coming decades, Vanda said: "Our common goal is sustainability. This means a healthy diet and access to nutritious food for all people, not just in our country but everywhere on the planet. However, the effects of climate change make it more and more difficult to maintain an

optimal state. Additionally, food waste should be restrained. It is below the European average in Hungary, but still it must be reduced as much as possible. We think that it's essential to increase resilience, and strengthening the innovation response is key here. Only this way will we be able to give adequate solutions to arising problems."

"On this topic our deputy state secretary David Bencsik spoke as well during the welcome speech at the projects kick-off workshop. The work of FOSC is of paramount importance in collecting our resources. We think that the role of research and innovation needs to be emphasised in order to reach tangible results in terms of sustainability. The 17 funded projects all contribute very well to the achievement of the UN 2030 Sustainable Development Goals."

When asked about hopes for FOSC Vanda answered: "We hope that with the help of this ERA-Net our researchers will be able to contribute to these global goals both in Hungary and on international level."



## NRF

South Africa is a funder in the FOSC consortium and a contributing partner in Work Packages 4 and 6. The NRF, working closely with the Department of Science and Innovation (DSI), supports and promotes research and human development through funding and providing research infrastructure to facilitate the creation of knowledge, innovation and development in all fields of science. Through a multiplicity of mechanisms and robust strategic partnerships such as FOSC, internationalisation underpins the accomplishment of this mandate.

We speak with Prudence Makhura on the specific challenges in the food system for South Africa. Prudence: “The lack of food security is one of the most urgent crises facing South Africa today. Although we produce an abundance of fresh, nourishing food that could feed all citizens, a significant number of South Africans do not have access to adequate food, and are under-nourished. One of the key problems is food wastage. Also, climate change and its impact on harvests, livestock, food quality, land use, soil and water, have worsened the situation over the years. This makes it extremely difficult for South Africa, and Africa as a whole to achieve food security and nutritional goals.”

Prudence continues: “To end hunger and malnutrition in a sustainable way, South Africa needs innovative approaches in addressing the systemic causes of hunger, from food availability, to food access and food utilization. South Africa urgently needs to leverage appropriate technologies and develop new models to ensure that nutritious food is delivered where it’s needed the most.”

What does South Africa need to realize this? Prudence: “It is important for our country to partner with others and invest in supporting research that can interrogate innovative ways of addressing and integrating climate variations in food systems. South Africa, thus, needs to draw from others’ experiences and insights on how to adapt consumption patterns,

provide access to nutritious food to all and prevent food loss and waste. The hope is that South Africa can, through collaboration in FOSC, design local as well as regional solutions contributing to food security and resilience and sustainability of food systems.”

On the question of which aspects of FOSC made the programme attractive for NRF Prudence answered: “FOSC is an important platform for South Africa. Its vision, aim and urgency in addressing climate change as one of the major issues threatening food and nutrition security is aligned with our countries goals. As is the approach to do this by tapping on regional capabilities and forging multi-sectoral collaborations in addressing common problems.

Assessing the impact and consequences of climate change on food systems will go a long way in assisting South Africa to develop sustainable solutions and resilient food value chains. It is through trans-national and multi-sectoral partnerships like FOSC that South Africa can transform education and training sectors, and drive a change in culture, consumption patterns and citizens’ behaviours. FOSC’s strategy of bringing together different consortia working within the FNSSA has the potential to significantly reduce fragmentation within the sector and increase investment in this research area.”

South African researchers are very well represented in the FOSC projects and participate in 9 of them. Prudence: “The NRF expected South Africans to participate in FOSC in high numbers given the importance of this particular topic to South Africa. It was also encouraging to notice increased South African partnerships with researchers from Kenya (8 out of 9 South African projects have Kenyan researchers), Germany (4 out of 9 South African projects have German researchers), France (3 out of 6 French projects have South African researchers) and Norway (all the Norwegian projects have South African researchers). This emanates from strong long-term



bilateral partnerships the country has developed with these countries over the years. Our bilateral agreements with Germany (signed 1996), Kenya (signed 2004), France (signed 2008) and Norway (signed 2002) have enabled continuous support for collaborative research projects between South Africa and these countries.”

Prudence concludes: “South Africa’s hope is for FOSC to bring the food system theme at the centre of the climate change agenda, and assist us to deliver tangible results which can protect our future, accelerate our actions and raise awareness of the need for change. South Africa also anticipates that FOSC will continue to convene stakeholders from across the food system for knowledge sharing, communication and dissemination of projects’ outputs in order to increase their effectiveness and impact. It will also be important for FOSC to support research uptake activities on these matters, and integrate decisions that will ensure overall human and planetary health.”

## ILVO

Flanders Research Institute for Agriculture, Fisheries and Food (ILVO) from Belgium is a consortium member in FOSC and contributing partner in Work Package 4 and 5. As Work Package 4 leader, ILVO is organizing the follow-up and monitoring of the projects that are funded in the 2019 co-funded call. Additionally, ILVO is co-leading the task of the support and facilitation of the funded projects communication activities, and co-leading the funded projects final workshop in Work Package 5 (Communication, Exploitation and Dissemination of the results). We speak with Els Lemeire, Wim Haentjens and Nikki De Clercq about the work done by ILVO in FOSC, the specific challenges in the food system for Belgium and the new knowledge that is needed for food systems transformation.

Nikki: “ILVO’s mission is to support sustainable agriculture, fisheries and the agri-food chain in Flanders, Belgium, Europe and the world. This aligns perfectly with the whole programme of FOSC and was an important reason for ILVO to participate in the FOSC programme.”

“ILVO is responsible in FOSC for the follow-up and monitoring of the 17 research projects that resulted from the co-funded call. The data that is produced by continuous monitoring and the collection of information from these research projects will be used for dissemination and knowledge sharing activities. Also it will hopefully allow us to evaluate the impact of these projects. Learnings from FOSC can contribute to help shape the future Horizon Europe Partnership for Safe and Sustainable Food Systems.”

What are specific challenges in the food system that Belgium will face in the coming years?

Els and Wim: “Climate challenges become more and more important and these are two-fold. On the one hand, energy-related emissions such as emissions from greenhouses, and non-energetic emissions such as methane emissions from livestock urgently need to be reduced. Regarding methane emission



**FOSC is participating** at the international conference **Circular@WUR**. There will be a short **pitch presentation** and a **poster**. Circular@WUR provides an overview of the state-of-the-art of current knowledge about a circular, bio-based society. It is hosted as a physical conference in Wageningen the Netherlands from **11-13 April 2022**. It can be followed online as well by livestream. [Read more](#)

measures, some are ready to be rolled out. Nevertheless, there are still a lot of research gaps and especially with regard to energy saving and use of renewable energy. These gaps are both in the primary production and in processes higher up in the value chain such as in processing, packaging, distribution and consumption. In addition, it is important to reduce food waste and losses and to increase circularity in view of their clear co-benefits for climate mitigation. Another key challenge is to achieve a more sustainable, diverse and forward-looking protein supply through a specific protein strategy that should contribute to increasing European self-sufficiency.”

Els and Wim continue: “On the other hand, more extreme weather events and especially longer and more intense drought periods, warmer sea temperatures, sea level rise and flooding already have an impact. The expected weather variability under climate change will pose a major difficulty for farmers to adapt to, due to its impact on soil and water availability during the growing season as well as on the health of plants, animals and the safety of products.”

On the need for new knowledge: “Much is needed, but allow us to highlight the strong need for farm and food system specific data to enable customized climate measures. Let us give an example. ILVO and in particular the Centre of Expertise for Agriculture and Climate are implementing a program that allows farmers to switch to a more climate-friendly and

climate-robust management, including through the use of a sector-specific climate scan and subsequent support. The program provides farmers a valuable customised support, but more is possible. Locally validated carbon accounting is needed to provide the necessary new insights into carbon storage to reward ongoing efforts of farmers and to inform consumers.”

What are your hopes for FOSC? “We hope that FOSC can help partner countries to apply systemic change to their agriculture and food systems, and improve sustainability and health of these systems while meeting the future strong demand increases.”





# FOSC

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