11th German-Brazilian Symposium for Sustainable Development

Towards a Resilient and Safe Future









MARCH 20-23, 2024
UNIVERSITY OF TÜBINGEN - GERMANY

11TH GERMAN-BRAZILIAN SYMPOSIUM FOR SUSTAINABLE DEVELOPMENT

TOWARDS A RESILIENT AND SAFE FUTURE

Very often, the key components of sustainability such as climate, water, soil, biodiversity, agriculture and forestry, health, energy, green technology, societal actions and response, and (bio-)economics, are analyzed and managed separately.

The scope of the German-Brazilian Symposium for Sustainable Development is to unite researchers from the two countries with different experiences and with investigations from different areas, enhancing inter- and transdisciplinary approaches and, thus, maximizing the benefits of integrated concepts and solutions.

The 2024 edition of the Symposium will have a special focus on resilience, food security, and climate justice. Agri-food systems have been a topic of discussion in former editions and, yet again, stars in the 2024 one but with the addition of a new dimension with the focus on food security by urban-rural food networks.

The well-established section on Drug Development and Innovative Medical Treatments will explore various manifestations of resilience.

Innovation was introduced first in 2022 as a new thematic string, for it is an underrated factor in development strategies and policies. This time, the Innovation section will deal with Green Technologies and, again, Circular Economy.

The section on Human Resilience and Climate Justice will shed a new light on sustainability issues. Debates and workshops will prepare the floor for new interdisciplinary collaborations.





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A: RESILIENCE AND ADAPTATION FOR SUSTAINABLE AGRI-FOOD SYSTEMS

Agri-food systems encompass value chains of food and non-food agricultural products originating from the crop, livestock, forestry, fisheries, or aquaculture. They include stakeholder activities related to the conservation of natural resources, cultivation and production, harvesting, transport, storage and processing to the marketing of agricultural products, their consumption and use.

Agri-food systems are exposed to various crises and shocks that threaten food security and nutrition as well as the environment and natural resources on which they depend. At the same time, the Agri-Food system contributes up to 30% to global greenhouse emissions and, thus, climate change. A transition towards sustainable agri-food systems involves several challenges and social justice issues; for instance, fair working conditions at farms or access to healthy food for local communities.

Promoting the adaptation and resilience of agri-food systems is, thus, of essential importance and demands integrative and holistic approaches based on an improved societal dialog and knowledge exchange between basic and applied science, education, extension, policy, and economy. We welcome contributions targeting innovations, opportunities, and challenges on the pathway to adapted, resilient and healthy agri-food systems.

A1: IMPROVING RESILIENCE IN AGRICULTURAL PRODUCTION SYSTEMS – INTEGRATION, INNOVATION AND MANAGEMENT

A2: SUSTAINABLE URBAN-RURAL FOOD NETWORKS – POLICY APPROACHES FOR FOOD JUSTICE AND SECURITY

A3: WORKSHOP: IDENTIFYING INNOVATIVE PATHWAYS TO ACCELERATE TRANSFORMATION



B: STRENGHENING RESILIENCE BY DRUG DEVELOPMENT AND INNOVATIVE MEDICAL TREATMENTS

The COVID-19 pandemic was a historical hallmark that affected our lives in several ways, especially by showing the vulnerability of the global health system.

One of the critical lessons learned from the COVID-19 pandemic is the need for a more resilient global healthcare system. The pandemic exposed vulnerabilities in the supply chain for drugs, active pharmaceutical ingredients, medical devices, and equipment, primarily due to a heavy reliance on single-sourced suppliers and limited redundancy. To enhance the sustainability of the healthcare infrastructure, a comprehensive resilience strategy must be put in place. A resilient healthcare system should be built on a systematic framework that incorporates key criteria such as redundancy, decentralized sourcing, reliability, and an emphasis on quality over cost.

By adopting a more rounded approach to face these problems, healthcare research and industry can be better prepared to face future global health crises. Concerning Brazil and Germany, we share many concerns about the resilience of medical drug discovery, development, production, and supply. Joining forces here, both academic and industrial, would be of major benefit to all. The goal of the thematic session is to shed light on these general health issues and obstacles, as well as show new strategies for overcoming these matters, which have been proposed and developed in these two partner countries.

BI: DRUG DEVELOPMENT AND FIGHTING INFECTIONS

B2: INNOVATIVE MEDICAL TREATMENTS

B3: OPEN DEBATE: RESILIENCE, MEDICAL DRUGS AND TREATMENTS



C: GREEN INNOVATION AND CIRCULAR ECONOMY FOR LIFE AND FOOD

Modern circularity thinking includes product design with adapted lifetime, reusability, repairability, and recyclability, all made with renewable resources. These criteria aim to address Earth's resource and waste challenges and contribute to sustainable development. However, greater success will have to come from changes at the product-design level (Kümmerer, Clark, Zuin, 2020). In fact, designing, developing and implementing green, diverse, healthy, and resilient systems is a prerequisite to foster more sustainable processes, materials, and business models. In agro-industry and other related sectors of food production, consumption and security should aim for the sustainable use of bio-based resources. As it is known, food loss and waste are some of the major issues affecting the food supply chain, resulting in socio-environmental deterioration, such as the increase in hunger, especially in emerging economies.

This session emphasizes the intersection of innovation, constitution, dynamics, structures, and cooperation modes, including traditional knowledge, such as the ones from Indigenous peoples, of healthier and more regenerative systems, their efficiency, resilience, and sustainability. Regarding the Circular Economy in Sustainable Food Systems, the need to decarbonize the agricultural and energy sectors to achieve climate change goals is compounded with considerations of resource efficiency, and an increasing interest in green chemicals, green growth, and circular economy (EU, 2022). Regarding Green Technologies for Sustainable Life, the reduction and simplification of total substance, material, and product flows from local to global levels, rather than only focusing on the synthesis of a molecule (as a drug or pesticide) will be taken into account based mainly on a concept known as Benign by Design (Zuin & Kümmerer, 2022).

To summarise some of the main topics of this session, research and innovation addressing low-carbon, short-chain, and circular delivery systems for innovative biobased applications, using a systematic thinking approach for the provision of greener and more sustainable products based mainly on biomass for all uses, whilst preserving the delivery of ecosystem services, will be the main focus of the final roundtable on Green Innovation and Circular Economy.

CI: CIRCULAR ECONOMY IN SUSTAINABLE FOOD SYSTEMS

C2: GREEN TECHNOLOGIES FOR SUSTAINABLE LIFE

C3: OPEN DEBATE: GREEN INNOVATION AND CIRCULAR ECONOMY



D: HUMAN RESILIENCE AND CLIMATE JUSTICE

Calls for Climate Justice have a double focus on material and ideational aspects. The rising pressure of climate change affects societies in the Global South and in the Global North, augments environmental inequalities, and increasingly turns into violence (Martínez-Alier & Walter, 2016). Recent examples of conflicts over resource extraction in Latin America show that Indigenous peoples are among the most vulnerable to these pressures and are the most affected. For example, water contamination damages communities' resources but also affects rivers as 'living beings' in their worlds (de la Cadena 2015; Escobar 2015). At the same time, classical "fenced" conservation models are challenged by critiques of Indigenous peoples denouncing scandals involving the violation of rights. Consequently, current global initiatives to halt biodiversity loss increasingly acknowledge that local communities have proven to be more successful in sustaining ecosystems.

This session on resilience and climate justice is organized along two lines: The first focuses on education and culture, including Indigenous knowledge and alternative views on human-nature relations, such as the Rights of Nature (RoN) denoting nature's inherent right to exist and flourish. The second line focuses on the material aspects of fair distribution and access to water, land, and trade by zooming in on conflicts over resources as well as measures to improve environmental and social standards, such as supply chain laws. Finally, the session culminates in a workshop about bottom-up Climate Justice in the Global South and North to explore the potential to build resilience and yield legal and institutional models for more sustainable and just human-nature relations.

DI: IMPROVING RESILIENCE BY EDUCATION AND CULTURE: PLURALIZING KNOWLEDGE

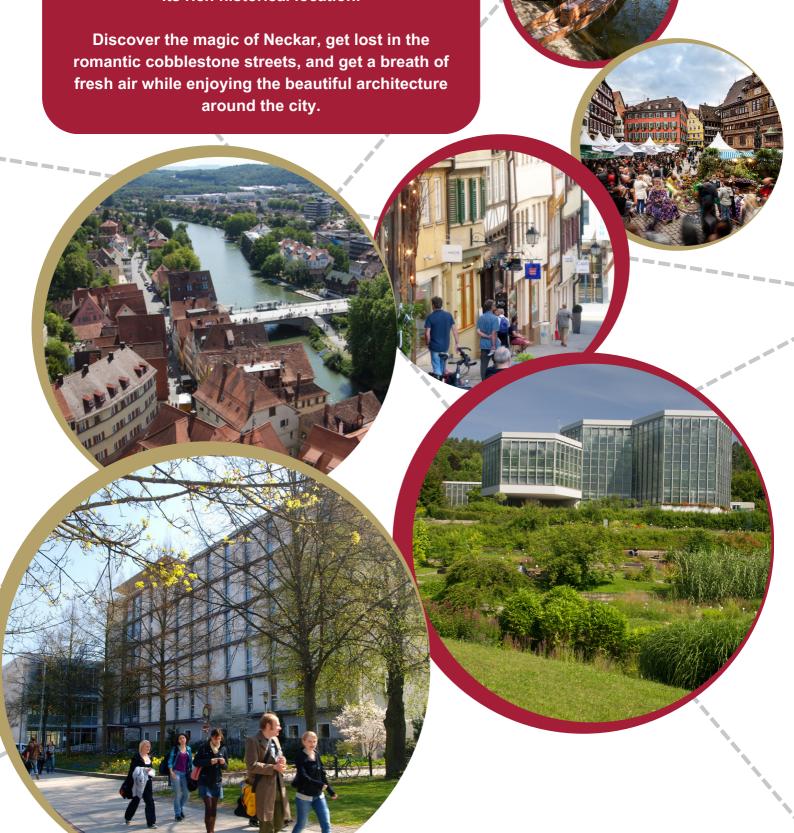
D2: WATER JUSTICE AND FAIR ACCESS TO RESOURCES

D3: WORKSHOP: BOTTOM-UP CLIMATE JUSTICE IN GLOBAL SOUTH AND NORTH



The university city of Tübingen is located in southwest Germany and it is flanked by the Neckar and Ammer rivers.

Tübingen is characterized by its youthful vibes and its rich historical location.





The Symposium will be held in the Brechtbau (Neuphilologikum) building.

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