EU CAP NETWORK

# Information presented during the field visits at the EU CAP Network brokerage event ‘Partnering for innovation with impact in agriculture and rural areas’

## Field visit ‘Sustainable, healthy and resilient crop and livestock production’

29 - 30 April 2025 **| Prague, Czech Republic**

Funded by the European Union

# AfroGrow

2025-2028

HORIZON-CL6-2024-FARM2FORK-01

project ID 101182027

AfroGrow: Informed Decision-Making for Agroforestry Systems in Africa through a Network of Living Labs

## Agroforestry Living Labs for Sustainable African Growth


Radim Kotrba

afrogrow-project.eu

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Funded by the European Union

# Czech University of Life Sciences Prague (Czech Republic)

CZU (www.czu.cz/en) is the fourth largest university in the Czech Republic.

Recently more than 18,000 students and more than 150 study programs at BSc, MSc and PhD levels from all around world. 6 faculties, University Forestry, Farm, Vinary….

It combines more than a century long tradition with state-of-the-art in progressive science and research in agriculture, food sciences, forestry and wood sciences, earth sciences, biology, ecology and the environment, economic disciplines, computer science and engineering, technology and materials and agroforestry as well.
Hosting International Union for Agroforestry (www. iuaf.org) and
Czech Association for Agroforestry (www.agrolesnictvi.cz).

Faculty of Tropical AgriSciences has leading role in agroforestry activities and running also experimental sites (Living Labs) for agroforestry within the country. Unique experimental herd of African eland antelopes present at CZU Farm.

- *Coordination of the CZU team*
- *Main contact person for the Consortium/project coordinator*
- *Main contact for the project support team*

**CZU coordinator**
*Radim Kotrba*

**FTZ** *(Faculty of Tropical Agrisciences)*
*Radim Kotrba, Bohdan Lojka, PosDoc,*

**FŽP** *(Faculty of Enviromental Sciences) Tomáš Junek*
*Emílie Trakalová*
*Ph.D. student,*

- *Support to CZU coordinator*
- *Admin contact to project coordinator – fin. reporting etc.*
- *Internal project management – budget, contracts, travel, etc.*

Project support team
*Emilie Trakalova*

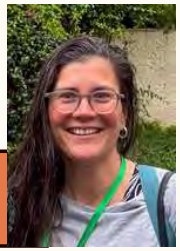
*Coordination of the CZU scientific team*

**Scientific coordinator**
*Bohdan Lojka*

**FTZ Project assistants**
*Paula Andrea Castro Martinez*
*Arunabha Khara*

| WP 1 AU-EU MAA strategy and identifying key objectives and challenges *FAPPZ + FTZ* | WP 2 Comprehensive databases of suitable plant and animal species and breeds *FTZ + FAPPZ* | WP 3 Impact assessment of multi-functional agroforestry systems and practices *FTZ + FAPPZ* | WP 4 Digital Ecosystem for informed decision-making and potential upscaling | WP 5 Raising awareness and demonstration sites as agroforestry LLs *FAPPZ + FŽP* | WP6 Dissemination, outreach, exploitation activities, and capacity building *FŽP* | WP 7 Project management *FŽP* |
|---|---|---|---|---|---|---|
| • Cooperation in all WP 1 Tasks<br>• Lead of Task 1.4. *Mapping the curriculum of the agroforestry sector in the African region* | • Lead of Task 2.3. *Mapping the curriculum of the agroforestry sector in the African region*<br>• Lead of Task 2.5. *Regional suitability assessment maps for optimum animal breed selection* | • Lead of WP3<br>• Cooperation in all WP3 tasks<br>• Lead Task 3.6. *Evaluating Animal health, Agroforestry Systems for Food Security and Ethnopharmacologic al Crop Cultivation* | • Cooperation in all WP4 tasks – all task leaders | • Cooperation in all WP5 tasks<br>• Key co-lead of Task 5.2. *Raising regional awareness to shift stakeholder perspectives on agroforestry and mitigating gender inequalities*<br>• *Lead Task 5.6 Addressing traceability for assessing the effectiveness of agroforestry management systems* | • Cooperation in all WP 6 tasks | • Cooperation in all WP 7 tasks |

**FTZ**
*Marie Kalousová*



**FAPPZ** *(Faculty of Agrobiology Food and Natural Resources)*
*Markus Dettenhofer*

*Ioannis Manikas*

*Agyenim-Boateng Kwadwo Gyapong*

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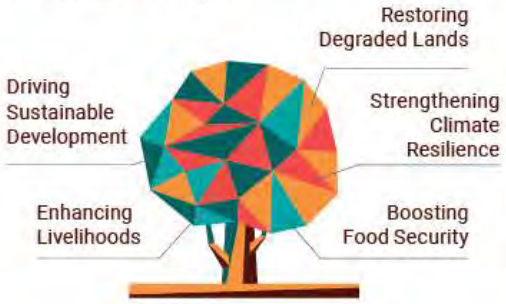
# Czech University of Life Sciences Prague (Czech Republic)

## AFRICA'S CHALLENGES

- Tropical & arid regions face extreme weather conditions & droughts.
- More than 75% of deserts and drylands experiencing degradation.
- Human actions lead to deforestation & biodiversity loss.

## WHY AGROFORESTRY?

Agroforestry integrates trees, crops, and livestock resulting in:




## AFROGROW'S APPROACH

**AfroGrow aspires to transfer proven EU agroforestry practices to the AU, tailored to local needs.**

**HOW:** By establishing six Living Labs across Africa, driving innovation through collaboration, and uniting communities, researchers, and policymakers to co-create sustainable agroforestry solutions.

## 6 LIVING LABS


## ACTIVITIES

- **Optimising** plants, breeds & management.
- **Evaluating** soil health.
- **Comparing** biodiversity in agroforestry & non-agroforestry systems.
- **Assessing** pathogens & diseases via eDNA.
- **Examining** water dynamics & water security impacts.
- **Monitoring** agroforestry with Earth Observation tech & field data.

## OUR SMART SOLUTIONS

### AfroGrow Platform

***A Collaborative Hub for Agroforestry Data***

A Hub storing Living Labs' data & connecting AU & EU stakeholders to interact, share knowledge, and strengthen partnerships.

### AfroGrow App

***Empowering Agroforestry Management***

An app enabling data collection, providing insights, feedback and recommendations to support well-informed decision-making.

### Pan-African Agroforestry Hub

***Fostering Collaboration and Policy Advancement***

A Hub promoting agroforestry practices, serving as a platform for policy development and community engagement.

### E-learning Platform

***Unlocking Knowledge for sustainable Agroforestry Practices***

An open-access platform offering training materials on agroforestry management and build capacity.

AfroGrow

AfroGrow

Agroforestry
Living Labs
for Sustainable
African Growth

afrogrow-project.eu

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the European Union

## COLLABORATION

**The AfroGrow Consortium unites 25 diverse partners from 9 European and 6 African Countries**

Funded by
the European Union

## PROJECT COORDINATOR

ERATOSTHENES CENTRE OF EXCELLENCE

## PARTNERS

## GET IN TOUCH

afrogrow-project.eu

FOLLOW US

## AT A GLANCE

AfroGrow aims to transform Africa's agroforestry sector by promoting sustainable systems that enhance climate resilience, livelihoods, biodiversity, and gender equity. Through six Living Labs in Botswana, Côte d'Ivoire, Ethiopia, Kenya, Senegal, and Zambia, the project fosters innovation, collaboration, and knowledge exchange, integrating traditional wisdom with advanced tools. By empowering communities, creating scalable solutions, and driving policy impact, AfroGrow strengthens agroforestry practices across Africa within the AU-EU framework.

*Creating dynamic multi-functional landscapes that strengthen food security, address climate change, and support biodiversity.*

AfroGrow

# AfroGrow

## GET IN TOUCH


Kotrba@ftz.czu.cz- CZU coordinator
Lojka@ftz.czu.cz- Scientific coordinator
Trakalova@fzp.czu.cz- Project support team


PARTNERS

ERATOSTHENES CENTRE OF EXCELLENCE
CZU
ARISTOTLE UNIVERSITY OF THESSALONIKI
IRD
SLU SWEDISH UNIVERSITY OF AGRICULTURAL SCIENCES
reframe.food
WHITE
CABI
HEIDELBERG PLANETARY HEALTH HUB
CIFOR World Agroforestry
icipe
WoFaAK
HAWASSA UNIVERSITY
WeForest
GART Promoting Sustainable Agriculture
ISRA
CORAF
BIOST BOTSWANA INTERNATIONAL UNIVERSITY OF SCIENCE & TECHNOLOGY
Elephants for Africa
UNA UNIVERSITE NANGUI ABROGOUA
PRÉSIDENCE DE LA RÉPUBLIQUE DE CÔTE D'IVOIRE
University of St.Gallen
ETH zürich
WILDLIFE RESEARCH & TRAINING INSTITUTE
UNIVERSITY OF NAIROBI




Funded by the European Union

**DIGITAF - DIGItal Tools to help AgroForestry meet climate, biodiversity and farming sustainability goals: linking field and cloud**

Starting from a full understanding of benefits of Agroforestry in terms of climate change mitigation, biodiversity and farming sustainability goals, DigitAF provides tailored, user-friendly and open-source digital tools for everyone involved in the farming industry, from policymakers and farmers to final consumers.

European Commission, Horizon

1. 7. 2022 – 1. 7. 2026

https://digitaf.eu

prof. Ing. Bohdan Lojka, Ph.D., lojka@ftz.czu.cz

# Experimental blue-green infrastructure on PES building

Faculty of Environmental Sciences

Water4All
Water security for the planet

Tereza Hnátková, Adam Sochacki, Michal Brož, Department of Applied Ecology, Faculty of Environmental Sciences, Czech University of Life Sciences Prague.

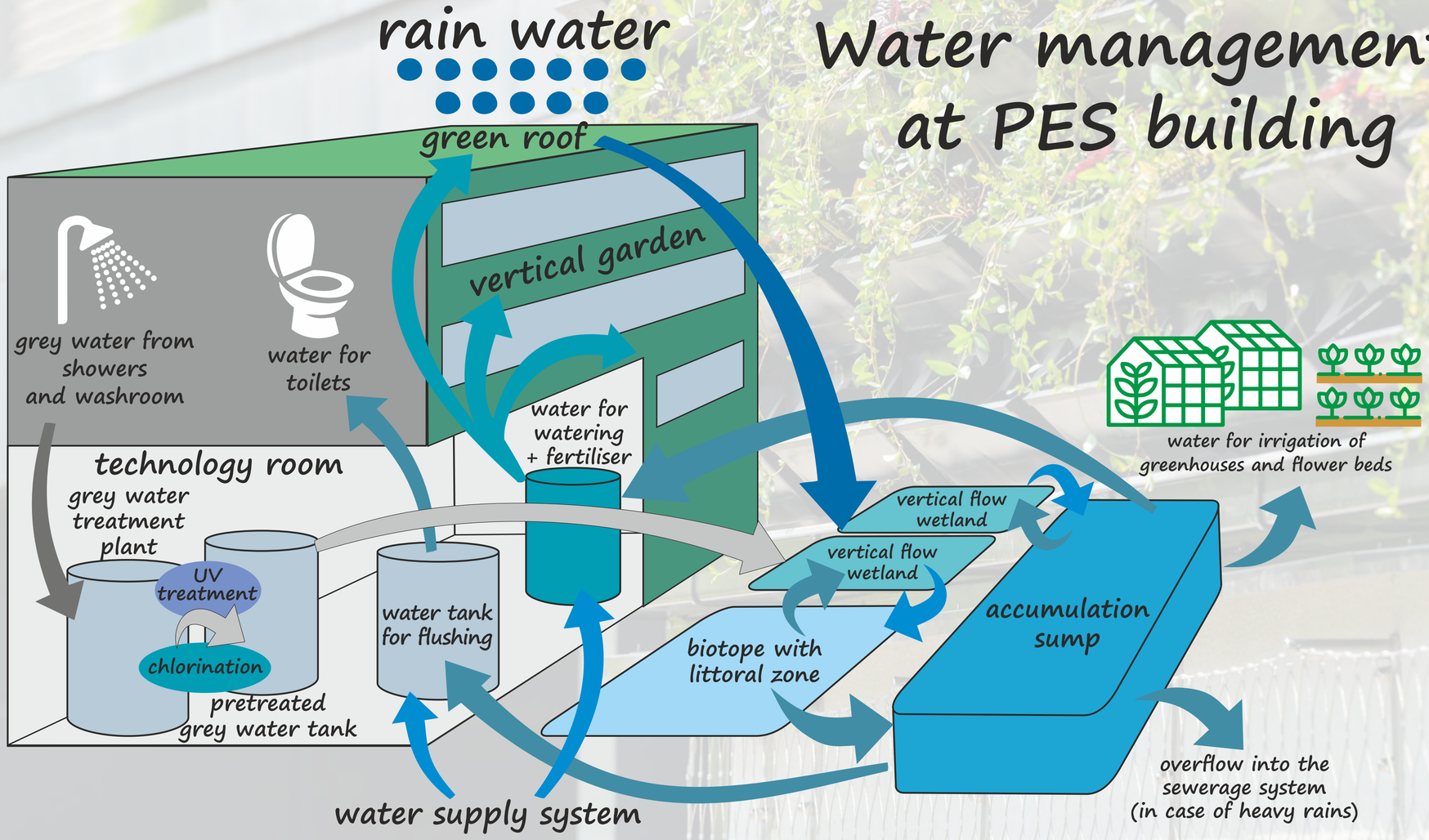
**In response to climate change, advanced strategies in sustainable water management, climate adaptation, and blue-green infrastructure are increasingly critical for urban resilience. The Pavilion of Environmental Studies (PES) at the Czech University of Life Sciences (CZU) exemplifies innovative approaches aimed at reducing the impact of extreme rainfall on the unified sewer system while enhancing climate adaptation.**

**The PES building integrates blue-green infrastructure elements like a green roof, façade, vertical wetland filter, biotope, and underground water storage. These features aid in water retention, filtration, and gradual release, reducing sewer peak loads during heavy rain. The building also uses an advanced runoff collection system and sensor network for precise water management and adaptive responses to environmental changes.**

**This system provides extensive, real-time data on rainfall, water retention, and flow rates, which optimizes the building's resource efficiency and aids in regulating water storage levels according to current and forecasted conditions. The integration of rainwater and greywater recycling significantly lowers freshwater demand, with treated and reused water further supporting CZU's sustainability goals.**

**It serves as a living laboratory with advanced monitoring and regulation, aligning with CZU's climate adaptation strategies. Real-time data provides insights for optimizing blue-green infrastructure and adapting urban spaces to future climate challenges. As a practical model, it demonstrates strategies to mitigate extreme rainfall impacts on urban systems, supporting resilience, sustainable infrastructure, and stewardship.**

## Water management at PES building




## Green roof

The area of the green roof is about 300 $m^2$, 150 $m^2$ is intensive and 150 $m^2$ is extensive. The substrate layer is 50 cm for the intensive and 20 cm for the extensive one. The roof is used for research purposes and is equipped with more than 60 sensors and there are 10 types of vegetation in different conditions, including experimental substrate with biochar. The roof is irrigated by rainwater and by an automatic irrigation system that reacts to the current weather conditions.

## Vertical garden

The area of the green facade is approximately 750 m2. It consists of a system of interchangeable pots for easy maintenance. The pots have approximately 10 cm of substrate and are planted with different types of vegetation. The irrigation system is distributed over the entire façade area and is supplemented by a monitoring system that controls the amount of irrigation according to the current climatic conditions.

## Vertical wetland

The vertical flow wetland is a natural tank composed of aggregate, which is planted with wetland vegetation (Kyprej willow, Yellow Iris, and Marsh Fescue). Functionally, it is an unheated aerobic biofilter, with a total area of 20 $m^2$ and a usable volume of 13.5 $m^3$ divided into two parts with different functions.
First part - usable area 13.3 $m^2$, usable volume 9 $m^3$.
Second part - usable area 6.7 $m^2$, usable volume 4.5 $m^3$.

## Technology room

Technology room consist of grey water treatment system with a capacity of 1500l/day, the purified water undergoes hygienic treatment (UV lamp and chlorination) and then goes to the root filter. A water storage tanks for irrigation, water is pumped from there to the roof (3 circuits) and to the facade (9 circuits). The water for irrigation of the facade is fertilised. And separate pumping station for flushing toilets.

## Biotope

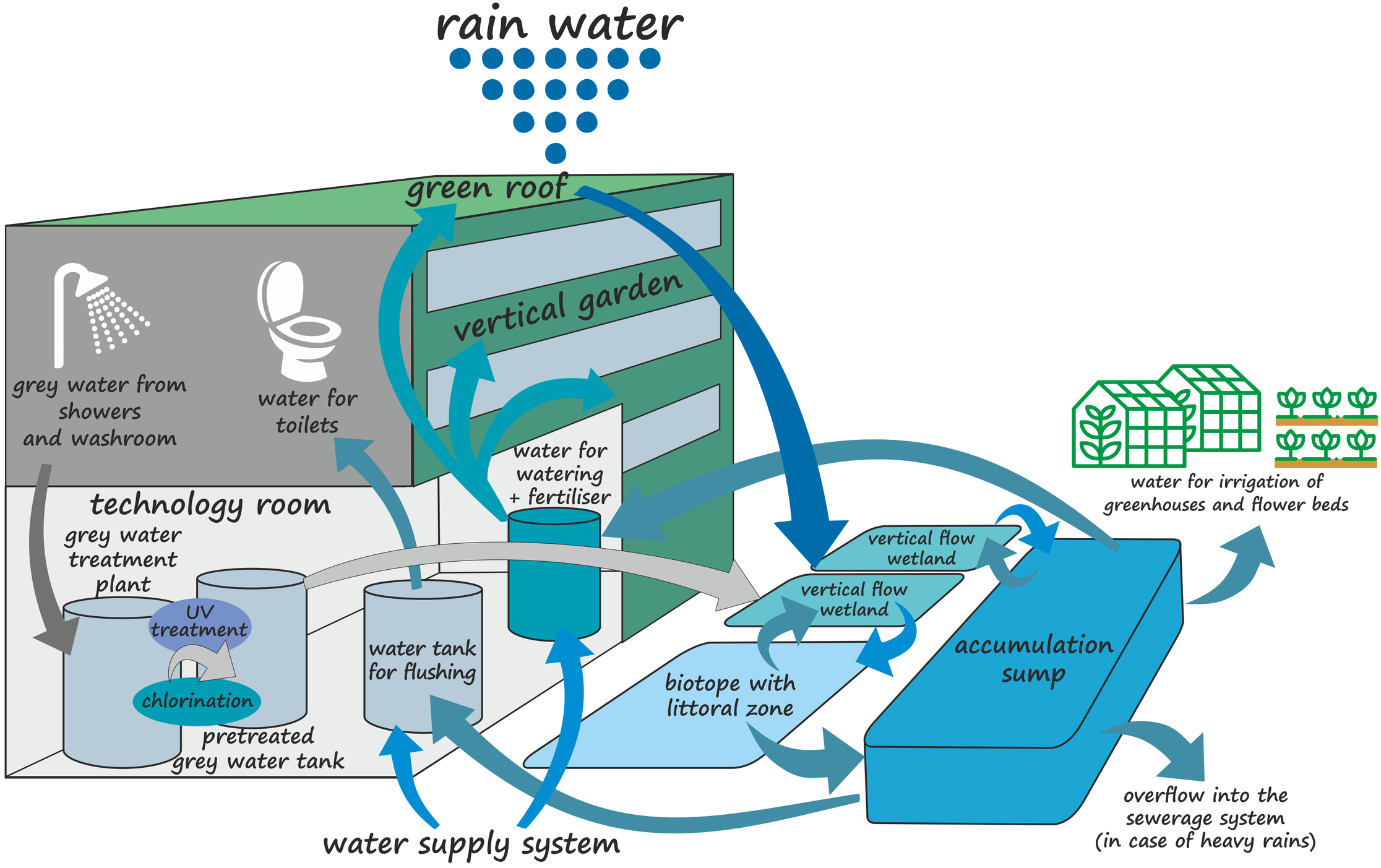
Natural pond, measuring approx. 21 x 7 m. The wetland biotope is divided into a deep accumulation part and a littoral zone. The total area at normal water level is 120 $m^2$, the area of the littoral zone is 25 $m^2$. The total maximum volume of the biotope including retention is 155 $m^3$, the retention volume is 35 $m^3$. The littoral zone is filled with small washed stones, the bottom and slopes are made up of larger stones and wood to increase biodiversity.

## Accumulation sump

Accumulation sump - frame folded tank with external dimensions: W x H x D = 3.6 x 2.65 x 16.9 m. The storage volume of the sump is 120 m3. The thickness of the side walls and the bottom of the sump is 150 mm. The sump will be placed below the surface and backfilled to a height of up to 3.5 metres. All excess water is continuously stored in the sump and is then used for flushing in the PES building and for watering.

Experimental testing of the blue-green infrastructure is taking place in the framework of the Springiness project funded by EU -NextGeneration within the Water4all call.
Contact: hnatkovat@fzp.czu.cz

# Water management at PES building



# International Project Department

**Contact details regarding Horizon Europe projects**

| | |
|---|---|
| Laura Mickova | mickova@fzp.czu.cz |
| Katerina Chmelikova | chmelikovakaterina@fzp.czu.cz |
| Emilie Trakalova | chmelikovakaterina@fzp.czu.cz |
| Katerina Hajkova | hajkovak@fzp.czu.cz |
| Marie Cerhova | hajkovak@fzp.czu.cz |
| Maryna buts | buts@fzp.czu.cz |

# We welcome new collaborations in Horizon Europe projects

Faculty of Environmental Sciences

University full of life

fzp.czu.cz

06/05/25

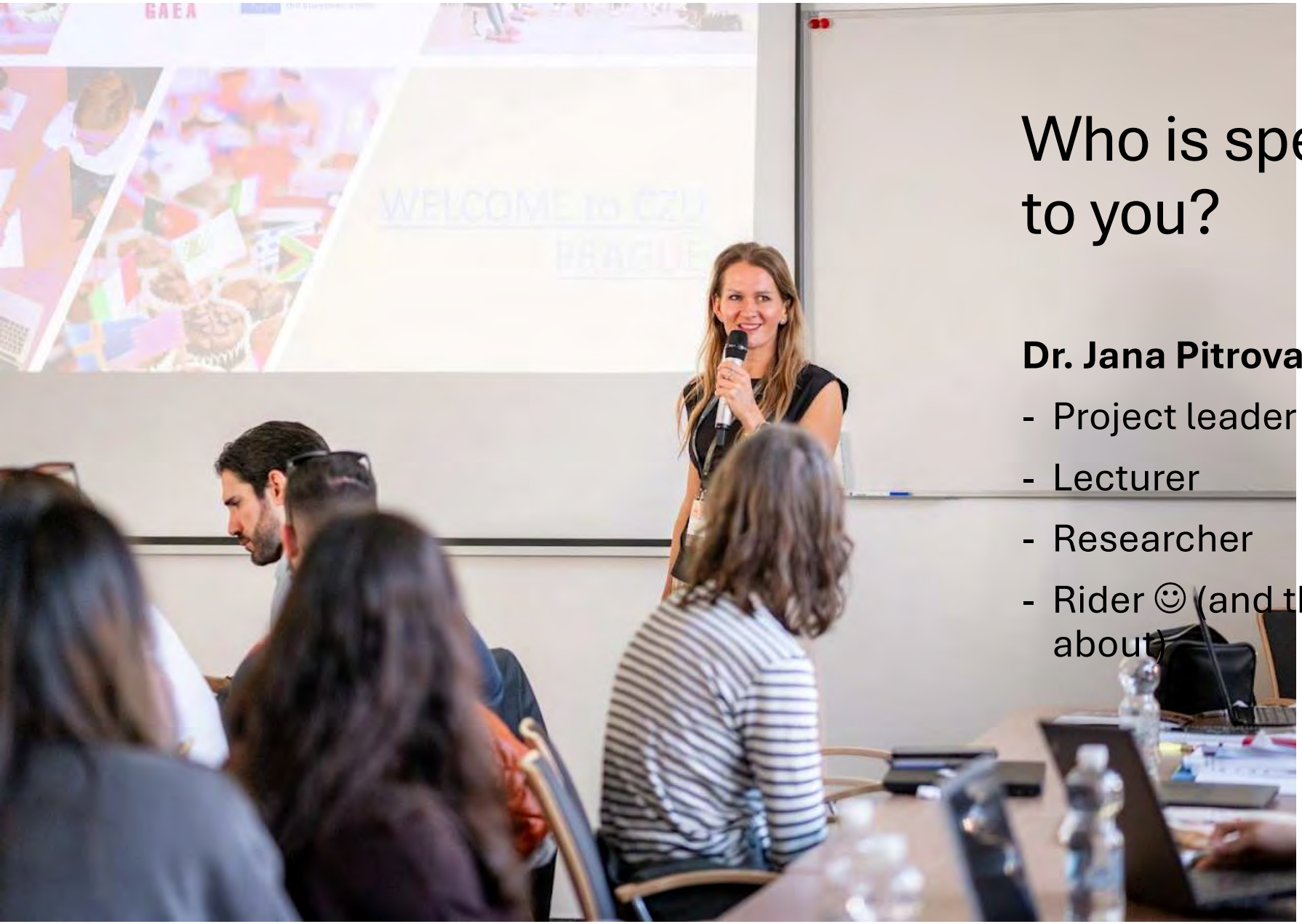
# Sustainable, Healthy, and Resilient Agriculture

## Insights from projects Inpact, Degrebe, Gaea and more

Dr. Jana Pitrova, CZU Prague, Faculty of Economics and Management

Faculty of Economics and Management

Co-funded by the European Union




# Who is speaking to you?

**Dr. Jana Pitrova**

- Project leader
- Lecturer
- Researcher
- Rider ☺ (and this is all about)

Growing Smart in a Changing Climate!

**www.inpactproject.eu**

# INPACT

**= real, practical tools** to vegetable and fruit growers so they can:

- Diagnose plant problems *before* they get serious
- Use **less pesticides** and **more sustainable methods**
- Stay connected even when we can't meet in person

**What we're building:**

- Fresh digital learning: Videos, factsheets, infographics
- An international platform for farmers and experts to swap tips, warnings, and ideas across borders

DEGREBE

## *Development of Green Skills for Better Employability*

- **Goal:** Equip young agri-professionals with green and transversal skills for a sustainable future.
- **Tools:**
  🎮 Interactive online game – real-world farming challenges, decision trees, green soft skills.
  📚 Guidebook for teachers – using gamification to boost learning.
- **Focus:**
  - Environmental protection
  - Soft skills for the green economy
  - Real-life agricultural scenarios

www.degrebe-project.eu


# DEGREBE - gamification

- **Climate change needs new skills** — DEGREBE makes them practical and fun.
- **Young farmers** aren't just growing crops — they're growing resilience.
- **Gamified learning** = better engagement, stronger impact.

🎯 Future farming = Smart, green, and ready for tomorrow!

DEGREBE

Project number: 2021-1-HU01-KA220-VET-000024924,
Development of Green Skills for Better Employability

Funded by the European Union

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# GAEA

Granting Access to Employment & Entrepreneurship in Agriculture for women

**Mission:**
Empower rural women to start **sustainable** businesses in agrifood and agrotourism

**Focus Areas:**
Green transition and sustainable farming
Entrepreneurship education and innovation
Career pathways linked to real labour market skills (EntreComp & DigComp)

**Tools:**

Educational materials & training
Career guidance and mentoring
Bootcamps, like the *GAEA Innovation Bootcamp* in Prague – connecting ideas, passion, and business!

GAEA

gaeaeuproject.com

GAEA Innovation Bootcamp
18th – 20th March 2025



- 80 women entrepreneurs from 10 EU countries
- 3 days packed with ideas, real-world challenges, failures turned into lessons, wild brainstorming, sessions, and future game-changers being born.

✅ Workshops on Business Models & Design Thinking

✅ Storytelling sessions (GAEA Shorts) — authentic, emotional, powerful

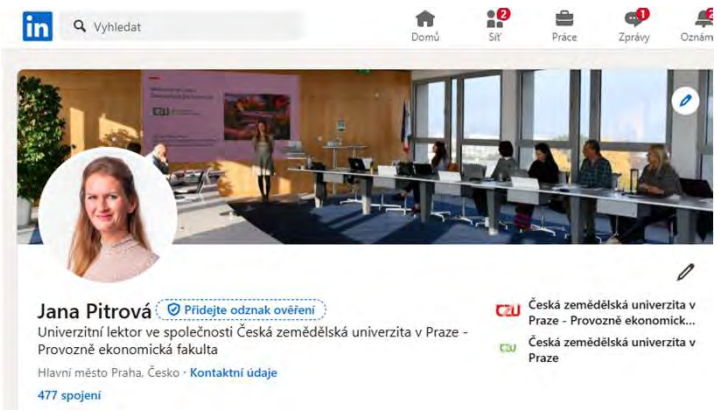
✅ Networking, peer mentoring, serious support

# I would love to explore new opportunities with you!

- Joint project proposals (Erasmus+, Horizon, etc.)
- Research and innovation collaborations
- Exchange of good practices and know-how
- Guest lectures, mentoring, or speaking opportunities
- Sharing inspiring success stories and building new networks

**Let’s create impact together. Let’s inspire and empower others.**

**Let’s grow!**



**Czech University of Life Sciences Prague**
Faculty of Tropical AgriSciences
Department of Crop Sciences and Agroforestry

# TRIBE | Tropical Botany and Ethnobiology Lab

TRIBE studies tropical and subtropical useful plants and their interactions with people and environment with the aim to preserve **plant species diversity** and **traditional botanical knowledge** of local rural populations.










Specifically, we study traditional knowledge of indigenous people and small-scale farmers on use patterns, management and ecology of the most culturally important as well as neglected and underutilized plant species as sources of food, medicine and materials.

### MAIN RESEARCH ACTIVITIES:

- ethnobotanical inventories and market surveys
- documentation of traditional ecological knowledge in different cultural groups
- assessment of agrobiodiversity in home-gardens and allotments
- wild food plants' ethnobotany
- ethnobotany of migrant people
- research of informal seed systems along with agrobiodiversity conservation
- studying role of plants in food security


### FURTHER ACTIVITIES AND EXPERTISE:

- taxonomy of tropical and subtropical plants
- linking research with herbarium and living plant collections
- networking with ethnobiologists at the international level
- increasing awareness about importance of biodiversity for humankind
- scaling up the importance of plant resources in local food and agricultural systems

*We believe that research raising awareness on the importance and potential of useful biodiversity among local communities, academia, and policy makers may contribute substantially to the human well-being and rural development while preserving biological and cultural diversity.*

## JOIN OUR TEAM!

and discover the interactions between people and plants

**CONTACT**: Zbyněk Polesný, Ph.D., Department of Crop Sciences and Agroforestry, Faculty of Tropical AgriSciences, Czech University of Life Sciences Prague, Kamýcká 129, 165 00 Praha 6-Suchdol, Czech Republic, Phone (office): +420 224382167
Email: polesny@ftz.czu.cz, web: https://www.ftz.czu.cz/en/r-9419-departments/r-10236-laboratories

Our research group focuses on various aspects of habitat and species conservation management. We conduct a broad scale of field surveys and studies mostly in Africa, with special attention paid to antelope and giraffe conservation, mitigation of human-wildlife and wildlife-livestock conflict, protected areas management, and environmental education. We are also involved in the ex situ conservation and research realized in European zoos. We apply our research results and advanced techniques of population management in the conservation of threatened species, namely the Western Derby eland in Senegal.

Contacts

**prof. RNDr. Pavla Hejcmanová, Ph.D.,** email: hejcmanova@ftz.czu.cz

https://home.czu.cz/en/hejcmanova/home

https://www.antelopes.cz/en/

# CZU Common Eland Research Facilities

(Assoc. Prof. Francisco Ceacero Herrador)

Animal Physiology Behaviour Research Team

# LABORATORY OF ETHNOBOTANY AND ETHNOPHARMACOLOGY

Faculty of Tropical AgriSciences

**E-mail:** kokoska@ftz.czu.cz

WEBSIDE: laborator-lee

# Botanical Garden

https://www.ftz.czu.cz/en/r-9419-departments/r-9475-departments/r-10258-botanical-garden

# Contact of project office:

Lenka Rachel Vesela: veselar@ftz.czu.cz

# EU CAP Network brokerage event ‘Partnering for innovation with impact in agriculture and rural areas’

29 - 30 April 2025 **| Prague, Czech Republic**

All information on the brokerage event is available on the event webpage:

https://eu-cap-network.ec.europa.eu/events/eu-cap-network-brokerage-event-partnering-innovation-impact-agriculture-and-rural-areas