

---

Vol.02  
2024 HIGHLIGHTS

# BRT

## NEWSLETTER

---



*"Fearless minds, Endless potential"*



# CONTENT

**RECAP FROM OUR FOUNDER** 01

---

**BRTEAM** 02

---

**MCYR** 03-05

---

**NEWS** 06-07

---

**INTERNATIONAL VISITS** 08-09

---

**PUBLICATIONS** 10-11

---

**PROJECTS** 12-13

---

**PHD GRADUATES** 14-15

---

**SERVICES** 16

---

**FOLLOW ALONG** 17

---

# 2024 RECAP FROM THE BRT FOUNDER & DIRECTOR

“ Our work at BRT remains committed to fostering innovation, collaboration, and science that shapes a sustainable future. ”



[CLICK HERE](#)



In 2024, BRT achieved remarkable milestones, expanding our global presence to four continents—Europe, Asia, Africa, and Latin America—and building over 990 biogas plants worldwide, aiming for 1,000 in 2025. We advanced research in anaerobic digestion, waste-to-energy solutions, circular bioeconomy strategies and launched the Agri Policy Lab to support sustainable agricultural policies. Our work in Horizon Europe, through projects such as OSIRIS and COMUNIDAD and particularly the coordination of the BIO-CAPITAL project, has led to strategic partnerships with leading institutions and reinforced our leadership in sustainable development.

The 5th International Multidisciplinary Conference for Young Researchers (MCYR) gathered 100 registered participants, 20 countries and 55 institutions underscoring the power of interdisciplinary collaboration and mentorship for emerging scientists. Research visits and internships enriched our projects with new perspectives and strengthened global connections. We celebrated the success of our PhD graduates, whose work is making an impact across policy, industry, and academia. As we move forward, I encourage each of you—whether a student, researcher, partner, or supporter—to remain engaged and fearless in your pursuit of knowledge.



# BIORESOURCES & TECHNOLOGY DIVISION




## CORE AREAS OF REASEARCH

- Bioenergy
- Bioeconomy
- Complexity
- Food Security
- Waste Management
- Sustainable Agriculture & Aquaculture
- much more...

CLICK HERE 



 <http://biores.tech/>

Our research and innovation objectives encompass a wide array of thematic, from the determination of the real impact of small biogas plants (both in developing and developed countries) on the environment, climate change and society to bioresources technologies, including bioenergy, environmental aspects, food security, waste management, biotechnologies and more.

The global shift towards renewable energy and sustainable practices has reinforced the importance of holistic approaches to resource management. This underscores our commitment to fostering collaboration across these disciplines, enhancing our ability to address complex sustainability challenges. Interdisciplinary research is at the core of the BRT. Our team comprises environmental science, engineering, agriculture, and social sciences expertise.

The BRT is committed to applying our research findings to real-world challenges. Our team works with a broad range of stakeholders, including local communities, policymakers, researchers, NGOs, education centres, universities, etc. This expanded network enables us to scale our impact and effectively apply our research findings to real-world challenges. Because here at BRT, we strive to see our results in real-world applications!



Watch our video  
recap MCYR 2024!

CLICK HERE 

# MULTIDISCIPLINARY CONFERENCE FOR YOUNG RESEARCHERS **2024**

MCYR 2024 focused on "Resilience in the Face of Global Challenges," bringing together around **100 young researchers** from **over 20 countries** at the FTZ (Faculty of Tropical AgriSciences). This hybrid event featured **68 presentations** promoting interdisciplinary collaboration and networking among early-career scientists. Organized by the BioResources and Technology Division, it provided valuable experience in research presentation and professional growth. Stay tuned for...

## MCYR 2025!

# MCYR 2024

## A HUB FOR COLLABORATION & INNOVATION!



MCYR 2024 brought together young researchers from around the world, fostering intellectual exchange, collaboration, and skill development. The event showcased cutting-edge research in climate science, sustainability, technology, and social dynamics, while dynamic discussions and networking sessions enriched participants' perspectives. Attendees highlighted the value of these interactions in shaping their research and building international collaborations. With a strong focus on resilience and interdisciplinarity, MCYR 2024 proved to be an inspiring platform for curiosity, innovation, and meaningful connections.



CLICK HERE 

MCYR 2024 photos

# BEST PRESENTER

## AWARD RECIPIENTS

MCYR 2024 featured six dynamic scientific sessions, spanning Society and Culture, Plants and Agriculture, Animals and Ecology, Technology and Innovation, and Climate and Sustainability. The Best Presenter Awards recognized outstanding contributions in both poster and oral presentations, honoring researchers who demonstrated exceptional clarity, innovation, and engagement. Congratulations to this year's awardees for their remarkable work in advancing interdisciplinary research!



MCYR book of abstracts

[CLICK HERE](#) 

Tadeáš Hrusovský  
**CLIMATE & SUSTAINABILITY**

Ruslana Zadorozhna,  
Tetiana Stepanova  
**SOCIETY & CULTURE**

Edita Kozlíková  
**ANIMALS & ECOLOGY**



Goldis Perry Davila  
**POSTER PRESENTATION**

Jayen Aris Kriswantoro  
**PLANTS & AGRICULTURE**

František Paur  
**TECHNOLOGY & INNOVATION**



# NEWS ROUNDUP

Keep up with the latest news, accomplishments, and exciting updates in the BRT News section of our website. From major project milestones to research and innovation, the work of our talented team continues to drive us forward!

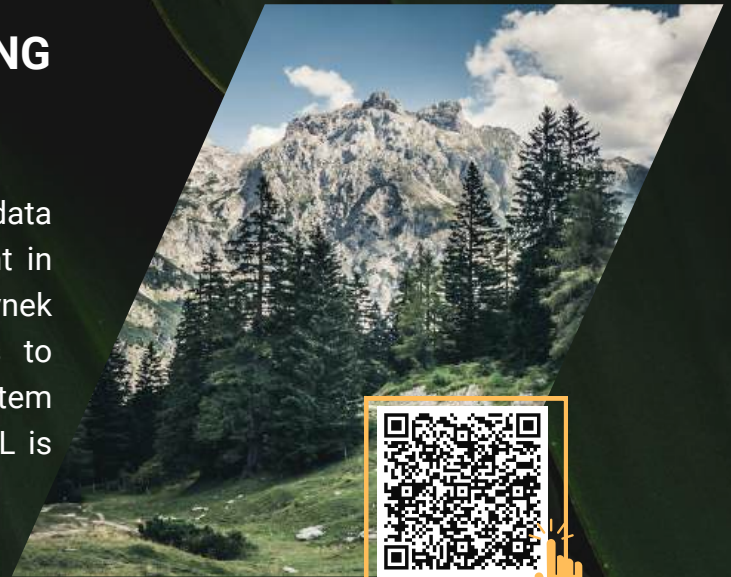


**OVER 90 ORIGINAL NEWS ARTICLES IN 2024**

[CLICK HERE](#)

## BIO-CAPITAL KICKS OFF: LEVERAGING PRIVATE INVESTMENT AND SPACE TECH FOR BIODIVERSITY

The BIO-CAPITAL project links Earth observation data with sustainable finance to drive private investment in biodiversity conservation. Led by Assoc. Prof. Hynek Roubík, it unites 17 partners from 13 countries to develop innovative financial tools for ecosystem restoration. Funded by Horizon Europe, BIO-CAPITAL is paving the way for nature-positive investments.



## UKRAINE'S FOOD SECURITY LANDSCAPE: A POLICY APPROACH

This BRT Agri Policy Lab paper on Ukraine, its Food Security, and Future?, examines the nation's agricultural potential and the urgent challenges intensified by war, climate change, and economic instability. It highlights the need for land-use reforms, climate resilience, and economic recovery to secure Ukraine's food future. With strategic policy interventions and global collaboration, Ukraine can strengthen its food system and maintain its crucial role in global food security.



## NEWS

### KRECON 2024: SHAPING THE FUTURE OF SCIENCE AND RESEARCH

KRECon 2024 gathered top experts to discuss research support, evaluation, and national priorities in the Czech Republic. Representing CZU, Assoc. Prof. Dr. Hynek Roubík contributed insights on research-policy integration. The conference reinforced its role in shaping the future of science and innovation.



### V-SOIL PROJECT WRAPS UP IN CAMBODIA

BRT Director Assoc. Prof. Dr. Hynek Roubik joined partners in Pursat for the conclusion of the V-Soil Project, a collaboration between ADRA Cambodia, local authorities, and BRT/CZU Prague. The project equipped farmers with sustainable vermiculture techniques to boost productivity and reduce environmental impact, leaving a lasting legacy for Cambodian agriculture.



### CZU AMONG FINALISTS FOR SDGS AWARDS 2024

Two CZU projects were finalists for the SDGs 2024 Awards: Biogas Plants for the Developing World, led by Assoc. Prof. Hynek Roubík, and Utilization of Mango Seeds, a collaboration with Mendel University with key contributions from Ing. Jan Staš and the BioEnviro Research Team, led by Assoc. Prof. Tatiana Alexiou Ivanová, Ph.D.



# INTERNATIONAL INVOLVEMENTS

**18** VISITED COUNTRIES IN **2024**



## HUNGARY

BRT postdoctoral researcher, Dr. Viktoriia Chubur visited Hungary for the H2SCALE project's kick-off meeting at the University of Pécs, where partners from multiple countries discussed advancing hydrogen technologies and sustainable mobility. As part of the event, participants toured Kontakt-Elektro, a Hungarian leader in fuel cell technologies, gaining insights into practical hydrogen applications and innovative energy solutions.



## SPAIN

Our senior researcher, Assoc. Prof. Dr. Yelizaveta Chernysh visited Huelva, Spain, to train with the team at the University of Huelva, gaining hands-on experience in phosphogypsum analysis. During the training, she prepared Ukrainian phosphogypsum samples, conducted ICP analysis, and contributed to research on environmental contamination, strengthening future collaboration with the team.



## NETHERLANDS

PhD student, AbdulAzeez Shobajo expanded his scientific network and professional skills by attending the Public Participation in Energy Transition Summer School at the University of Groningen, Netherlands. His experience provided hands-on learning about renewable energy projects, public participation in energy transitions, and the role of community-driven initiatives in sustainable development.



# BRT WELCOMES 2024 GLOBAL TALENT INTERNSHIP HIGHLIGHTS

At BRT, collaboration thrives on diverse perspectives, and our 2024 interns brought fresh ideas and international expertise to our research. Their contributions in biogas technology, sustainability, and communications enriched our work while providing them with hands-on experience and professional growth.

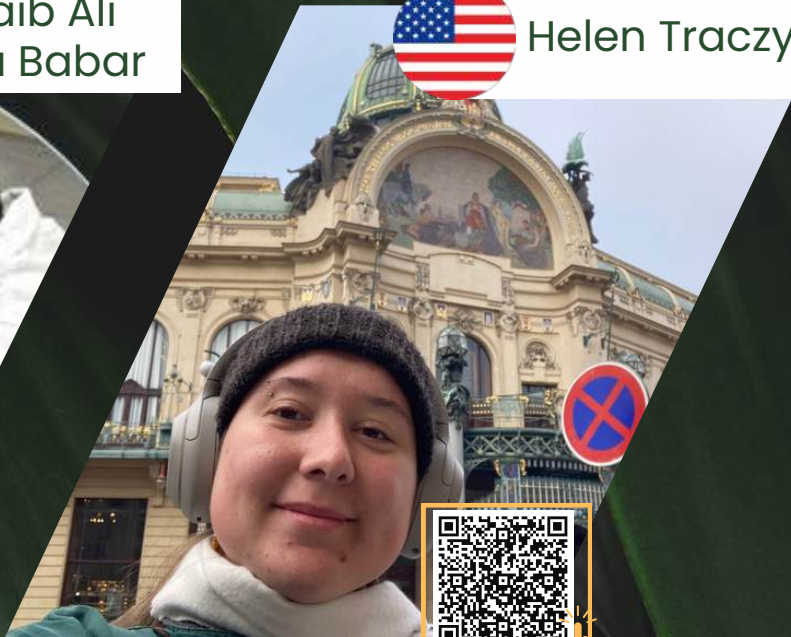
Beyond research, the program fostered international cooperation, cross-cultural exchange, and industry networking, equipping interns with real-world insights into biogas and waste management solutions. Their dedication and innovation continue to shape the future of sustainable energy.



Shahzaib Ali  
& Sadia Babar



Helen Traczyk



Abigail MacLean  
& Emma Jackson



Zoe Cilento



# PUBLICATIONS

## 30 ROUNDUP

### PUBLICATIONS IN 2024

Explore our latest publications! This year, our team has contributed to a wide range of impactful research, groundbreaking studies, and innovative findings across various fields. From biogas technology to sustainability, each publication reflects our dedication to advancing science and addressing global challenges. Stay informed and inspired by the knowledge driving our work forward.

Scan the QR code to explore all BRT publications and stay up to date with our latest research breakthroughs and innovations.



CLICK HERE 



# RESEARCH INSIGHTS



CLICK HERE

## SMALL-SCALE BIOGAS IN RURAL CAMEROON: ECONOMIC VIABILITY & FARMER WILLINGNESS

This study examines the economic viability of small-scale biogas plants in rural Cameroon, where traditional energy sources dominate. By assessing farmers' willingness to invest, the research provides insights for policymakers and investors to support biogas adoption.

## SUSTAINABLE TOFU INDUSTRY: ENERGY AUDIT FINDINGS

Energy use and wastewater generation in Indonesia's tofu industry were analyzed, with a focus on micro and small-scale enterprises. The study highlights opportunities for energy efficiency and biogas production from nutrient-rich wastewater.



CLICK HERE



CLICK HERE

## A CALL FOR MODERNISATION OF SCIENCE: THE CASE OF ANAEROBIC DIGESTION

A PRISMA-based review of anaerobic digestion highlights challenges like reporting inconsistencies and unclear definitions. It calls for a harmonized, tech-driven workflow to improve biogas research accessibility and efficiency through open science.



# PROJECT SHOWCASE

This year, BRT has pushed the boundaries of innovation and sustainability, turning research into real-world impact. From optimizing biogas production and championing open science to advancing biodiversity conservation and harnessing Copernicus satellite data for agriculture, forestry, and rural development, our work is shaping the future of sustainable solutions. We're also bringing science to life with practical projects like implementing vermicomposting systems, proving that innovation thrives at the intersection of research and application.

**18 TOTAL  
PROJECTS  
IN 2024**

With a strong emphasis on interdisciplinary collaboration, BRT has worked alongside international partners to explore novel feedstocks, enhance digestion efficiency, and develop sustainable energy solutions for communities worldwide. Whether in the Global North or Global South, our research doesn't just stay in the lab or on paper—it translates into action, supporting energy access, waste reduction, and environmental resilience.

	<b>UNICOM</b> Enhances Ukrainian university-community cooperation through EU inspired best practices, capacity building programs, and the development of UNICOM centers to promote resilience, sustainability, and civic engagement.	
	<b>SCORE</b> Develops a transitional model and cooperation structure for tackling wicked problems through interdisciplinary research, bottom-up social planning, and capacity building in higher education institutions.	
	<b>ESSIE</b> Promotes EU best practices in social innovation and community engagement through a multi-year initiative focusing on research, teaching, and dissemination to enhance Ukraine's alignment with European standards and sustainable development goals.	
	<b>CEE2ACT</b> Supports Central and Eastern Europe in developing circular bioeconomy strategies through knowledge transfer, innovative governance, and national bioeconomy centers inspired by leading EU countries.	
	<b>BIOINWASTE</b> Promotes EU bioenergy technologies for waste recycling, focusing on sustainable waste management, carbon capture, and enhancing community efforts through training and advisors in Ukraine.	



All major projects  
can be found here!

[CLICK HERE](#) 

# FEATURED PROJECTS



BIO-CAPITAL

Mobilising investments for protecting and restoring biodiversity by harnessing innovative financial solutions and advanced geospatial analytics

[Learn more](#)



## CZU mobilAB



12.11.2024

**CZU mobilAB coverage on FFKP by FAO**

CZU mobilAB (developed at Czech University of Life Sciences Prague) represents a complex solution that enables the application of state-of-the-art molecular detection methods in remote or

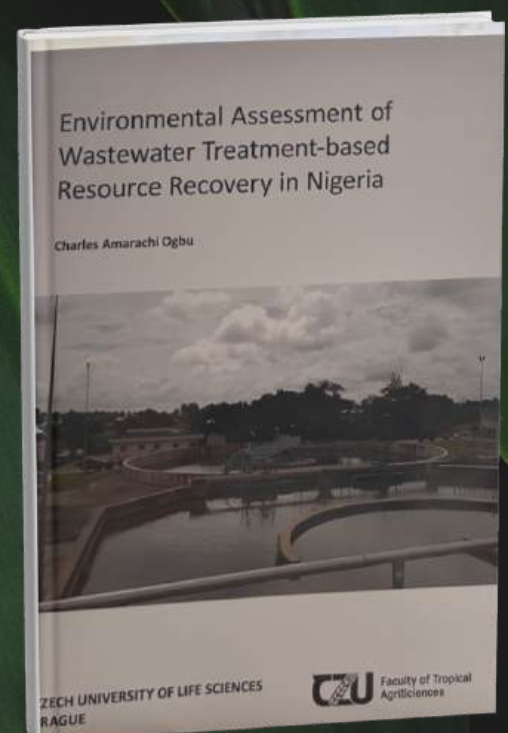
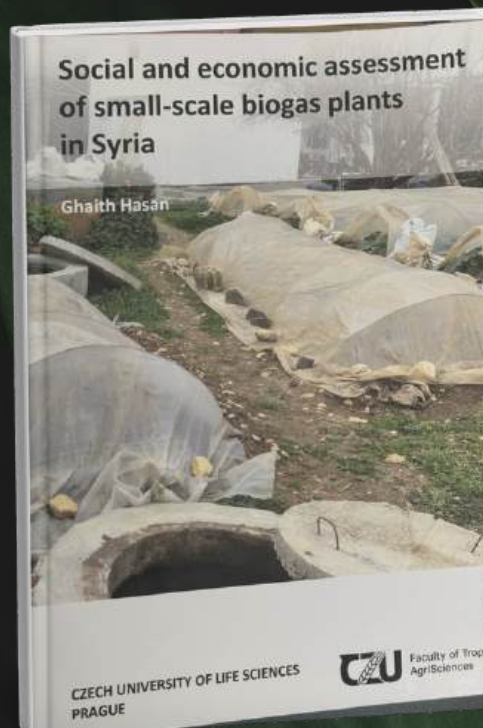
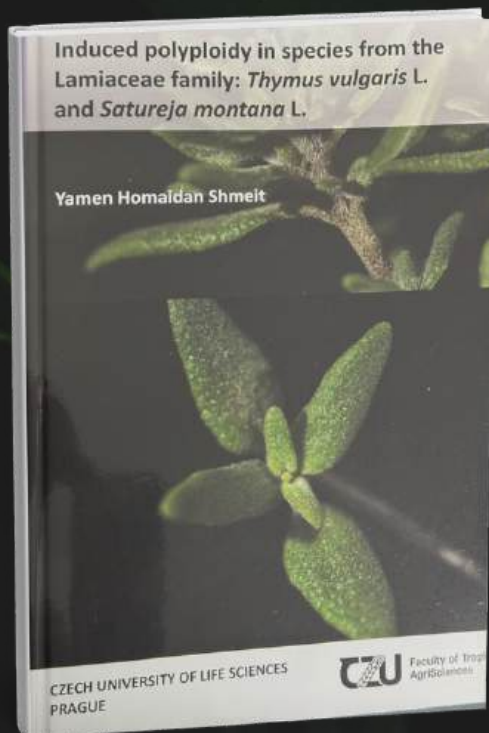


# HIGHLIGHTING PHD GRADUATES

SHOWCASING THEIR RECAP VIDEOS!

Each PhD journey is a testament to dedication, resilience, and groundbreaking research. At BRT, we celebrate our graduates by sharing their insights, achievements, and the impact of their work. Through in-depth interviews and highlight videos, we capture their academic journeys and contributions to biogas research, waste management, and sustainability.

Scan the QR codes to hear directly from our newest PhD graduates as they reflect on their experiences, challenges, and future aspirations!



*We proudly celebrate our PhD graduates!*





## CHARLES OGBU

**Topic:** Environmental Assessment of Wastewater Treatment-Based Resource Recovery in Nigeria

**Supervisors:**

- doc. Ing. Bc. Tatiana Alexiou Ivanova, Ph.D.
- doc. Ing. Hynek Roubik, Ph.D.
- Prof. Temitayo Ewemoje, Ph.D.

CLICK HERE 



## VIKTORIIA CHUBUR

**Topic:** Environmentally safe utilisation of waste for energy purposes in environmental protection technologies

**Supervisors:**

- Yelizaveta Chernysh, Ph.D.
- doc. Ing. Hynek Roubik, Ph.D.

CLICK HERE 



## YAMEN SHMIT

**Topic:** Induced polyploidy in species from the Lamiaceae family: *Thymus vulgaris* L. and *Satureja montana* L.

**Supervisors:**

- prof. Ing. Eloy Fernández Cusimamani, Ph.D.
- doc. Ing. Hynek Roubik, Ph.D.

CLICK HERE 



## GHAITH HASAN

**Topic:** Social and economic assesment of small-scalee biogas plants in Syria

**Supervisors:**

- doc. Ing. Hynek Roubik, Ph.D.
- Ing. Jana Mazancová, Ph.D.

CLICK HERE 



## EDUARDO DUQUE DUSSÁN

**Topic:** Design and performance of a solar dryer for prossesing of coffee beans in Colombia

**Supervisors:**

- prof. Ing. Jan Banout, Ph.D.
- Dr. Juan Rodrigo Sanz-Uribe

CLICK HERE 



# EXPLORE OUR SERVICES

We offer a plethora of services for all your communication and dissemination needs!

- WEBSITE DEVELOPMENT
- SOCIAL MEDIA MANAGEMENT
- CONTENT CREATION
- COMMUNICATION & DISSEMINATION TOOLS
- EVENT PLANNING & COORDINATION
- EDITING & PROOFREADING




CLICK HERE 

Explore our diverse interactive services portfolio and choose the service that best suits your needs

*BRT*  
COMMUNICATION &  
DISSEMINATION SERVICES



# STAY CONNECTED

CLICK HERE 



Instagram

CLICK HERE 



Facebook

CLICK HERE 



LinkedIn

CLICK HERE 



X

CLICK HERE 



YouTube



*“Fearless minds, Endless potential”*