Name	Email	Institution	Abstract
Chumvisotdaroth Som	scvisotdaroth@gmail.com	Sustainable AI	food waste generators, such as restaurants, hotels, and apartment complexes, with compost facilities who can repurpose food waste into valuable resources. It aims to address challenges in food waste in Cambodia, particularly the lack of public awareness about proper food waste sorting and the difficulty compost facilities face in sourcing sorted food waste.
Katharina Krohm	11037401@stud.hochschule-heidelberg.de	Student at SRH (studying Climate Change Management and Engineering)	When discussing the climate change, often only well-known aspects, such as the rise of CO2 emissions, are regarded. But global warming is a complex system and has multiple factors that influence this change. I already did some research about less-researched influences in climate system and now want to do a project group, which is about understudied aspects of climate change and will focus on the cloud feedback loops and thereby for example general functionality of feedback loops, the dynamics of atomic vibrations, the behavior of water vapor and the classification of different cloud types. These are just some ideas to start going and I would be happy to go on – as the limit is the sky!
Tariq Aziz	tariq.aziz_2025@ucentralasia.org	University of Central Asia	Energy Solar energy is vital for the shift to green energy, but PV panels work less effectively when dust and snow build up on them. Old cleaning ways, like setting schedules or manual cleaning, are often not good enough and can waste resources or cause delays in cleaning. This paper presents a reinforcement learning-based approach to optimize PV panel maintenance using an autonomous system that continuously learns the best cleaning practices. The model dynamically determines the optimal timing and frequency for wiper-based cleaning, using real-time environmental and sensor data. It assesses dust and snow accumulation and adjusts cleaning actions to maximize energy output while minimizing resource consumption. This approach helps adapt to changing weather and various operational constraints, which in turn improves efficiency, lowers maintenance costs, and supports the sustainability of solar energy infrastructure.
Enis Yazici	enis.yazici@srh.de	SRH	Monitoring of the Environmental Changes using IoT Systems

Ulrike Gayh	ulrike.gayh@srh.de	SRH Hochschule Heidelberg	people about water conservation. The project, led by SRH University in collaboration with GUB and Karl-Kübel-Schule, focuses on the Weschnitz River and aims to raise awareness about the importance of clean water through artistic and practical activities. AI Integration • Data Collection and Analysis: Participants use sensors to collect data on water quality, which is then analyzed to understand the river's ecosystem and the impact of pollution. • Creative Outputs: AI tools assist in creating photo-sound collages that combine river sounds with water quality data, enhancing the educational experience. Sustainability Focus • Environmental Education: The project educates participants about the dangers of pollution and the importance of protecting water resources. • Public Engagement: Activities like public cleanup events and action days in Weinheim aim to involve the broader community in sustainability efforts. • Artistic Expression: By creating "trash monsters" from collected waste and other artistic works, participants develop a creative connection to the environment, fostering long-term commitment to sustainability. Goals • Awareness: Increase awareness of clean water's importance in the region. • Engagement: Encourage environmental protection among young and older participants. • Education: Provide practical knowledge about water quality and pollution prevention. The project runs from April to December 2025, with various activities designed to combine environmental education with artistic expression, promoting a sustainable future.

Ulrike Gayh	ulrike.gayh@srh.de	SRH Hochschule Heidelberg	weather events. Discussion about the topic of prediction pollutant accumulation due to extreme weather events, leveraging AI and sustainability principles. The project focuses on understanding the impact of climate change on water quality and developing effective environmental protection measures. Key Objectives 1. Data Collection and Analysis: o Goal: Gather and analyze data on micro-pollutants in regional waters. o Method: Sampling and analyzing water from rivers, groundwater, and rainwater in the Heidelberg region. o Outcome: Create a quality-assured database documenting pollutant levels and their correlation with weather events. 2. Prediction Model Development: o Goal: Develop a machine learning model to predict pollutant hotspots based on weather data. o Method: Use collected data to develop and validate an ML algorithm. o Outcome: A predictive model to identify potential hotspots and enable targeted preventive measures. 3. Environmental Relief and Prevention: o Goal: Provide data and predictions to support targeted environmental protection measures. o Method: Continuous monitoring of water quality, development of strategies to reduce pollutant inputs, and implementation of preventive measures at critical sites. AI and Sustainability • Machine Learning: Used to predict local pollutant accumulations based on weather data. • Environmental Education: Raising awareness about the risks of micro-pollutants and the importance of water protection. • Preventive Measures: Using predictions to plan and implement strategies to mitigate pollution. The project aims to enhance environmental protection and water quality management in

Ulrike Gayh	ulrike.gayh@srh.de	SRH Hochschule Heidelberg	Data-Driven Solutions for Water Management in Smart Cities The topic is about harnessing Data for Sustainable Water Management in Smart Cities with the objective to explore innovative data-driven approaches for efficient and sustainable water management in urban environments, highlighting the role of smart technologies in addressing water-related challenges. As urban populations grow, the demand for efficient water management becomes increasingly critical. This talk will delve into how smart cities can leverage data-driven solutions to enhance water management practices, ensuring sustainability and resilience. We will discuss the integration of IoT devices, real-time data analytics, and machine learning algorithms to monitor, predict, and optimize water usage and quality. The content if from an Introduction to Smart Water Management, to IoT and Real-Time Monitoring, Data Analytics and Machine Learning to Sustainable Practices and Policy Implications: A discussion on the future of water management in smart cities, emphasizing the importance of innovation, collaboration, and sustainable practices to ensure a resilient urban water infrastructure should be included with the participants.
Jasper Golembiewski	jasper.golembiewski@stud.hochschule-heidelberg.de	SRH-Heidelberg Student	Artificial intelligence has the potential to revolutionize reforestation by making large-scale tree planting more efficient, data-driven, and autonomous. Project TreeStrike is a conceptual initiative exploring how AI can be leveraged for an autonomous drone-based system to optimize reforestation efforts. The proposed system would use AI-driven computer vision to analyze aerial imagery, detect optimal planting sites, and dynamically generate efficient flight paths. Machine learning models would assess environmental factors, such as terrain suitability and climate conditions, to maximize seed germination success. A planned dual-drone approach envisions one AI-powered drone conducting real-time terrain mapping while another autonomously deploys seeds based on the calculated trajectories. Further AI integration is being explored for adaptive decision-making, enabling the system to refine planting strategies based on environmental feedback. Although still in the development phase, this concept aims to demonstrate how AI-driven autonomy could significantly enhance sustainable afforestation efforts—both on Earth and potentially in extraterrestrial environments. This talk will discuss the AI methodologies underpinning TreeStrike, the technical challenges, and the broader

Sokleng Ry, Sovandara Phallim	sry@paragoniu.edu.kh	Paragon International University	Cambodia’s beverage industry. Despite national initiatives such as Cambodia’s Circular Strategy on Environment (2023-2028), the adoption of reusable cups remains low due to convenience, limited incentives, and lack of consumer engagement. Green Cups is a digital marketplace designed to connect eco-conscious consumers with beverage businesses that offer reusable cups. It integrates features such as QR-based payments (KHQR), mobile accessibility, and real-time environmental impact tracking to encourage sustainable consumption habits. The platform incentivizes both businesses and consumers through loyalty rewards, discounts, and awareness campaigns. Green Cups will help fill the gap by supporting single-use cup waste reduction through a system that makes reusable alternatives more accessible and rewarding. By aligning with Cambodia’s Circular Strategy on Environment, it encourages behavioral shifts towards sustainability. Additionally, Green Cups provides business benefits by increasing customer engagement, enhancing brand reputation, and fostering eco-
Aditi Das		NSB GROUP	AR/VR and digital training in Education
Edward V. Maningo, Ph.D		Paragon International University	Smart Farming with AI: Bridging the Knowledge Gap in Plant Disease and Nutrient Deficiency Diagnosis