# \*35 International Sustainability Summer School at HKA – Karlsruhe University of Applied Sciences

In 2024, **36** students from **13** different countries came together at HKA as part of the International Summer School on Sustainability. The International Sustainability Summer School - i3s - 2024 took place in Karlsruhe from 9 to 13 September 2024 under the direction of Prof. Dr. Michael Kauffeld and Dr. Mihaela Dudita Kauffeld. The participants came from **Burkina Faso, Cameroon, France, Germany, Greece, Malaysia, Mexico, Romania, South Korea, Switzerland, Turkey, Uganda and Vietnam**.

During the summer school, students from various degree programs had the opportunity to look at the topic of sustainability from a wide variety of perspectives and experience sustainability first-hand. The program included numerous presentations by representatives from industry, the city of Karlsruhe and local institutions. Students, doctoral students and lecturers from HKA and the partner universities also made a significant contribution to the success of the Summer School.

The students took part in exciting excursions to companies and institutions in the region, explored the city of Karlsruhe and worked actively in groups on sustainability topics.

On the first day, the focus was on **global sustainability**. In this context, **Robert Szilinski (esentri AG and Chairman of the Association of Donors at HKA)** explained why sustainability cannot be achieved without digitalization, while **Henrik Nordborg** explained his vision of climate compensation and **André Podleisek** inspired with "Creating Value with Circular Solutions or the world is falling apart - can beer safe us?" – both professors are from partner Eastern Switzerland University of Applied Sciences – OST.

Further inspiring presentations and workshops followed on Tuesday. After lunch in the KIT canteen, the participants had the opportunity to visit the cooling system based on propane, ice slurry and CO<sub>2</sub> on site. The rest of the afternoon was dedicated to tasks in the laboratory for refrigeration technology and heat pumps. In the evening, the students explored Karlsruhe and visited the BREEZE Cooling Station of the HKA and the Schlosslichtspiele.

Wednesday began with further lectures and workshops. The group then visited the **battery laboratory and the roller test bench at Karlsruhe University of Applied Sciences**. The afternoon included an excursion to the **Vulcan company**. Together with Thorsten Hauck, the group first visited the geothermal power plant in Insheim, after which the participants were given a tour of the plant in Landau to see how lithium is extracted from geothermal water. The next stop was a visit to Daimler in Wörth, where HKA doctoral student Josy Laier provided insights into **e-mobility at Daimler Trucks**.

On Thursday, the first topic was local public transport and the visit to the **Federal Waterways Engineering and Research Institute (BAW)** included the renaturation of river courses. The students had to find their own way there using a means of transportation of their choice.

## **Climate Arena Sinsheim**

Friday took the participants to the **Klima Arena in Sinsheim**. Christian Ledig had traveled to Karlsruhe by train to explain the history of the Klima Arena to the students on the bus ride to the arena. In the Climate Arena, the students presented their group work and were able to interactively experience impressive findings on global climate change. In the afternoon, the students were then able to work out the complex interrelationships of global climate change themselves in the **"Climate Puzzle"** workshop lasting several hours under the direction of Prof. Dr. Olivier Schecker and present the results in the large foyer.

Our special thanks go to the generous sponsors Güntner, Ipetronik, Obrist Engineering, Refolution, Rivacold, THE SCHAUFLER FOUNDATION, VDE Verlag, Valerius Füner Stiftung, the association of donors at the HKA and the Karlsruhe Economic Development Corporation. Their support made the Summer School possible in the first place.

# **Zusammenfassung und Ausblick**

The 2024 edition of our i3s was a phenomenal event. A week that generated completely new insights among the 36 participating students from thirteen different countries. The various, consistently positive posts on LinkedIn (see at the end of this report) are living proof of how important such a passionate, emotional event is in today's world for the environmentally conscious education of our future leaders.

From September 8 to 12, 2025, we will be hosting the fourth edition of our Noble Banadda International Sustainability Summer School at our partner Eastern Switzerland University of Applied Sciences – OST in Rapperswil. Once again for a maximum of forty committed international students, all of whom will only have to pay CHF 100 for the entire week thanks to our sponsors. Accommodation, meals, all excursions, guest lecturers etc. included. Only the transportation to Rapperswil on the beautiful Lake Zurich has to be organized and paid by the participating students themselves. There are still a few places available - as participants and sponsors https://www.h-ka.de/en/i3s

Prof. Dr.-Ing. habil. Michael Kauffeld

Dr. Mihaela Dudita-Kauffeld und Verena Lippok

Karlsruhe, March 2025



# Impressions from the International Sustainability Summer School 2024



Foto: Michael Kauffeld / HKA

Despite the rain: fun with forest games and team building



Foto: Dominic Hanser

Visit to the Federal Waterways Engineering and Research Institute (BAW) in Karlsruhe



Foto: Dominic Hansen

Excursion to Vulcan geothermal power plant and lithium extraction



Foto: Dominic Hansen
Visiting BAW



Foto: Dominic Hansen

Group work: exchanging thoughts and collecting ideas



Foto: Michael Kauffeld / HKA
Attentive listeners



Foto: Dominic Hanser

At the IKKU: Experiments with liquid nitrogen



Foto: Michael Kauffeld / HKA

Presentation of the group work in the KLIMA ARENA



Foto: Michael Kauffeld / HKA

KLIMA ARENA in Sinsheim



Foto: Dominic Hansen

In the outdoor area of KLIMA ARE-NA in Sinsheim



Foto: Michael Kauffeld / HKA

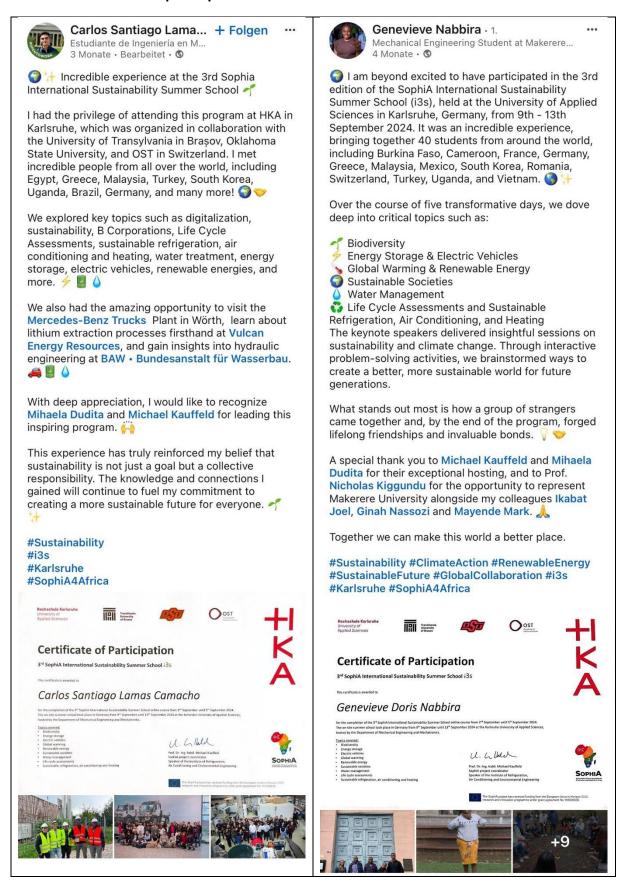
Climate puzzle: Recognizing and understanding global correlations



Foto: Dominic Hansen

The participants present their results of the climate puzzle

# Posts on LinkedIn from participants





#### Joel Ikabat . 1.

Agricultural Engineer Research Assistant, FoodLAN... 4 Monate • ©

The i3S International Sustainability Summer School, held from September 8th to 14th at Karlsruhe University of Applied Sciences in Germany, was an extraordinary and transformative experience. With cultural diversity at its core, the program sought to empower young innovators, future policymakers, and change-makers with the skills and vision to promote sustainable living and address the pressing challenges of our world.

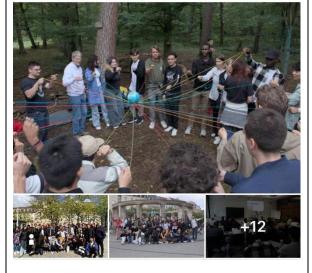
I am deeply honoured to have been part of this impactful initiative. Throughout my week in the beautiful city of Karlsruhe, I gained invaluable insights from the diverse topics explored by our dedicated educators, as well as from the rich exchanges with fellow students from around the globe

A heartfelt thanks to the project coordinators, Michael Kauffeld and Mihaela Dudita, and my professor, Nicholas Kiggundu, for their exceptional leadership and tireless efforts in ensuring the success of this program through the SophiA4Africa project.

Special appreciation goes to my Ugandan team Genevieve Nabbira, Mayende Mark, Ginah Nassozi and all the students who attended this year's Summer School for the outstanding teamwork, collaboration, and shared commitment to making a difference in the world.

Here's to creating a brighter, more sustainable future together!

Cheers!





# Mayende Mark + 1.

GRADUATE AGRICULTURAL ENGINEER MUIPE

I am happy to share that I participated in the 3rd edition of the SophiA International Sustainability Summer School (i3s) at Karlsruhe University of Applied Sciences, Germany, from 9th -14th September, 2024.

This global gathering brought together talented individuals from Uganda, Germany, France, Cameroon, Burkina Faso, Mexico, South Korea, Romania, Switzerland, Turkey, Vietnam, Greece, and Malaysia, fostering a rich exchange of ideas and perspectives.

Throughout the week in the city of Karlsruhe, I gained invaluable insights into climate change mitigation and global warming solutions from renowned keynote speakers.

Special appreciation goes to the project coordinators, Michael Kauffeld and Mihaela Dudita who ensured the summer school's success and for their tireless efforts in making the world sustainable for those living in it and those to come.

I'm grateful to my Prof. Nicholas Kiggundu for the opportunity to represent Makerere University alongside my colleagues Genevieve Nabbira, Ginah Nassozi, and Joel Ikabat.

Feel free to connect and share your thoughts on sustainable development!

Key Takeaway: Achieving a sustainable future requires collective action and individual responsibility

#Sustainability #ClimateAction #GlobalCooperation #SummerSchool #KarlsruheUniversity #MakerereUniversity #InternationalCollaboration #SophiA4Africa





#### Genevieve Nabbira · 1.

Mechanical Engineering Student at Makerere... 4 Monate . 3

🕥 Can Beer Save the World? ᄞ At the International Sustainability Summer School (i3s), Professor Andre Podleisek explored the potential of circular solutions in tackling climate change and surprisingly, beer might play a part!

## Kev Takeaways:

Climate change is already transforming our world, and there's no time to lose in taking action.

Biodiversity and climate crises are intricately linked, and both need urgent attention.

Beer and sustainability? Initiatives like "1 crate = 1 m2 of rainforest" and breweries supporting reforestation projects are creating a new way to connect consumers to environmental action.

The circular economy approach in brewing, including reusing brewer's spent grain as animal feed or even in food products, can make a positive impact.

The goal: improve the beer lifecycle and reduce its environmental footprint.

It's time to rethink how even everyday products like beer can contribute to a sustainable future.

#Sustainability #CircularEconomy #ClimateAction #BeerAndThePlanet #SustainableBusiness



# Kong Zhen Mike - 1.

Unilever Campus Ambassador 2024 | Bachel... 4 Monate · Bearbeitet · ⑤

From the 9th to the 13th of September 2024, I had the privilege of experiencing one of the most memorable and productive periods of my life.

Along with three other students, I was selected by the Centre for International Relations at UNIVERSITI MALAYSIA PAHANG to attend the prestigious 3rd International Summer School on Sustainability (i3s) at Karlsruhe University of Applied Sciences, Germany 三 蒜.

This opportunity allowed me to dive deep into critical discussions and innovative solutions surrounding sustainability, which is one of the most pressing challenges of our time. Surrounded by like-minded individuals from various cultures of different countries, I had the chance to engage in intellectual exchanges that broadened my perspectives, enriched my understanding, and fueled my passion for creating sustainable change

Huge thanks to the project coordinators, Professor Michael Kauffeld and Professor Mihaela Dudita for their amazing guidance and efforts in organizing such a transformative program 🍑 . I'm also deeply grateful for the friendships that blossomed during the programme, and those connections have left a lasting impression on me.

May we meet again in the near future



#HKA #Sustainability #i3s #SophiA4Africa #Karlsruhe #WorldPeace

Übersetzung anzeigen



# Posts on LinkedIn from organizers and speakers



Michael Kauffeld • Sie Professor bei Hochschule Karlsruhe 3 Monate • Bearbeitet • ⑤

A noble man

Noble Banadda

Our international sustainability summer school i3s is the perfect place to be for passionate and dedicated young people. They can apply many of the skills they acquired during their participation at our international sustainability summer school i3s in Karlsruhe at Hochschule Karlsruhe (HKA) / University of Applied Sciences in their studies and future careers.

This year, among many other topics, we covered plant well-being supported by intelligent sensors, water management, water treatment, renewable electricity generation and sustainable cooling as well as environmental friendly means of transportation during our recent third edition. Actually many topics in order to improve the food chain from farm to fork. See https://lnkd.in/enxUpfQh for a short summary.

In case students want to participate next year, we will have a fourth edition of i3s next year. It will take place at our SophiA4Africa partner OST – Ostschweizer Fachhochschule in Rapperswil at beautiful lake Zurich. Dates are 8 to 12 September 2025. We will again inspire 40 international students to become involved in sustainable solutions thereby shaping our future leaders.

Just like this year, we will also in 2025 rely upon sponsors in order to keep the participation fee for the students at 100 Euro including everything, i.e. all lectures, excursions, food and beverages as well as accommodations. This year's sponsors were Güntner, lpetronik, Obrist Engineering, Refolution, Rivacold, THE SCHAUFLER FOUNDATION, VDE Publishing, Valerius Füner Foundation, "Verbund der Stifter" Foundation at HKA, and Wirtschaftsförderung Karlsruhe. A wholehearted thank you to all of them. In case you want to support next year's edition of i3s financially, please do not hesitate to contact me or Mihaela Dudita.

In order to honor a very special person, a man who was named by his parents with the first name reflecting the way he was, we decided today during our general assembly in our EU-funded research project SophiA to name future editions of i3s the "Noble Banadda international sustainability summer school". This is the least we as a project team can do to honor a great man of distinction who was the key to our successful project application. Noble opened many doors for SophiA4Africa in Africa - within Makerere University and well beyond.

Thank you my dear friend. We will never forget you.

## Übersetzung anzeigen



3rd International Summer School on Sustainability at Karlsruhe University of...

h-ka.de



### Mihaela Dudita . 1.

Project manager at SPF Institute for Solar Technolo... 1 Monat  $\cdot$   $\odot$ 

People can do wonderful things, but they can also destroy. Such an inspiring video.

Bottom line: we need more people for the transition to a sustainable development.

Join the next edition of our i3S Sustainability Summer School and become a change agent!

☆ September 8–12, 2025, in Rapperswil-Jona Noble Banadda International Summer School on Sustainability ☆

The 4th edition of the Summer School will bear the name Noble Banadda International Sustainability Summer School, in recognition of an extraordinary individual who significantly contributed to the success of the SophiA4Africa project proposal – the EUfunded initiative that led to the creation of i3s.

Registration opened, 40 places available. www.ost.ch/summer-school

EEU an der OST, OST – Eastern Switzerland University of Applied Sciences Michael Kauffeld, Karlsruhe University of Applied Sciences Christian Bach, Oklahoma State University

Übersetzung anzeigen



## Jan Bredack · 2.

+ Folgen

Gründer und Vorstandsvorsitzende...

1 Monat • ⑤

Unser Planet braucht uns Menschen nicht und kann auch ohne uns existieren (vielleicht wäre es für Flora und Fauna eh besser ohne unsere ... mehr





## Sarah Bimbona (PhD)... + Folgen

Director, Entrepreneurship an...

At the peak of COVID-19, I had the privilege to be part of an international research team, working on one of the most innovative sustainability projects I've ever encountered. At Makerere University, our team was led by the brilliant Prof. Nobel Banadda, and the consortium submitted a proposal to the European Commission that received a perfect score of 15/15.

Though I had never met Prof. Banadda in person, his leadership and passion were evident in our online meetings. He connected us to many African partners that lead to the birth of SophiA4Africa. Tragically, our joy was cut short when we lost Prof. Banadda to COVID-19, a devastating moment for all of us. Despite this immense loss, I am proud to share that the project has been a resounding success and in honor of Prof. Banadda's significant contribution, the international sustainability summer school (i3s), will be renamed the "Noble Banadda International Sustainability Summer School." We can not thank enough for honoring our colleague and may God bless you all.Barnabas Nawangwe



## Henrik Nordborg · 1.

Programme Director: Renewable Energy and Enviro...
4 Monate • Bearbeitet • ©

△ We are heading for a brick wall, and we are still accelerating. This is an improved and extended version of my lecture at the 3rd International Summer School on Sustainability at Karlsruhe University of Applied Sciences in September 2024 (https://lnkd.in/d7G6te9N)

Übersetzung anzeigen



Lecture on Global Climate Compensation

global-climate-compensation.o...

## Posts on LinkedIn from hosts and donors



BAW • Bundesanstalt für... + Folgen

5.517 Follower:innen 4 Monate • Bearbeitet • ⑤ + Folge

Last week, Prof. Michael Kauffeld, Prof. Mihaela Dudita, Prof. Elke Petersson and Verena Wagner, together with the students of the i3s (International Summer School for Sustainability) of the Hochschule Karlsruhe (HKA) / University of Applied Sciences, visited our hydraulic engineering laboratory. It's always great to see so much interest in our work!





# SophiA4Africa

674 Follower:innen 3 Monate • §

Global Students Unite for the 3rd International Summer School on Sustainability at HKA!

From September 9 to 13, 2024, Hochschule Karlsruhe (HKA) / University of Applied Sciences hosted the 3rd International Summer School on Sustainability. With 36 students from 13 countries, including Burkina Faso, Cameroon, and Germany, the event offered a unique blend of lectures, workshops, and hands-on activities on cutting-edge sustainability topics.

Participants explored the intersection of digitalization and sustainability, experienced lab work in refrigeration technology, and visited sites like the Vulcan geothermal power plant and Daimler Trucks. The week concluded with a celebration featuring live music and networking opportunities for future collaboration.

Learn more about the International summer school on the SophiA website 
https://lnkd.in/eSX8cXQr

#Sustainability #InternationalSummerSchool #SophiA





How can refrigeration and heat pumps drive sustainability in a changing world?

We were thrilled to participate in this year's International Sustainability Summer School at Karlsruhe University of Applied Sciences (HKA), where Emmerich Tempfli, our Manager for Concept Validation from the Future Solutions team delivered an insightful presentation on September 10th. As part of the day's theme of Refrigeration, Heat Pumps and Thermal Storage, Emmerich spoke on "Enhancing Sustainability in Refrigeration and Heat Pumps: Optimizing Performance in Frosty Conditions".

It was a fantastic opportunity to share our knowledge on advancing sustainability in the field and we were proud to be represented also by our HR colleagues Jennifer Hatoukh and Kagan Brinkwirth, who provided students with a glimpse into life at Güntner.

A big thank you to the organizers, among them **Michael Kauffeld** and participants for such an inspiring week!

Find your future at Güntner: https://lnkd.in/dWJ25Evz

#Güntner #Guntner #InternationalSustainabilitySchool #Refrigeration #HeatPumps #ThermalStorage

Übersetzung anzeigen





## Rivacold at i3s handing over their check



## Rivacold CI GmbH . 2.

Zukunftssichere Lösungen für Gew...
4 Monate • 🐧

Rivacold leistet einen kleinen, aber bedeutenden Beitrag zur globalen Nachhaltigkeit – im Rahmen der International Sustainability Summer School an der Hochschule Karlsruhe.

+ Folgen

Vom 9. bis 13. September 2024 lädt die dritte International Sustainability Summer School (i3s) Studierende aus aller Welt zum kreativen Austausch an die Hochschule Karlsruhe (HKA) / University of Applied Sciences ein. 40 Studierende aus 13 Ländern, darunter Burkina Faso, Kamerun, Frankreich, Deutschland, Griechenland, Malaysia, Mexiko, Südkorea, Rumänien, die Schweiz, die Türkei, Uganda und Vietnam, nehmen an vielfältigen Diskussionen teil, erforschen zentrale Nachhaltigkeitsthemen und tragen aktiv zu einer umweltfreundlicheren Zukunft bei

Unter dem Motto "Nachhaltige Gesellschaften" beschäftigen sich die Teilnehmenden mit einem breiten Spektrum an Themen, die essenziell für das Verständnis und die Bekämpfung von Umweltproblemen sind. Der Lehrplan reicht von Ökobilanzen über erneuerbare Energien und Kältetechnik bis hin zu Wassermanagement und Elektrofahrzeugen und bietet eine umfassende Einführung in nachhaltige Technologien und Praktiken.

Ein besonderes Merkmal der i3s ist die Betonung von Vielfalt und Inklusion. Durch die Zusammenführung von Studierenden mit unterschiedlichen Nationalitäten, Geschlechtern und akademischen Hintergründen entsteht eine dynamische Lernumgebung, in der verschiedene Perspektiven geschätzt und gefördert werden. Die Teilnehmenden sind eingeladen, ihre Ideen und Ansichten einzubringen, was zu bereichernden Diskussionen führt, die neue Erkenntnisse und Lösungsansätze hervorbringen.

Rivacold ist stolz darauf, dieses großartige Programm finanziell zu unterstützen und so sicherzustellen, dass alle Studierenden, unabhängig von ihrer finanziellen Lage, an der i3s teilnehmen können.

Rivacold is making a small but significant contribution to global sustainability by supporting the International Sustainability Summer School at Karlsruhe University of Applied Sciences.

From September 9 to 13, 2024, the third International Sustainability Summer School (i3s) will bring together students from around the world for a collaborative exchange at Karlsruhe University of Applied Sciences (HKA). Forty students from 13 countries, including Burkina Faso, Cameroon, France, Germany, Greece, Malaysia, Mexico, South Korea, Romania, Switzerland, Turkey, Uganda, and Vietnam, will engage in diverse discussions, explore key sustainability topics, and actively contribute to shaping a greener future. The curriculum covers topics from life cycle assessments to renewable energy and refrigeration technology, to water management and electric vehicles, offering a comprehensive introduction to sustainable practices and technologies.

Rivacold is proud to financially support this outstanding program, ensuring that all students, regardless of their financial situation, have the opportunity to participate in i3s.



#### Robert Szilinski . 1.

→ Ganzheitliche Strategien für die Twin Transform... 4 Monate • ⑤

International Sustainability Summer School 2024 - was für eine coole Idee Impact zu erzeugen

Ich hatte die Ehre kürzlich auf der International Sustainability Summer School der Hochschule Karlsruhe (HKA) / University of Applied Sciences zu sprechen. Gemeinsam mit 40 engagierten Studierenden aus 13 Ländern – darunter USA, Burkina Faso, Malaysia, Mexiko, Frankreich und Vietnam – haben wir uns mit einem der drängendsten Themen unserer Zeit auseinandergesetzt: globale Nachhaltigkeit.

M In meinem Vortrag habe ich beleuchtet, warum #Nachhaltigkeit ohne #Digitalisierung nicht realisierbar ist. Digitale Technologien sind entscheidend, um Ressourcen effizienter zu nutzen, Transparenz zu schaffen und zirkuläre Geschäftsmodelle zu fördern.
Weiterhin war es mir wichtig den Studierenden Beispiele zu geben, dass Nachhaltigkeit weit mehr als nur Ökologie ist und auch im unternehmerischen Kontext viel breiter gedacht werden muss, z.B. über Themen wie faire Bezahlung. Es waren auch viele Frauen vor Ort und es ist ein Skandal, dass wir 2024 immer noch über das #GenderPayGap sprechen müssen.

Am Beispiel esentri konnte ich außerdem zeigen, wie sich die Auditierung als B Lab / #BCorp auf das Unternehmen auswirkt und einen Ausblick geben, wie sich die Wirtschaftswelt in den nächsten Jahren weiterentwickeln muss. Ich bin fest davon überzeugt, dass eine konsequente Ausrichtung auf Nachhaltigkeit ein wichtiger Erfolgsfaktor für die Unternehmen in der Zukunft ist und dass wir nicht nur die bürokratische Seite sehen sollten, sondern vor allem die Chancen des EU Green Deals! Es ist wichtig, dass wir uns in Richtung #NetZero bewegen!

Lin großes Dankeschön an Michael Kauffeld für die Organisation der Summer School in Zusammenarbeit mit der OST – Ostschweizer Fachhochschule. Ich finde die ganze Idee einfach nur klasse und hoffe, dass im nächsten Jahr daran angeknüpft werden kann. Die Motivation der Studierenden etwas zur Veränderung auf unserer Welt beizutragen war förmlich spürbar und das restliche Wochenprogramm hat hier noch viel beitragen können!

Gerne haben wir auch vom Verbund der Stifter an der Hochschule Karlsruhe diese Veranstaltung unterstützt und dafür gesorgt, dass Studierende unabhängig ihrer finanziellen Möglichkeiten teilnehmen können.



# CDE

## SPF Institut für Solartechnik

1.539 Follower:innen 4 Monate • Bearbeitet • ③

OST-SPF actively co-organized and participated in two #summer #schools this year, the NEWAL Summer School in Kumasi, Ghana and the International #Sustainability Summer School in Karlsruhe, Germany.

International Sustainability Summer School 2024 - i3s in Karlsruhe, Germany

OST and SPF professors and researchers contributed to i3s hosted this year by Hochschule Karlsruhe (HKA) / University of Applied Sciences which brought together 36 students from around the world. Organised for the third time under the SophiA4Africa project, the Summer School offered a holistic approach to sustainability, covering key issues such as biodiversity, #global #warming, life cycle assessment, sustainable heating and cooling, #energy storage, water, and mobility.

It included contributions from OST and SPF:

Henrik Nordborg: Global Climate Compensation Andre Podleisek: Circular Solutions (or the world is falling apart)

Kanchan Bohara: Life Cycle Assessment with insights from SophiA

Mihaela Dudita: Energy storage & Reveal project

Many thanks to all participants and i3s partners Güntner, IPETRONIK GmbH & Co. KG, Obrist Engineering, Refolution Industriekälte GmbH, RIVACOLD, THE SCHAUFLER FOUNDATION, VDE Publishing, Valerius Füner Foundation, Verbund der Stifter an der Hochschule Karlsruhe, and Wirtschaftsförderung Karlsruhe.

1: NEWAL participants at KNUST campus in Kumasi, Ghana

2: Solar water pumping workshop at a NEWAL school

3: International Sustainability Summer School in Karlsruhe, Germany

4: Students solving the Climate Fresk during the i3S Summer School in Karlsruhe, Germany

Übersetzung anzeigen







