

STATUS REPORT

Africa Institute

APPLIED RESEARCH IN KEY MARKETS

2020

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OUR FOCUS: AFRICA

The Africa Institute was founded in 2013 by Prof. Dr. Rainer Burk in order to bundle the activities of Neu-Ulm University of Applied Sciences (HNU) in the areas of research, teaching, learning, innovation and transfer on the African continent and to efficiently organize the administration of third-party funded projects. The Africa Institute works across faculties. Projects focus on the development and implementation of practice-oriented and interdisciplinary projects with African partners in the fields of healthcare, entrepreneurship, logistics and resource management, and commercialization of research.

Prof. Dr. Thomas Bayer has been the director of the Africa Institute since January 2019.

In 2020, the following topics played a central role:

- Conversion of project activities to digital formats
- Knowledge transfer to the business community, such as
 - o Establishment of cold chains in African countries
 - o Frugal innovations
- Application of health data analytics for Covid-19 response
- Internet of Things (IoT), object detection and artificial intelligence

In addition, the Africa Institute is going public with new transfer formats to make the lessons learned in Africa available to regional companies. In January 2020, an Africa Day for companies was organized for the second time, this time in cooperation with Bayern Innovativ GmbH.

Many activities were switched to virtual formats in 2020 due to the pandemic. The digitization, which was forced to a certain extent, revealed new opportunities and synergies.

This report provides an insight into the topics that occupied the Africa Institute in 2020.

THE AFRICA INSTITUTE

The following chapter serves to provide an introduction into the objectives of the Africa Institute, its members and the relevant national and international cooperation partners in 2020.

OBJECTIVES

The Africa Institute focuses on the implementation of transfer projects in the field of applied teaching and research in African countries and thus makes a measurable contribution to the internationalization goals of HNU. With the implementation of a total of 15 projects, HNU has established itself over the past years as an experienced partner for development work and makes a significant contribution to the promotion of development. Within this framework, a strong and dynamic network of international partners has been developed and established. This network now serves as a basis for future cooperation and further joint projects, which are a key objective in the coming year. In this context, the continuous expansion of partner companies and partner organizations will also be pursued in 2020. To this end, for example, the Africa Day 2020 took place at the end of January, which generated new valuable contacts.

Projects with African partners also create the opportunity to integrate country-specific topics and practical experience into teaching at HNU in order to create awareness among HNU students of the opportunities and possibilities of cooperation with partners on this continent and to enable intercultural learning. Activities in this environment will also be continued next year so that greater student interest can be achieved in the long term.

MEMBERS OF THE INSTITUTE



Professor Dr. Thomas Bayer



Professor Dr. Bayer, who has headed the Africa Institute since 2019, serves as Vice President for Internationalization and Transfer at HNU and has been a member of the Africa Institute since 2014.

Currently, he is primarily responsible for the Applied Entrepreneurship Academy project, which is carried out in collaboration with Kenyatta University (KU) and the Chandaria Business Innovation & Incubation Centre (Chandaria BIIC) in Nairobi, Kenya. The goal is to improve entrepreneurship education at KU and increase the number and quality of innovative startups founded by KU graduates. In addition, he has submitted two successful project proposals with partners from University of Rwanda in 2020.

Professor Dr. Elmar Steurer



Professor Dr. Steurer is, in addition to his work as Dean of the Faculty of Economics at HNU, a member of the Africa Institute. Since 2013, he has been primarily responsible for projects in the field of decentralized electrification and promotion of entrepreneurship in rural areas of African countries.

Particularly noteworthy is Professor Dr. Steurer's extensive knowledge of the energy sector as a result of his previous employment at RWE AG. Accordingly, he is responsible for the Pathway to Renewable OffGrid Community Energy for Development (PROCEED) project on the part of HNU, which is researching the application of decentralized, solar-powered electricity grids, so-called mini-grids, in Namibia in cooperation with TH Ingolstadt, the University of Bayreuth and IBC Solar, as well as with other local partners. In 2020, he launched two new projects:

One with a Senegalese partner university, focusing on the use of renewable energy and cooling technology in the agricultural sector (Strengthening Aquaculture Industry Through Renewable Energy - STAIRES), and the other with a partner university in Uganda with the aim of using digital learning in off-grid, rural areas of Uganda ("Implementation of solar mini-grids for digital learning models in rural areas of Uganda" - DEDLRAU).

Professor Dr. Bernard Wagemann



Professor Dr. Wagemann is professor emeritus at HNU since 2014 and member of the Africa Institute since retirement.

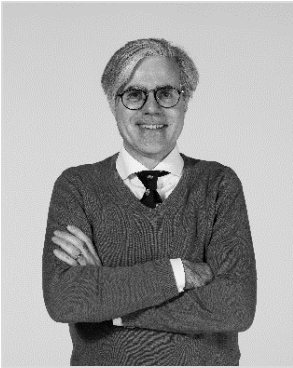
Due to his research focus in the area of risk management of mini-grids, Professor Dr. Wagemann is a member of the PROCEED project team. In addition, he lectures on issues related to Africa's development and the economic and geopolitical consequences of China's extensive involvement in Africa. Since his retirement, Prof. Dr. Wagemann has also successfully conducted trainings in design thinking, lean start-up and applied research for student entrepreneurs and university lecturers in Neu-Ulm and Nairobi (Kenya). In addition, Prof. Wagemann is involved in the STAIRES project by writing an entrepreneurship booklet as teaching material for smallholder farmers and aspiring entrepreneurs in Senegal's rural areas.

Professor Dr. Carsten Prenzler



Professor Dr. Prenzler is a professor of business administration with a focus on industrial management at HNU and a member of the Africa Institute. He contributed his expertise in 2020 mainly in designing new applications in the field of agribusiness and logistics.

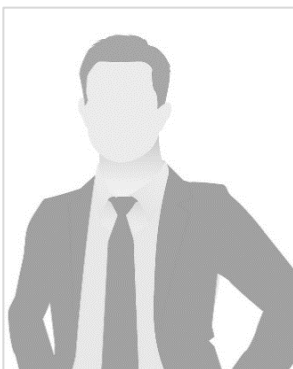
Professor Dr. Jens U. Pätzmann



Professor Dr. Pätzmann has been a member of the Africa Institute since January 2019. In 2020, he also became director of the newly founded Institute for Entrepreneurship at HNU.

In 2020, he contributed to the following topics and projects at the Africa Institute: Working group takeover at the second Africa Day; AEA, implementation of the workshop "Branding and Market Research Techniques for Start-ups, Kenyatta University, Nairobi, this time digitally, i.e. via ZOOM; preparation of the application "Erasmus+ Cooperation Partnerships in Higher Education". In the course of this, implementation (together with Vanessa Miller and Dr. Vered Holzmam, Israel) of a two-day digital workshop in November 2020. Furthermore, he won the Mobility Grant BayIntAn (could not yet be implemented due to pandemic-related travel restrictions).

Professor Dr. Tobias Engel



Professor Dr. Engel is Professor of Supply Chain Management and a member of the Africa Institute.

Together with Prof. Dr. Dany Meyer and Prof. Dr. Jörg-Oliver Vogt, Prof. Dr. Engel is responsible for the practical implementation of the Big Data in Logistics project, which is being carried out with the University of the Western Cape in Cape Town. There, a new master's program has been developed that addresses current developments in the topics of Big Data, data science and predictive analytics for the fields of logistics and supply chain management and equips students with the skills to create and implement analytical applications to solve logistics problems.

Inken Hoeck



Inken Hoeck joined the Africa Institute at HNU as a research assistant in November 2019.

Ms. Hoeck supports the professors in submitting new project proposals and is operationally responsible for the PROCEED and STAIRES projects. In parallel, she is doing her PhD on circular economy in East Africa at the Chair of Social and Population Geography at the University of Bayreuth. The thesis is supervised by Prof. Dr. Eberhard Rothfuß (University of Bayreuth) and Prof. Dr. Thomas Bayer (University of Applied Sciences Neu-Ulm).

Ronald Robertson



Ronald Robertson is a research associate at the Center for Digitization and has been a member of the Africa Institute since 2015.

Mr. Robertson most recently supported Professor Dr. Jacob in the implementation of the UAS Kenya project and is primarily responsible for the PAGEL Health Data Analytics project with the University of the Western Cape in South Africa. Through his many years of experience with previous projects in the field of health management as well as e-learning under the direction of Prof. Dr. Rainer Burk and through his employment at the Center for Digitization at HNU, Mr. Robertson's focus is in the field of e-learning.

Sylvia Göbel



Sylvia Göbel has been a member of the Africa Institute since 2013. She is responsible for financial planning, coordination of third-party funding, and reporting to donors, especially the DAAD.

Vanessa Miller



Vanessa Miller has been an administrative assistant at the Africa Institute since May 2019. Ms. Miller organizes events and is the contact person for African project partners. In addition, she supports the professors in submitting new applications, is the interface to other administrative departments, is in charge of financial controlling for some projects, and takes care of public relations

Colin Pubantz



Colin Pubantz is studying business administration in the 1st master's semester at the University of Ulm and is also working as a student assistant at the Africa Institute. Here he mainly supports Prof. Dr. Wagemann with the creation of the Entrepreneurship Booklet.

Hannes Hönig



Hannes Hönig is studying business administration at Neu-Ulm University. He is writing his bachelor thesis on business models of cooling solutions in Sub-Saharan Africa at the Africa Institute and supports the STAIRe project team as a student assistant.

Jonas Gutmann



Jonas Gutmann is a student at Neu-Ulm University of Applied Sciences and is writing his bachelor's thesis on cold chains in Sub-Saharan Africa at the Africa Institute. He is thus part of the STAIRe project team, in which he also has a job as a student assistant.

COOPERATION PARTNERS IN AFRICA

COUNTRY	NAME	WEBSITE	PROJECT ACTIVITIES
Ethiopia	Arba Minch University	https://www.amu.edu.et	Applied Entrepreneurship Education Programme
Cameroon	Catholic University of Cameroon (CATUC)		Partner in Projects of the Faculty Healthcare Management
Kenya	Kenya Methodist University	https://kemu.ac.ke/	PAGEL Health Data Analytics Projekt, formerly HIM Master degree
Kenya	Kenyatta University	http://www.ku.ac.ke	Applied Entrepreneurship Academy Project, DIES-Proposal TT-CUIP
Kenya	Moi University	https://campusnairobi.mu.ac.ke/	UAS Kenya
Kenya	Strathmore University, especially Strathmore Business School	https://www.strathmore.edu	DAAD subject partnership application, CBBL project until 2018 Guest lectureships since 2017
Kenya	University of Kabianga	http://kabianga.ac.ke/main/	Guest lectureships since 2014
Kenya	Booth Extrusions	http://boothextrusions.com	Applied Entrepreneurship Academy Project
Namibia	Namibia University of Science & Technology	https://www.nust.na	PROCEED
Namibia	Namibia Energy Insitute	http://nei.nust.na/	PROCEED
Rwanda	University of Rwanda	https://ur.ac.rw/	DIES-Proposal TT-CUIP, Industry-Partnership-Proposal Circular Agro-Economics
Senegal	Université Gaston Berger	https://www.ugb.sn/	STAIRE Project
Senegal	SL Green Energy	http://sl-greenenergy.com/	STAIRE Project
South Africa	University of the Western Cape	https://www.uwc.ac.za	PAGEL Health Data Analytics Project, Big Data in Logistics Project, formerly HIM Master degree programme
Tanzania	Muhimbili University of Health and Allied Sciences	https://www.muhas.ac.tz	PAGEL Health Data Analytics Project, formerly HIM Master degree programme
Uganda	Uganda Christian University	www.ucu.ac.ug	DFG fact finding mission Solar Energy Mini-Grids DEDLRAU

COOPERATION PARTNERS IN GERMANY

LOCATOIN	NAME	WEBSITE	PROJECT ACTIVITIES
Bayreuth	Universität Bayreuth	https://www.uni-bayreuth.de/de/index.html	PROCEED, BRIAS network, cooperative PhD
Dettingen an der Iller	Raach Solar	https://www.raachsolar.com/	Applied Entrepreneurship Academy – Renewable Energies
Ingolstadt	Technische Hochschule Ingolstadt	https://www.thi.de	UAS Kenya, PROCEED, BRIAS network
Kirchheim unter Teck	AMK Arnold Müller GmbH & Co. KG	https://amk-group.com/de	Big Data in Logistics
München	Mindfuel	www.mindfuel.ai	Big Data in Logistics
Memmingen	Phaesun GmbH	http://www.phaesun.com	Applied Entrepreneurship Education Programme, Speaker Africa Day 2020
Munich	Sharkbite Innovation	https://www.sharkbite.international/	Circular Agro-Economics Proposal
Nürnberg	Bayern Innovativ GmbH	http://bayern-innovativ.de	Cooperation partner Africa Day 2020
Paderborn	EnergieKonzepte Schiffer GmbH & Co. KG	https://www.energiekonzepte-gmbh.de/	Project STAIRE
Ulm	Hensoldt	https://www.hensoldt.net/	Started concept of a joint project proposal
Weihenstephan	Hochschule Weihenstephan Triesdorf	https://www.hswt.de/	Two joint project proposals: Sustainable Solutions with Sub-Saharan Africa (Rejected), African Centres for Excellence (Selection decision pending).

PROJECTS

In the following chapter, the project applications submitted in 2020 are briefly listed, and the current third-party funded projects with the respective measures are presented. Finally, a table is presented showing which final theses have been written by which students on topics of the Africa Institute in 2020 and some of which are still being written.

PROPOSALS FOR NEW THIRD-PARTY FUNDED PROJECTS

SUBMISSION	TITLE	COOPERATION PARTNERS	PLANNED ACTIVITIES	RESPONSIBLE
April 2020	Circular economy innovations – soil organic matter (SOM) enhancement through organic waste cycles	Hochschule Weihenstephan-Triesdorf Kenyatta University (Kenya) Egerton University (Kenya)	Enhancement of soil organic matter Developing business models for a circular use of organic matter Development of a basic supply chain for organic matter	Thomas Bayer (rejected)
May 2020	BayIntAn Initial funding for the development of a joint project proposal	The Academic College of Tel Aviv-Yaffo, Israel University of West Attica, Griechenland Università Cattolica del Sacro Cuore, Italien Arba Minch University, Äthiopien	Workshop for the preparation of an Erasmus+ Cooperation Partnerships application on the topic "Establishment of an international network that jointly conducts research, teaching and transfer on entrepreneurship and start-up topics".	Jens Pätzmann (approved, postponed to 2021)
June 2020	Technology Transfer and Commercialization of University Intellectual Property	University of Rwanda Kenyatta University	Train-the-Trainer Programme to improve technology transfer and push commercialization of IP	Thomas Bayer (approved)
June 2020	Logistics 4.0	University of the Western Cape (UWC) Uganda Management Institute (UMI) Ecole Supérieure d'Informatique	Joint development of a Logistics 4.0 academic offering for rural areas in the Democratic Republic of Congo (DRC) and Uganda Creating a North-South-South Network	Tobias Engel (rejected)

		e Salama (ESIS Salama)		
July 2020	Implementation of solar mini-grids for digital learning models in rural areas of Uganda (DEDLRAU)	Uganda Christian University	Fact finding mission: Integration of decentralized photovoltaic systems to promote digital learning models in rural areas of Uganda.	Elmar Steurer (approved)
September 2020	Circular Agro-Economics	University of Rwanda Sharkbite Innovation	Entwicklung eines interdisziplinären praxisorientierten Master-Studiengangs für zirkuläre Agrarökonomie und Entrepreneurship-Themen in einem Blended-Learning-Format Implementierung eines praxisorientierten, auf E-Learning basierenden Zertifikatslehrgangsangebots für zirkuläre agrarökonomische Innovationen für Fachleute, Externe, kommunale Entscheidungsträger und potenziell interessierte Hochschulabsolventen anderer Programme an der UR	Thomas Bayer (approved)
Preparation November 2020, call expected March 2021	Erasmus+ Cooperation Partnerships: "Establishment of an international network that jointly carries out research, teaching and transfer on entrepreneurship and start-up topics".	The Academic College of Tel Aviv-Yaffo, Israel University of West Attica, Griechenland Università Cattolica del Sacro Cuore, Italien Arba Minch University, Äthiopien	Formation of a consortium for the joint submission of an Erasmus+ Cooperation Partnerships application (call was to be published in December 2020, was postponed to March 2021 due to protracted EU budget negotiations) <ul style="list-style-type: none"> • Monthly jour fixe to identify key issues • - Two-day online workshop in November to collect content for the application using the impact tool of the Dutch Erasmus Agency: https://www.erasmusplus.nl/en/impacttool-strategicpartnerships 	Jens Pätzmann Supported by Daniel Schallmo

RUNNING PROJECTS

- Applied Entrepreneurship Academy (AEA), 2017 - 2021, Kenya, BMZ / DAAD
- PAGEL Health Data Analytics, 2019 - 2022, South Africa, Kenya, Tanzania, BMZ / DAAD
- Big Data in Logistics, 2017 - 2021, South Africa, BMZ / DAAD
- Pathway to Renewable Off-Grid Community Energy for Development (PROCEED), 2019 - 2022, Namibia, BMBF / ptj
- Strengthening Aquaculture Industry Through Renewable Energies (STAIRE), 2020 – 20223, Senegal, BMZ/ DAAD

APPLIED ENTREPRENEURSHIP ACADEMY PROJECT, KENYA (DAAD)

In collaboration with the Chandaria Business Innovation & Incubation Centre (Chandaria BIIC) of Kenyatta University (KU) in Nairobi, Kenya, the HNU Africa Institute is implementing a project to improve entrepreneurship education at KU and increase the number and quality of innovative start-ups founded by KU graduates. The 4-year project (2017-2020) is funded by the German Academic Exchange Service (DAAD) with funds from the German Federal Ministry for Economic Cooperation and Development (BMZ). The project's industrial partners are Booth Extrusions Ltd. in Kenya - a Chandaria Industries Group company - and Raach Solar in Germany.

Through the project, young entrepreneurs are enabled to develop sustainable business concepts around their innovative ideas by equipping them with the necessary innovative thinking and business techniques. The project also promotes the embedding of entrepreneurial thinking and practical orientation in regular curricula by training a significant number of KU lecturers in these areas, who act as multipliers within their faculties.

Each project year, a 10-day field trip to Nairobi is held in September with HNU business students. The HNU students meet with KU entrepreneurs and take on the role of business coaches to improve and sharpen the entrepreneurs' business ideas and business models. They thus practice consulting and acquire intercultural skills. In 2020, the excursion had to be cancelled due to the pandemic, hoping that it can be done in 2021.

ACTIVITIES 2020:

- **AEEP Runs** for KU Entrepreneurs were conducted online for the first time.
- Four, two-hour workshops on marketing and branding techniques for startups were held as part of the AEA (online).
- Likewise, the **train-the-trainer workshops** were conducted online for the first time, under the guidance of the Kenyatta University trainers trained in previous years and supervision of HNU professors.

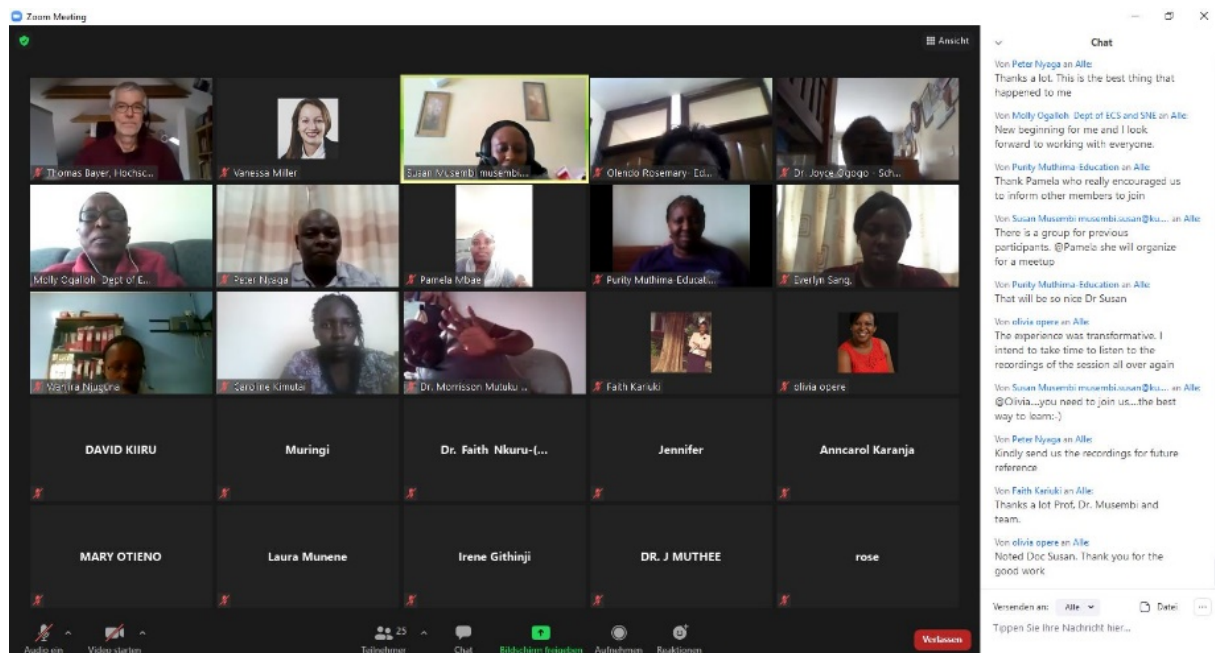


Figure 1: AEEP Run (via zoom)

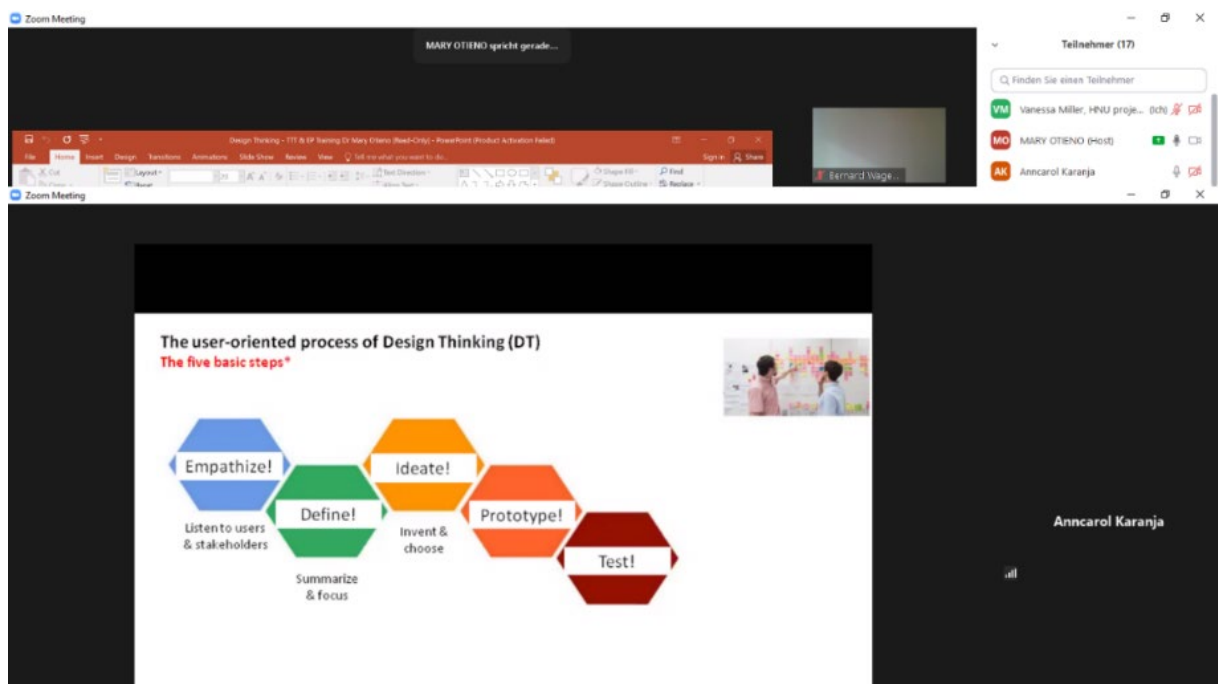


Figure 2: Workshop (via zoom)

PAGEL HEALTH DATA ANALYTICS PROJECT, SOUTH AFRICA, TANZANIA, KENYA (DAAD)

This follow-up project of the Master of Health Information Management is based on two pillars.

1. structural and topic-specific further development of the existing Master of Health Information Management (HIM) program: further development of the existing program into an online Master's program in health data analysis. To reduce travel costs and the number of days away from the student's

workplace, the delivery mode will be changed to e-learning. The new online curriculum will also be revised in line with the 4th Industrial Revolution (4IR) to include Big Data, Analytics and Artificial Intelligence. Health is one of the main application areas of Big Data and analytics, and the expectations for better diagnosis, monitoring, and treatment for patients are enormous. The intended academic outcome is to develop the existing MHIM degree into an online course in health data analytics at the University of the Western Cape (UWC) and partner universities Kenya Methodist University (KeMU) and Muhimbili University of Health and Allied Sciences (MUHAS). The development-related outcome is based on building capacity to prepare graduates for careers in health analytics.

2. training of MHIM graduates in data analytics: another goal is to introduce skills training in health data analytics for MHIM alumni and health care students through winter/summer schools. Since 2013, 59 participants have graduated or will graduate in the near future with MHIM degrees to date. Because the MHIM curriculum has not addressed data analytics in detail, there is a great need among alumni to learn more about the possibilities of health data analytics. The planned winter/summer schools are designed to equip alumni and students from other health programs with these skills. The academic outcome is to bring MHIM graduates up to speed with skills training in health data analytics in the spirit of lifelong learning and other students. The development outcome is to build capacity in health organizations in sub-Saharan Africa by updating their skills and knowledge.

ACTIVITIES 2020:

Digital Winter School

This year, the Health Data Analytics Project Winter School was conducted in a 3-week virtual blended learning format. The topic of the Winter School was the application of data analytics to address COVID-19 related problems in health. Conducting the Winter School in this format allowed the project team to conduct an initial prototype online master course.

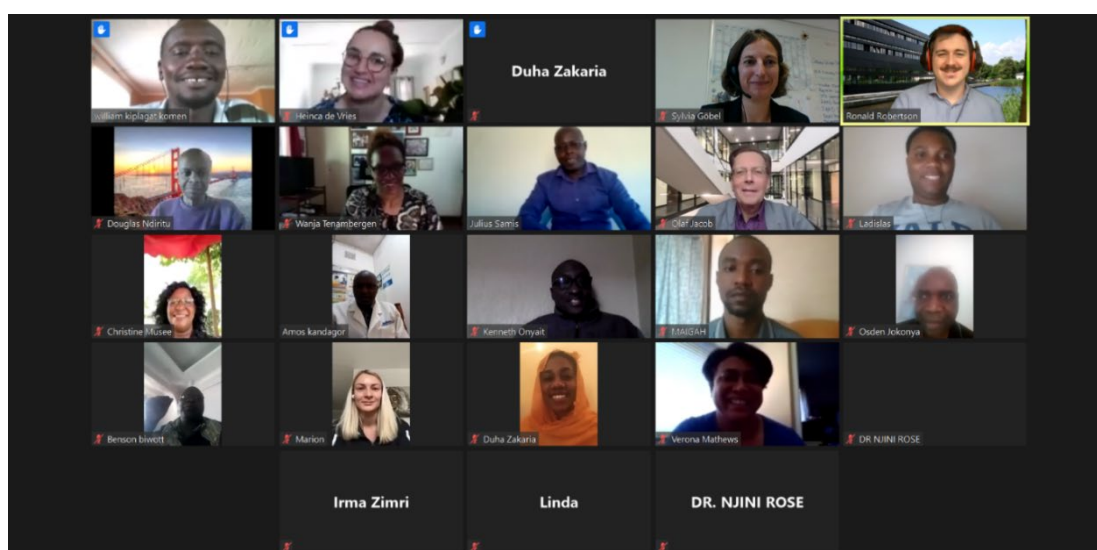


Figure 3: Digital winter school

Development of the e-learning concept

An e-learning concept was developed for the future development and targeted use of online materials for the online master's course. With the concept, content development at all four universities is to be carried out in a uniform style, both in terms of design and technical implementation.

Big Data in Logistics Project, South Africa (DAAD)

Neu-Ulm University of Applied Sciences and the University of the Western Cape in Cape Town, South Africa are developing a new master's degree program at UWC in the "Big Data in Logistics" project. The program aims to address current developments in Big Data, data science and predictive analytics for the logistics and supply chain management sectors and equip students with the skills to create and implement analytical applications to solve logistics problems. Logistics for South Africa, and Cape Town in particular, is of great importance due to its port and international airport. This has led to the UWC recognizing the importance of logistics and meeting the high demand for professionals in this field. Since the UWC has not had an academic program in this area before, this project is highly strategic.

ACTIVITIES 2020:

- **Joint Teaching at the University of the Western Cape, February 2020.**

Prof. Engel, Prof. Meyer and Prof. Vogt taught together with the South African project partners at the UWC parts of the module E-Logistics and Analytics in the Master's program that was created in the project.

- **Student stay in Neu-Ulm, March 2020**

Two students from UWC were supposed to come to HNU for four months to carry out a project under the supervision of Prof. Engel, Prof. Meyer and Prof. Vogt. Unfortunately, the pandemic situation came to a huge head shortly after their arrival, so they had to leave after only eleven days as a precautionary measure.

- **Virtual IoT Hackathon, November 16-20, 2020.**

Students learned how business applications relate to IT and analytics. By the end, students understand how the aspects need to relate to each other to add value to businesses.

The public was also invited to an online broadcast presentation on Object Detection and Artificial Intelligence.

PROCEED PROJECT, NAMIBIA (BMBF)

The PROCEED project, Pathway to Renewable Off-Grid Community Energy for Development, is being carried out in cooperation with the TH Ingolstadt, the University of Bayreuth and IBC Solar, as well as with other local partners.

The background is that in large parts of Namibia, connecting rural households to the national grid is neither technically nor economically feasible. The lack of access to electricity prevents technological and economic development, especially in rural areas. Despite good availability, renewable energies have been little used so far. In cooperation with TH Ingolstadt, University of Bayreuth and IBC Solar as well as Namibian partners, HNU is researching the application of decentralized power grids, so-called mini-grids, which are limited to smaller areas. Decentralized models for the energy infrastructure are to be developed, which correspond to the respective local electricity demand, use current technical possibilities and meet with the acceptance of the rural population. The island grids should be economically viable and easy to maintain. HNU contributes its business expertise in the work package "Mini-Grid Economics" and investigates the question of a cost-covering tariff and payment system for stand-alone grids, based on suitable business models for the commercial use of the generated electricity.

ACTIVITIES 2020:

- **Second project status meeting in April 2020:** Virtual meeting with the German project partners, in which the status of the individual work packages was presented and discussed.

Participants from HNU: Prof. Dr. Elmar Steurer, David Manetsgruber, Inken Hoeck, Vanessa Miller, Colin Pubantz.

- **Project partner meeting in July 2020:** meeting between HNU and the University in Bayreuth at the University of Bayreuth to specifically discuss overlaps in work packages 2 (Economics) and 4 (Sustainability).

Participants from HNU: Prof. Dr. Elmar Steurer, Inken Hoeck

- **RESRB Conference in September 2020:** participation in the virtual RESRB conference and presentation of risks in the course of rural electrification in Namibia (Tsumkwe).

HNU participant: Inken Hoeck.

- **Meeting with the Ministry of Mines and Energy (Namibia) in September 2020:** presentation of current research results especially with regard to work package 2 (Economics). In this context, a Levelized cost of electricity calculation (LCOE) was performed, which provides conclusions on the profitability situation of the mini-grid in Tsumkwe.

Participants of the HNU: Prof. Dr. Elmar Steurer, Prof. Dr. Bernard Wagemann, Inken Hoeck

- **Third project status meeting in November 2020:** virtual meeting with the German project partners, in which the status of the individual work packages were presented and discussed and the trips in the following year were planned.

Participants from HNU: Prof. Dr. Elmar Steurer, Prof. Dr. Bernard Wagemann, Inken Hoeck, Vanessa Miller

- **Project status meeting in November 2020:** Virtual meeting with the German and Namibian project partners as well as the project coordinator on the part of the project sponsor. Presentation of the status of the individual work packages as well as an update on the Corona situation in Namibia. In particular, the further procedure with regard to the current pandemic was discussed with the project executing agency.

Participants of the HNU: Prof. Dr. Elmar Steurer, Prof. Dr. Bernard Wagemann, Inken Hoeck, Vanessa Miller

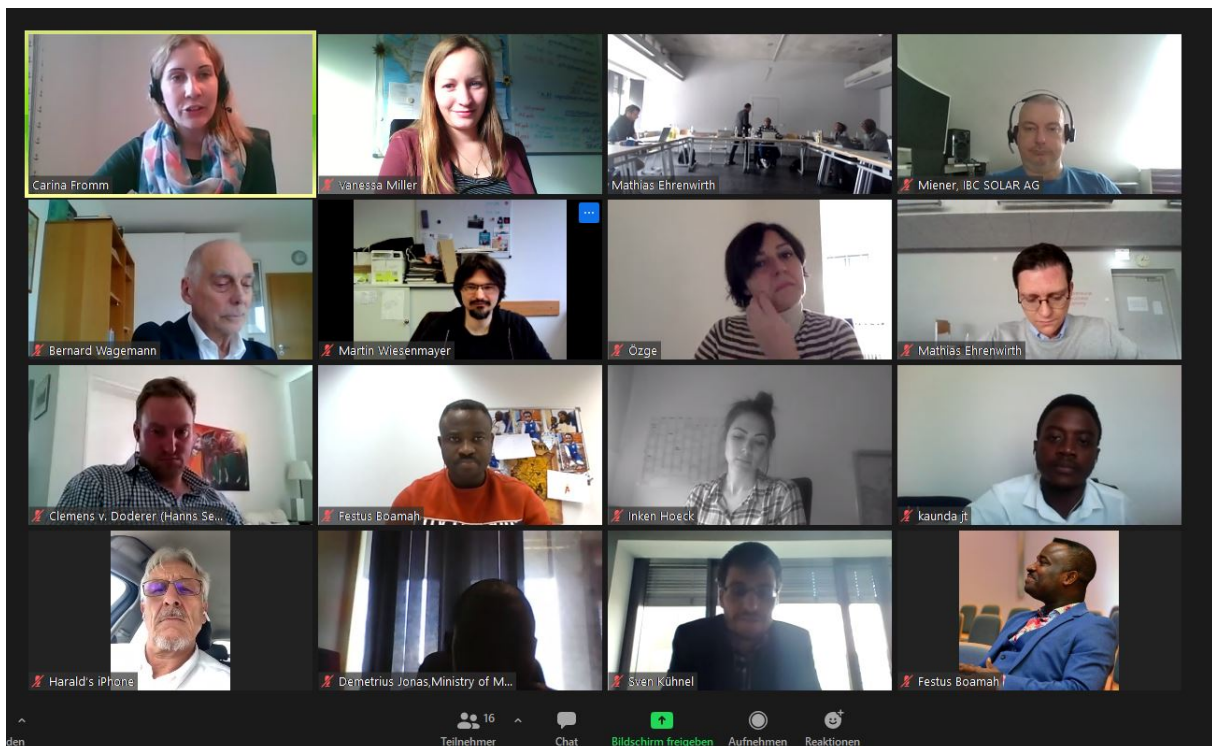


Figure 4: Screenshot of the virtual project meeting in November 2020

STAIRE PROJECT, SENEGAL (DAAD)

The project STAIRE, Strengthening Aquaculture Industry Through Renewable Energies, is carried out in cooperation with the Université Gaston Berger in Saint-Louis (UGB) (Senegal) and the practice partners EnergieKonzepte Schiffer GmbH & Co. KG, KTI Plersch Kältetechnik GmbH and SL Green Energy.

The project aims to strengthen fisheries in Senegal through the integration of renewable energy. The sector is crucial for the country, as fish is vital for the local diet. However, fishermen are mostly unable to properly store, process, and transport the goods due to lack of energy availability and relatively high energy consumption for these activities, which in turn are costly. By integrating renewable energy sources, fishermen will be able to adequately handle food and thus generate a stable income.

UGB has a focus on agro- and aquaculture. In the course of the project, a certificate course with practical relevance will be developed and implemented at UGB to sustainably close the gap between theoretical education and practical expectations of the labor market. The certificate course combines the field of agricultural economics / aquaculture with renewable energy technologies. The three companies provide support not only by transferring knowledge to UGB employees and developing the curriculum, but are also willing to train students as part of an internship. In addition, annual conferences and career fairs are held to further promote and deepen relationships between local industry, students and UGB itself.

ACTIVITIES 2020:

- **Project Kick-Off in July 2020:** Hybrid project kick-off event with all participants. Due to the pandemic, the UGB (represented by Djicknoum Diouf) could only participate virtually, the German consortium met in Paderborn in the premises of the partner company Energiekonzepte Schiffer. A face-to-face meeting with the partners of UGB will take place as soon as possible.
Participants of the HNU: Prof. Dr. Elmar Steurer, Inken Hoeck, Vanessa Miller, Colin Pubantz



Figure 5: Hybrid Kick-Off: From left to right: Prof. Dr. Elmar Steurer, Rupert Plersch, Colin Pubantz (via Zoom), Djicknoum Diouf (via Zoom), Vanessa Miller, Inken Hoeck, Sebastian Schiffer, Jörg Habermann, Michael Walleter



Figure 6: Hybrid Kick-Off: From left to right: Sebastian Schiffer, Jörg Habermann, Michael Walleter, Sada Ly, Prof. Dr. Elmar Steurer, Rupert Plersch, Vanessa Miller, Inken Hoeck

- **Hybrid project meeting in September 2020:** meeting between the project partners to plan the internships in the coming year and to further develop the curriculum. In addition, activities were also carefully planned for 2021, taking into account the pandemic.

Participants of the HNU: Prof. Dr. Elmar Steurer, Prof. Dr. Bernard Wagemann, Inken Hoeck, Vanessa Miller, Colin Pubantz

- **Project partner meeting in December 2020:** virtual meeting between HNU and CTI Plersch to inform about (commercial) project progress.

Participants from HNU: Prof. Dr. Elmar Steurer, Vanessa Miller

PROMOTION OF YOUNG RESEARCHERS

TYPE OF WORK	AUTHOR	SEMESTER	TOPIC	SUPERVISOR
Bachelor's thesis	Colin Pubantz	Wintersemester 19/20	International project management and intercultural competences: The significance of culture and its influence on project success	Elmar Steurer
Bachelor's thesis	Katrin Lippert	Wintersemester 19/20	Framework conditions for the promotion of renewable energies in African countries	Elmar Steurer
Bachelor's thesis	Nils Richt	Wintersemester 19/20	Framework for the promotion of e-mobility in West Africa	Elmar Steurer
Bachelor's thesis	Teodora Andeloplj	Wintersemester 19/20	Opportunities and risks for German enterprises	Elmar Steurer

			for investments in Sub-Saharan Africa	
Bachelor's thesis	Hannes Hönig	Wintersemester 20/21	Economic viability of productive use business models for rural electrification in Africa	Elmar Steurer
Bachelor's thesis	Jonas Gutmann	Wintersemester 20/21		Thomas Bayer

KNOWLEDGE MANAGEMENT

Knowledge management at the Africa Institute includes activities offered and carried out at HNU, such as seminars, excursions or transfer events, such as the annual Africa Day for Enterprises. In addition, activities in associations, guest lectureships, congress visits, lectures and also publications are further important pillars that contribute significantly to knowledge management and transfer.

ACTIVITIES AT HNU

Activities at HNU include teaching activities and events organized by the Africa Institute.

TEACHING

Lions Den - Design Thinking & Lean Startup for Innovations in Africa: Prof. Dr. Thomas Bayer was again able to offer the elective course "Lions Den" in the summer semester 2020. Here, students developed innovative ideas in the African context and present their concepts to a selected jury, just like in "Die Höhle der Löwen".

Lecture Sada Ly: On June 30, a guest lecture in the #digital format was held for the first time at Neu-Ulm University, Faculty of Business and Economics. Sada Ly, a management consultant from Munich, was invited to present important aspects of country risk management from a practical perspective to the students of the "Financial Decision Making" course. Sada Ly explained this topic especially from the perspective of planned investments of medium-sized German companies in selected countries of West Africa.

Lecture Michael Kawiti: Michael Kawiti from United States International University-Africa presented Kenya's Vision 2030 and the advantages of the East African Economy to students on 09.11.2020 and presented business opportunities in Kenya.

AFRICA DAY 2020

On January 28, 2020, the Africa Day for Business took place for the second time at the University Center Vöhlinschloss, Illertissen. Thematically, the day revolved around pragmatic solutions for African growth markets and was organized together with Bayern Innovativ.

We were particularly pleased that a project partnership for the STAIRE project was able to develop through the contacts made at the Africa Day. A project application was drafted with another company. This underlines the importance of the Africa Day for networking and making new contacts.



Figure 7: Africa day 2020



2. AFRIKA-TAG FÜR UNTERNEHMEN

Pragmatische Lösungen für
afrikanische Wachstumsmärkte

Dienstag, 28. Januar 2020

9.30 bis 17 Uhr

Hochschulzentrum
Vöhlinschloss Illertissen
Schlossallee 25

Anmeldung:
[/bayern-innovativ-shop.de/pragmatische-losungen-2020](http://bayern-innovativ-shop.de/pragmatische-losungen-2020)

2. AFRIKA-TAG FÜR UNTERNEHMEN

Der globale Wettbewerb fordert Unternehmen heraus, stetig innovative Produkte zu entwickeln und neue Märkte zu erschließen. Es muss jedoch nicht immer die komplexe High-Tech-Variante sein. Frugale Lösungen bieten gerade für die dynamischen und schnell wachsenden afrikanischen Märkte große Chancen für deutsche Unternehmen. Beim 2. Afrika-Tag für Unternehmen erhalten Sie Informationen aus erster Hand über Erfolgsfaktoren und Best-Practice-Beispiele für Subsahara-Afrika.

PROGRAMM

- 8.30 Check-In
- 9.30 **Begrüßung und Kurzvorstellung**
Prof. Dr. Uta M. Feser, Präsidentin Hochschule Neu-Ulm (HNU)
Dr. Petra Blumenroth, Programmmanagerin Frugale Innovationen, Bayern Innovativ
- 9.40 **Einführungspanel -**
Wachstumsmarkt Afrika - warum sich ein rechtzeitiger Einstieg lohnt, frugale Innovationen erfolgversprechend sind und wie sie entwickelt werden
Prof. Dr. Thomas Bayer, Vizepräsident HNU, Leiter Afrika-Institut
Prof. Dr. Bernard Wagemann, Mitglied Afrika-Institut
Dr. Petra Blumenroth
Praxisbeispiele I
Moderation: Prof. Dr. Thomas Bayer und Dr. Petra Blumenroth
- 10.00 Beispiele und Good Practices für frugale Innovationen für Märkte in Afrika
Daniel Groos, Gründer Sharkbite Innovation GmbH
- 10.20 Ingenieur-Dienstleistungen aus und in Afrika
Philippe Patrick Wandji, Gründer Leuwat Engineering Service Sarl, Jaunde, Kamerun
- 10.40 Do-It-Yourself Produktkomponenten für die Anwendung solarer Technologien
Tobias Zwirner, Geschäftsführer Phaesun GmbH
- 11.00 Kaffeepause
Praxisbeispiele II
- 11.30 Evum Motors - one for all
Dominik Fries, Leiter Geschäftsentwicklung EVUM Motors
- 11.50 Neue Perspektiven durch digitale Transformation in Afrika
Danny Friedrich, Gründer mango solar
- 12.10 **Q & A-Panel und Expertenfragerunde**
- 13.00 Mittagspause
- 14.00 **Think'n Talk Workshops in vier Themengruppen**
- 15.30 Kaffeepause
- 16.00 Ergebnisvorstellung der Workshops
- 16.30 Zusammenfassung und Ausblick
- 17.00 Ende der Veranstaltung

Anmeldung und Teilnahmebeitrag über:
[/bayern-innovativ-shop.de/pragmatische-losungen-2020](http://bayern-innovativ-shop.de/pragmatische-losungen-2020)

Agenda:

- 8:30 **Registration**
- 9:30 **Welcome**
Prof. Dr. Uta Feser, HNU President
Prof. Dr. Thomas Bayer, Vice President & Director HNU Africa Institute
Petra Blumenroth, Bayern Innovativ
- 9:40-10:00 **Introduction panel: Africa as a growth market - why it pays to enter in good time, Frugal innovation - success factor for market success in Africa, Best practice in the development of frugal products**
Prof. Dr. Thomas Bayer, Vice President & Director HNU Africa Institute
Petra Blumenroth, Bayern Innovativ

	<i>Prof. Dr. Bernard Wagemann, Africa Institute, HNU</i>
10:00-10:20	Examples and good practices of frugal innovation for markets in Africa. <i>Daniel Groos, Founder of Sharkbite Innovation GmbH</i>
10:20-10:40	Engineering services from and in Africa <i>Philippe Patrick Wandji, Founder of Leuwat Engineering Service Sarl, Yaoundé, Cameroon</i>
10:40-11:00	Do-It-Yourself product components for the application of solar technologies <i>Tobias Zwirner, CEO of Phaesun GmbH</i>
11:00-11:10	Pitch: Innovative hollow concrete blocks for value creation in Kenya <i>Oliver von Malm, StartSomewhere gGmbH</i>
11:10-11:30	Health Break <i>(Collection of participants' questions)</i>
11:30-11:50	Evum Motors – one for all <i>Dominik Fries, Business Development at EVUM Motors</i>
11:50-12:10	New perspectives through digital transformation in Africa <i>Danny Friedrich, Founder mango solar</i>
12:10-12:30	Panel discussion
13:00-14:00	Lunch Break
14:00-15:30	Workshop in four thematic sessions
15:30-16:00	Health Break
16:00-16:30	Presentation of group work results
16:30-17:00	Summary and outlook
17:00	Closing of the event



Figure 8: Africa day 2020. From left to right: Prof. Dr. Bernard Wagemann, Petra Blumenroth, Prof. Dr. Thomas Bayer



Figure 9: Africa day 2020. workshop

OTHER ACTIVITIES IN ASSOCIATIONS

In this section, special mention should be made of the activities of the Africa Institute within the BRIAS network and the cooperation with the ARE.

THE BRIAS NETWORK

BRIAS, short for Bavarian Research Institute of African Studies, aims to represent the existing scientific expertise of the participating universities with regard to politics and society. Through the targeted exchange of scientific, but also cultural and social activities, synergies can be derived in the field of African Studies.

The BRIAS partner universities are the University of Applied Sciences Neu-Ulm, the Technical University Ingolstadt, the Julius-Maximilians-University Würzburg and the University of Bayreuth. More details can be found at the following link: <https://www.brias.uni-bayreuth.de/de/index.html>



On 06.08.2020 the annual meeting of the partners took place at the University of Applied Sciences Neu-Ulm. Here, information was exchanged on ongoing activities and projects in Africa, as well as specifically experiences in dealing with Covid-19 and emerging constraints in the projects and in the various African target countries of BRIAS were exchanged. A general meeting with the entire group of researchers involved in BRIAS projects is planned for mid-2021 at one of the four university sites.



Figure 10: BRIAS-Meeting 2020. From left to right: Prof. Dr. Elmar Steurer (HNU), Prof. Dr. Eberhard Rothfuß (UBT), Prof. Dr. Thomas Bayer (HNU), Dr. Julien Bobineau (JMU), Prof. Dr. Cyrus Samimi (Uni Bayreuth, BRIAS-Sprecher), Dr. Ron Herrmann (UBT), Prof. Dr. Wilfried Zörner (THI), Carina Fromm (THI)

COOPERATION WITH ARE

The Africa Institute of HNU is a close partner of the ARE (Alliance of Rural Electrification). The Alliance has existed since 2006 and is the oldest and largest association dealing with and promoting decentralized electrification. Thus, the ARE is a strong and important partner for the Africa Institute.

Particularly noteworthy are the ARE Awards, which are presented annually for various categories (Multilateral / International Organizations, Public Bodies and Non-Profit Organizations, Win-Win Partnerships, Best De-Risking & Finance Scheme, Best Start-Up, Best Women Empowerment Initiative). HNU actively supports the event, especially helping as the first contact to answer the applicants' questions and prepare the application documents for the jury. This task was taken over in 2019 by Prof. Dr. Elmar Steurer, who was supported by Inken Hoeck in 2020. Further information can be found here: <https://eaif2020.b2match.io/page-2541>

Due to the pandemic, the ARE Energy Access Investment Forum 2020, during which the winners of the awards will be selected, could not take place.

GUEST LECTURESHIPS

The following tables show both the guest lecturers who were invited to HNU and HNU scientists who took over guest lectures at African universities. In 2020, the lectures generally took place virtually. The flexible integration of guest lectures via video conferencing opened up new possibilities in terms of "internationalization @ home".

AT HNU

Speaker	Institution	Time	Faculty / Project
Michael Kawiti	Strathmore Business School	2.11.2020 digital	Class Financial Decision Making by Prof. Steurer
Sada Ly	SL Green Energy	20.06.2020 digital	Class Financial Decision Making by Prof. Steurer

HNU LECTURERS IN AFRICA

Wissenschaftler	University	Time	Faculty / Project
Prof. Dr. Tobias Engel, Prof. Dr. Dany Meyer, Prof. Dr. Jörg-Oliver Vogt	University of the Western Cape	February 2020 Presence	Big Data in Logistics

CONFERENCES AND PRESENTATIONS 2020

Event	Date	Topic / Activity	Location	Participant
2nd Africa Day for Enterprises	28.01.2020	Concept, Implementation, Organization	Illertissen	T. Bayer, E. Steurer, B. Wagemann, J. Pätzmann, S. Göbel, V. Miller, I. Hoeck

RESRB Konferenz	04.09.2020	Renewable Energy Sources – Research and Business	Brussels / virtual	I. Hoeck
The 2nd International Business Research and Industrial Conference (IBRIC) 2020	04.12.2020		Nairobi / virtual	E. Steurer

PUBLICATIONS 2020

Prof. Steurer: „Solar Technologies for Off-grid Rural Fishing Communities“, presented at Conference: The 2nd International Business Research and Industrial Conference (IBRIC) 2020

IMPRINT AND CONTACT

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