

International Week 2024

from June 3rd to June 8th

at Aalen University of Applied Sciences in Germany
in the framework of the Q_n University Alliance



More info under: www.hs-aalen.de/de/pages/intl-woche

Any questions, please contact the International Center: international@hs-aalen.de

Lecture Program for students and staff (as of May 24th)

Tuesday, June 4th

- 08:00–09:30 Chiral Separation by capillary electrophoresis
- Pavel Jáč, Charles University, Czech Republic
 - Study Field: Chemistry
 - Beethovenstr. 1, Main Campus, Room BS 131
 - Capillary electrophoresis is regarded as a highly efficient method to separate chiral compounds. The first part of this lesson focuses on chirality and its significance in biological systems. The main part of the lecture provides information on the separation mechanisms in electro-driven enantioseparations and an overview of chiral selectors used in capillary electrophoresis. The change of enantiomer migration order and the strategy of method development will be presented as well.
- 11:30-13:00 Colloidal optoelectronics based on semiconductor nanocrystals
- Prof. Dr. Evren Mutlugün, Abdullah Gül University, Turkey
 - Anton-Huber-Str. 1, new WIN-Building, Room -1.10 (Floor HG)
 - Study Field: Chemistry – specialized audience
 - Colloidal semiconductor quantum dots (QDs) have been utilized for optoelectronic applications for more than decades. Their outstanding optical and electronic properties make them superior candidates for range of applications from solar cells to light emitting diodes. The technology based on QDs has a billion dollars industry for versatile technological use. The talk will be based on the introduction of QDs and review our previous works on the cutting-edge demonstrations on optoelectronics.
- 14:00-15:30 Technology and properties of polymer nanofibers
- Eva Kuželová Košťáková, Technical University of Liberec (TUL), Czech Republic
 - Study Field: Polymer chemistry or mechanical/material engineering
 - Anton-Huber-Str. 1, new WIN-Building, Room -1.11 (Floor HG)
 - Particularly there will be introduced electrospun materials for medical applications. Especially nanofibrous membranes produced from biodegradable materials, their structure and biological testing. An overview of the spinning technologies for the production of polymer nanofibrous materials that are developed and used at TUL will be presented, namely DC and AC electrospinning technology, solution blow spinning technology, drawing technology and so on. The possibilities of modification of fibre structures for medical applications related to fibre orientation, changes in surface structures, functionalization, integration of nanoparticles, etc. will be presented. Non-traditional structures such as surface porous biodegradable fibrous materials, sponge-like fibers, hollow fibers or shish-kebab type fibrous materials will be presented. Application projects related to the development of materials for vascular bandages, wound dressings, surgical sutures, dental floss with active agents and so on will be presented. The presentation will be complemented by a number of interesting videos from the production process, also taken with a high-speed camera.

- 14:00-15:30 Governance Transformation Process of Universities on the example of the Powiślański University
- Prof. Dr. habil. Tomasz Bojar-Fijałkowski, Powislanski University, Poland
 - Study field: Management
 - Anton-Huber-Str. 1, new WIN-Building, Room -1.10 (Floor HG)
- 15:45-17:15 Lego as a Tool for Strategic Planning - Workshop
- → There are no more open seats for students anymore!
 - Dr. Kaspars Šteinbergs, EKA University of Applied Sciences, Latvia
 - This workshop dives into strategic planning with a twist – Serious Play, a methodology that uses LEGO bricks to unlock creative thinking. This workshop using Serious Play with LEGO helps students develop critical thinking, communication, and teamwork – all essential tools for building strong strategies in the future.
 - Room TBA
 - Study field: Business
- 15:45-17:15 Nanofibers for medical applications - from patents to clinical trials
- David Lukáš, Technical University of Liberec, Czech Republic
 - Anton-Huber-Str. 1, new WIN-Building, Room -1.11 (Floor HG)
 - Study Field: Polymer chemistry or mechanical/material engineering
 - Presentation of world patents of prof. Lukas team in the field of industrial technology for the production of polymer nanofibers by DC electrospinning and in the field of the use of AC electrospinning for the production of nanofibrous membranes, composite yarns with core-sheath structure and 100% nanofibrous yarns. A deeper introduction to the parameters of DC and AC electrospinning and the physical principle of these technologies. Presentation of an example of biodegradable wound cover dressing to final clinical testing in three hospitals in the Czech Republic on acute and chronic wounds. The presentation will be complemented by a number of interesting videos from the production process, also taken with a high-speed camera.

Wednesday, June 5th

- 08:00-09:30 Creation, development and management of tourist destinations
- Oleksandr Kyfyak, Yuriy Fedkovych Chernivtsi National University, Ukraine
 - Beethovenstr. 1, Main Campus, Room BS 202
 - Study Field: Economics
 - The theoretical basis of the of tourist destinations forming is planned to consider and the main principles and factors influencing the formation of tourist destinations to be determined. A brief attention to the review of foreign experience in the creation, development and management of tourist destinations to be payed. In addition, the toolkit for the formation and development of tourist destinations and outline the features of the marketing strategy for the development of tourist destinations to be defined. Since most of the research was conducted in Ukraine, it is planned to consider Ukrainian territories that have the appropriate tourist resources as an example.
- 09:45-11:15 Case Studies in Analytical Sciences
- Pavel Jáč, Charles University, Czech Republic
 - Beethovenstr. 1, Main Campus, Room BS 114
 - Study Field: Chemistry
 - During this seminar, several practical aspects of capillary electrophoresis method development will be discussed. The main attention will be focused on the choice of suitable separation conditions as well as the stability of analytes.
- 09:45-11:15 Early Detection of Proliferative Diabetic Retinopathy: Ethnicity-Specific Predictive Models Using Electronic Health Records
- Dr. Ayelet Goldstein, Hadassah Academic College, Israel
 - Study field: Computer Science, Optometry
 - Beethovenstr. 1, Main Campus, Room BS 202
 - Our research underscores the potential of machine learning in identifying high-risk individuals for PDR using existing EHR data and emphasizes the importance of considering ethnicity and gender in assessing PDR risk factors among diabetic patients. Developing personalized models for ethnicities highlights the differential impact of risk factors on various populations, advocating for the integration of ethnicity and gender in disease risk assessments. This study provides insights into how existing EHR data, machine learning, and personalized approaches can enhance strategies for early PDR detection and personalized interventions.
- 11:30-13:00 Journey to the nano-world: The beauty of colloidal nanocrystals
- Prof. Dr. Evren Mutlugün, Abdullah Gül University, Turkey
 - Beethovenstr. 1, Main Campus, Room BS 202
 - Study Field: Chemistry, but targeted at a broad audience
 - In the nanoscale world, materials exhibit unique quantum behaviors. The 2023 Nobel Prize in Chemistry recognizes these tiny particles, called the nanocrystals. The advancements have led to the widespread use of nanocrystals in various fields, from physics and chemistry to medicine. This talk will explore the achievements behind the Nobel Prize in Chemistry 2023
- 11:30-13:00 ~~Study and Design of Structural and Functional Materials by Quantitative and Transferable Computational Material Models~~
- -Cancelled-
- 14:00-15:30 Presentation about Charles University & Faculty of Pharmacy
- Pavel Jáč, Charles University, Czech Republic
 - Room BS 115
 - Brief information about the study possibilities, research internships, and Ph.D. studies will be provided. A brief overview of research activities will be presented as well.

Thursday, June 6th

- 09:45-11:15 Introduction into capillary electrophoresis
- Pavel Jáč, Charles University, Czech Republic
 - Room BS 115 (Beethovenstr. 1)
 - Capillary electrophoresis is a microscale separation method that offers many separation mechanisms that enable the analysis of various compounds including inorganic ions, drugs, or biomolecules. This lesson provides basic considerations about the principles, instrumentation, and application areas of capillary electrophoresis.
- 11:30-13:00 Corporate Governance and Social Responsibility
- Rizwan Mushtaq, EDC Paris Business School, France
 - Anton-Huber-Str. 1, new WIN-Building, Room -1.11 (Floor HG)
- 11:30-13:00 Intrapreneurial Capabilities and academics' three missions. A case study approach
- Ines Troshani, University of Tirana, Albania
 - Study Field: Entrepreneurship / Management
 - Anton-Huber-Str. 1, new WIN-Building, Room -1.10 (Floor HG)
- 14:00-15:30 The spray method for the low-cost fabrication of functional thin films for various applications in material science
- Philipus Hishimone, The University of Namibia, Namibia
 - Study Field: Material Chemistry; Coordination Chemistry
 - Anton-Huber-Str. 1, new WIN-Building, Room -1.09 (Floor HG)
 - The use of highly functionalized thin films in various materials has made life comfortable due to the enhanced functional properties of materials at the nano-scale level. For this reason, thin films have emerged as the ideal candidates to replace traditional bulk materials. Methods such as magnetron sputtering, pulsed laser deposition, and chemical vapor are capable of depositing thin films of good quality and are well-established across the coatings industry. Although relatively new, the spray method is considered a viable method for the low-cost fabrication of functional thin films for various materials. Firstly, the aqueous solutions involving metal complexes are facilely prepared and require no additional modifications to improve their applicability and stability. Secondly, the use of aqueous precursor solutions contributes towards limiting the introduction of volatile organic compounds (VOCs) into the ecosystem and reducing the health risks and fire hazards associated with the use of VOCs. The spray-coating procedures can be easily carried out using a simple setup involving an airbrush, a hot plate, and an air compressor. Therefore, the use of such cheap and uncomplicated experimental setups is not only an advantage for the industries as they try to minimize production-related costs, but also a representation that the method could be used as the functional thin films' fabrication method of choice in any part of the world, without the state-of-the-art facilities. This is a practical example of a potential application in developing countries such as Namibia. During this presentation, an overview of the spray method for the fabrication of functional thin films as well as our recent results will be discussed.
- 14:00-15:00 Innovation in Health
- Pedro Parreira, Escola Superior de Enfermagem de Coimbra, Portugal
 - Anton-Huber-Str. 1, new WIN-Building, Room -1.11 (Floor HG)
 - The importance of academia in generating innovation in the health sector, followed by the presentation of several examples of prototypes and innovative projects.
- 15:45-16:45 Individuals' motivations: values, subjective value fulfillment and perceived values
- Dr. Shani Oppenheim-Weller, Hadassah Academic College, Israel
 - Study field: Business Management, Social Psychology
 - Anton-Huber-Str. 1, new WIN-Building, Room -1.09 (Floor HG)
 - This lecture examines the role of motivations and values in shaping professional relationships and individual well-being within the context of Business and Economics. I will review Schwartz's (1992) value theory, which proposes a comprehensive framework for understanding and categorizing human values based on ten universal motivations guiding individuals' behavior and decision-making processes. The lecture will also explore the value theory derivatives such as perceived values and subjective value fulfillment. I will present a series of studies, which focus on contrasting occupational profiles in diverse organizations—therapists and managers—and demonstrate the impact of perceived values on client-therapist and employee-manager relationships. Furthermore, I will introduce the concept of subjective value fulfillment and its predictive power for well-being and bicultural identity integration. The presented findings highlight the significance of subjective value fulfillment in understanding the dynamics of social

identities and their integration. Through explanation of these concepts, the lecture will contribute to a deeper understanding of how competencies and motivations intersect in Business, ultimately shaping relationships and yielding outcomes in diverse economic environments. This exploration yields valuable insights for professionals and researchers endeavoring to navigate the qualities of the global marketplace and cultivate sustainable success.

- 15:45-17:15 An Overview of Low-Green House Gas Combustion Research for Decarbonization
- Rajivasanth Rajasegar, Colorado School of Mines, USA
 - Anton-Huber-Str. 1, new WIN-Building, Room -1.11 (Floor HG)
 - High-efficiency, low emission and reduced carbon footprint technologies will drive the future of both automotive engines and gas turbines for the next several decades. Though there is a strong shift towards electrification especially in the personal mobility sector, it is reasonable that the hard to electrify commercial and off-road sectors will remain hybrid or purely combustion engines. Further, the aviation sector is geared towards the use of sustainable aviation fuels (SAF) as drop-in fuels to reduce greenhouse gas emissions. Understanding the ignition and combustion behavior while exploring its impact on pollutant formation and relating them to the physical and chemical makeup of alternative fuels is one of the biggest challenges of our time. This talk will highlight some of our recent research efforts involving various low greenhouse gas (GHG) fuels – natural gas, oxygenated fuels, hydrogen, etc. for in-cylinder combustion with a key emphasis on understanding the interplay between the various physical and chemical process that dictate ignition, combustion and pollutant formation in internal combustion (IC) engines from a fundamental perspective using a suite of optical and laser diagnostics techniques in addition to comprehensive thermodynamic analysis.
- 17:30–19:00 Pitches for students about partner universities as study abroad locations
- Moderation: Rosemarie Francis-Binder; Organization: Katrin Zinser
 - Beethovenstr. 1, building Aula, room AH 1.02 (hybrid)
 - Guests present their universities in a few sentences to potential mobile students
 - There will be a get together with a potluck provided by students afterwards

Friday, June 7th

- 08:00-09:30 Situating Economic and Social Innovations in Armenia
- Grigor Harapetyan PhD, Yerevan State University, Armenia
 - Anton-Huber-Str. 1, new WIN-Building, Room -1.10 (Floor HG)
 - Economic and social innovations promote to create more inclusive, creative and sustainable societies and economies. Innovative solutions help us to improve the quality of life and well-being of individuals, communities. Governments and private interest groups can play an important role in institutionalizing social innovation through incentives to social innovators. So it is important to understand in free-market society how the economic and social innovations will be interconnected and what will be their impacts. Economic and social innovations in Armenia will be presented taking into account regional and global developments, which in our opinion significantly influence the process.
 - Study field: Economics
- 09:45-11:15 Green energies potential for a sustainable global development
- Daniel Ganea, Dunarea de Jos University of Galati, Romania
 - Anton-Huber-Str. 1, new WIN-Building, Room -1.11 (Floor HG)
 - Study Field: Engineering
 - Green energies hold significant potential for fostering sustainable global development. By harnessing renewable resources such as solar, wind, hydro, and geothermal power, we can reduce our dependence on fossil fuels, mitigate climate change, and promote environmental conservation. Transitioning to green energy not only helps protect the planet but also creates economic opportunities, drives technological innovation, and improves energy security. Embracing green energy is essential for achieving a sustainable future where economic growth and environmental stewardship go hand in hand.

- 09:45-11:15 Digital Marketing (TBC)
- Edouard Vinçotte, EDC Paris Business School, France
 - Anton-Huber-Str. 1, new WIN-Building, Room -1.09 (Floor HG)
- 11:30-13:00 Unlocking Value: The Lignocellulose Biorefinery Journey from Waste to Wealth
- Assoc. Prof. Dr. Malinee Sriariyanun, King Mongkut's University of Technology North Bangkok, Thailand
 - Study fields: Biotechnology, Chemical Engineering
 - Anton-Huber-Str. 1, new WIN-Building, Room -1.11 (Floor HG)
 - The lecture delves into the transformative potential of lignocellulose biorefinery processes in converting waste biomass into valuable biochemicals, thus revolutionizing the concept of waste management and resource utilization to meet the circular economy. Lignocellulosic biomass, abundant and often overlooked, presents an untapped reservoir of renewable carbon. Through innovative biorefinery approaches, such as enzymatic hydrolysis, fermentation, and chemical catalysis, complex polysaccharides and lignin within biomass can be efficiently broken down into platform chemicals, biofuels, and other high-value products. This talk will explore the key principles and technologies driving this conversion, highlighting recent advancements and challenges in the field. Moreover, it will discuss the broader implications of lignocellulose biorefinery processes in fostering sustainability, circular economy principles, and mitigating environmental impact. By elucidating the journey from waste to wealth, this seminar aims to inspire collaborative efforts towards realizing the full potential of lignocellulosic biomass as a sustainable and economically viable resource for the future.
- 11:30-13:00 IoT Solutions in Power Systems
- Selma Grebovic, University of Sarajevo, Bosnia and Herzegovina
 - Study field: Engineering
 - Anton-Huber-Str. 1, new WIN-Building, Room -1.09 (Floor HG)
 - This lecture explores the transformative potential of Industrial Internet of Things (IIoT) solutions within electrical power systems. IIoT technology revolutionizes traditional power infrastructure by enabling real-time monitoring, predictive maintenance, and enhanced grid management. Through a combination of sensors, connectivity, and data analytics, IIoT solutions offer unprecedented insights into power generation, distribution, and consumption. By harnessing the power of big data and machine learning, utilities can optimize efficiency, reduce downtime, and improve reliability. Moreover, IIoT facilitates the integration of renewable energy sources and promotes sustainable practices in power generation. Join us as we delve into the practical applications and future implications of IIoT in shaping the next generation of electrical power systems.
- 14:00-15:30 Key Note Speech: One small step towards space manufacturing, a potentially giant leap for understanding the universe – the 3D printing of lunar regolith for future lunar explorations
- Prof. Dr. Miranda Fateri, Aalen University of Applied Sciences, Germany
 - Targeted at a broad audience
 - Room BS 133 Audimax (Beethovenstr. 1)
 - The future of space exploration is significantly dependent on our capabilities in space manufacturing, enabling us to transform inhospitable space environments into habitable or adaptable spaces for scientific explorations. The Moon, being Earth's only natural satellite and the nearest celestial body, will be the focal point for future manned space explorations. Therefore, building infrastructures such as landing pads and lunar rovers will be essential steps in making short to long-term crewed missions possible. As transporting raw materials from Earth to the Moon would be inefficient and costly, the use of lunar on-site material, namely called lunar regolith, will be considered as a solution. This presentation will discuss the 3D printing of lunar regolith for future lunar explorations.