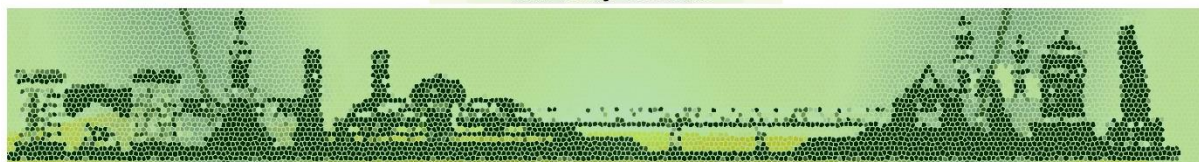


Sustainability

A concept to guide reconstruction and reconciliation processes?

Spring School 5-10 March 2022

University of Mosul



Rethink Education and Science in Iraq

Student conference 2022

Workshop program

02.03.2022

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Workshops related to SDG 1 (Coord. Prof. Dr. Saraa Salim Dawood)

SDG1A: Towards no poverty in Iraq: Exploring potentials of sustainable development

With SDG 1 the United Nations calls for a substantial reduction of humans living in poverty by 2030. As one measure in order to achieve this target they call for appropriate social protection systems to be implemented on a global scale. In this workshop, we will discuss reasons that might eventually increase the level of poverty, such as population growth, economic problems and a large proportion of unemployed, particularly among the young people. In a second step we will reflect on the role of quality management in many different fields including providing educational and municipal services, healthcare and others for tackling poverty or limiting its effects on society and ensuring sustainable economic growth. In our four-day workshop we invite you to learn about and discuss the issues described above, develop ideas with us which will then be presented and discussed on the final conference day. The workshop is open for students of all disciplines and especially relevant for students of economics, social sciences or sociology.

Lecturers: Dr. Abdulaziz Taib (College of Administration and Economics, Ass.-Prof. Dr. Adel Mohammed Al-Tae (College of Administration and Economics)), Prof. Dr. Obay Al-Wattar (College of Administration and Economics)

Workshops related to SDG 3 (Coord. Prof. Dr. Fawzi Jebrail Ibrahim)

SDG3A: Women's Health: Researching genital tract infections

By 2030 United Nations aims to ensure universal access to sexual and reproductive health-care services. In our workshop we will study how certain bacteria may cause genital tract infections for women. Such genital tract infections may either be caused by an overgrowth of endogenous microorganisms normally found in the vagina (bacterial vaginosis) or introduced from the outside during sexual contact or contamination. The most common bacteria cause genital tract infections are: *Chlamydia trachomatis*, *Neisseria gonorrhoeae*, *Mycoplasma hominis*, *Treponema pallidum*, *Haemophilus ducreyi* and *Gardnerella vaginalis*. In our workshop we would like to explore new methods for diagnosis of such bacteria as well as their prevention and treatment. Based on this knowledge we would like to develop our own ideas of how this knowledge can be applied in practice and develop ideas which will then be presented and discussed on the final conference day. The workshop is open for students of all disciplines and especially relevant for students of medicine, pharmacology and natural sciences.

Lecturers: Dr. Asmaa Z. Shetawi (Department of Microbiology), Ass.-Prof. Dr. Kawkab Idrees Mahmood (Medicine College), Ahmed Mohammed Sulaiman (University of Dohuk)

SDG3B: Stay healthy! Stay focussed! Understanding the relationship between student's mental health and academic achievement

Meeting the targets of United Nations SDG 3 includes that mental health and wellbeing of all humans should be promoted. For us as academics and students the connection between mental health and academic achievement is of major importance. Therefore, topics related to student motivation, optimism and self-confidence can be crucial in facilitating successful learning processes. Being aware of the importance of academic achievement for the future career can be of great importance for keeping up student motivation. Also, a motivating learning environment including sound peer-relationships may help in facilitating successful learning experiences. However, issues such as anxiety related to taking exams may limit student's capability to meet goals of academic achievement. In our four-day workshop we would like to explore the connection between mental health and learning outcomes from multiple perspectives. We would like to invite you to learn about and discuss the issues described above and more, develop ideas with us which will then be presented and discussed on the final conference day. The workshop is open for students of all disciplines and especially relevant for students of education, humanities, sociology, psychology and related disciplines.

Lecturers: Dr. Hadeel Subhi Ismael (College of Fine Arts), Dr. Usama Hamed Mohammed (College of Education for the Humanities)

Workshops related to SDG 4 (Coord. Dr. Amal Zedan)

SDG4A: Teaching methods for delivering high quality and inclusive education

In order to achieve quality education as proposed in United Nations SDG 4 we have to reflect on educational quality in terms of appropriate teaching methods and also the way we manage to create disability-sensitive inclusive education facilities for students with special needs. In our workshop we will reflect on questions of what good teaching means to us and what teaching methods we might want to apply in order to improve the quality of our students' learning processes. Furthermore, we will discuss the basis for delivering inclusive education for students with special needs. On the basis of these discussions we will develop ideas to be presented and discussed on the final conference day. The workshop is open for students of all disciplines and especially relevant for students of education, humanities, sociology, psychology and related disciplines.

Lecturers: Amal Ablahad Aboo (College of Basic Education), Dr. Enas Yones Alazwo (College of Education for pure Sciences), Dr. Hussein Obaid Dahawi (College of Education for pure Sciences)

SDG4B: Subject-specific approaches and challenges for delivering quality education

SDG 4 issued by the United Nations calls for effective learning environments for all students. What this means however might differ in parts from one subject to another. In our workshop we would like to reflect on what might be subject-specific approaches and challenges for achieving educational quality and what we might learn from that for the teaching profession in general. Drawing on examples from English language learning, the delivery of e-learning and the delivery of teaching academically relevant skills using the “Mendelian” programme will serve us as examples for this reflection. The workshop is open for students of all disciplines and especially relevant for students of education, humanities, sociology, psychology, English and related disciplines.

Lecturers: Ahmed Jameel Sulaiman AlDulaimi (College of Basic Education), Ammar Sameer Anaz (College of Basic Education), Dr. Mahmoud A M Fakhrie (College of Science), Mahmoud Daa Jassim (College of Science)

SDG4C: Education for sustainable development in Mosul: Approaches and perspectives

United Nations SDG 4 calls for education for sustainable development, including the promotion of human rights, global citizenship and the appreciation of cultural diversity. In this workshop we will discuss approaches which might be useful to promote the competencies and attitudes in students relevant in this context. With the six-hats-method we will introduce a method which will require learners to have a look at any kind of social problem from different perspectives. In addition, we will reflect on how camps for children might be a useful model for supporting processes of education for sustainable development. On a more theoretical stance we would like to reflect about the connection of education and environmental protection. As for the fourth aspect covered in this workshop, we will start with you: We would like to discuss your social responsibility as Mosul University students and the new generation of Iraqi academics according to the dimensions of sustainability. In this regard we would like to invite you to learn about and together with us reflect on the topics outlined above and more, develop ideas with us which will then be presented and discussed on the final conference day. The workshop is open for students of all disciplines and especially relevant for students of education, humanities, sociology, psychology and related disciplines.

Lecturers: Dr. Abdulsatar Abduljabar Sultan (Ministry of Education), Dr. Ibrahim A. Al-Chalabi (College of Economics and Administration), Dr. Maarib Mohammed Ahmed (College of Education for pure Sciences), Maysaa Hameed Hassn (College of Education for the Humanities), Dr. Nada Fattah Alabaji (College of Education for the Humanities), Saadoon Jaber Mohammed (College of Education for Pure Sciences)

SDG4D: Learning our way out (Hybrid)

Achieving Quality Education (SDG 4) calls to reconsider the way we learn. Learning methods and learning strategies will lay a basis for both academic education and later careers. In this workshop we will reflect on approaches to learning in light of the SDG 4 and discuss learning strategies and techniques, self-organisation and ways to deal with performance- and examination-pressure based on a thorough analysis of behavioural patterns and “types of learners”. A starting point will be an analysis of ourselves (e.g. reflecting about our own learning type and about how to prepare for oral or written exams). In our four-day workshop we invite you to learn about and discuss the issues described above and more, develop ideas with us which will then be presented and discussed on the final conference day. The workshop is open for students of all disciplines. The workshop will be held in an online/hybrid format.

Lecturers: Furat Kuti Khalaf (College of Spatial Planning, University of Dohuk), Dr. Karin Sonnleitner (Center of Social Competence at University of Graz), Ricarda Derler (Institute of Education Research and Teacher Education, University of Graz)

Workshops related to SDG 5 (Coord. Dr. Amal Zedan)

SDG5A: Woman power for sustainability

The United Nations SDG 5 reminds us that women's full and effective participation and equal opportunities in all fields of the economic, political and public life are key to ensure gender equality and empowerment of women and girls. In this workshop, we aim to empower and train female students of all subjects to become facilitators of sustainable development processes in their community. The intention of this workshop is to encourage you as participants to become ambassadors for the ideas of the sustainability goals and spark your energy for becoming part of spreading the idea in your communities. The workshop is open for female students of all disciplines.

Lecturer: Dr. Suhad A. Yasin (University of Dohuk, College of Science)

Workshops related to SDG 6 (Coord. Assist.-Prof. Raed Ahmed Alnumman)

SDG6A: Sustainable water-management: Securing water supply for future generations

Water is a basic and strategic resource, as well as an essential factor for the continuation of life. Global warming, pollution, climate change and rapid increase in world population lead to more water use while water resources remain limited. Achieving water security has become a major challenge for the countries of the world, including Iraq, which requires thinking about re-developing new strategies for water management in the region. This endangers the universal and equitable access to safe and affordable drinking water as proposed by the United Nations in SDG 6. Also access to water resources is strongly affecting economic sectors as well as the social peace in our communities. In our four-day workshop we invite you to discuss these topics with us and develop ideas to be presented and discussed on the final conference day. The workshop is open for students of all disciplines and especially relevant for students of Architecture, Engineering, Spatial Planning, Environmental Science, Political Science, social science, sociology and related disciplines.

Lecturers: Dr. Eman A.M. Al-Jawadi (College of Environmental Science and Technology), Ghada M. Younis (College of Engineering), Ass.-Prof. Dr. Raed Salim Ahmed (College of Engineering), Ass.-Prof. Sabah Huseen Ali Mustafa (Remote Sensing Center), Shalwa Falih Alsaffar (College of Engineering), Prof Dr. Zena Abdul Monim Al-Jawadi (College of Science)

SDG6B: Sustainable architectural water design for buildings

The stress on our water environment as a result of increased industrialization, which accompanies urbanisation, is becoming very high thus reducing the availability of clean water. Polluted water also is of great concern to aquatic organisms such as plants, humans and therefore alters the ecosystem. In this context the United Nations through their SDG 6 also point out the role of local communities in improving their water management. Therefore, water management must be considered by all sectors including architecture and urban design. The objective of this workshop is to present architectural designs involving water and explore this dual impact that water has on human lives and the environment. In the field of architectural design processes, water elements could serve as points of gathering, a source of power, a place of culture and reflection, or a place of imagination. Nowadays, sustainable architecture encourages the use of water for many environmental and social reasons. Water could be effective at cooling interior spaces, and when combined with plants it could provide natural air conditioning. In our workshop we will highlight some recent innovations: The use of vertical walls of plants and waterworks is able to enhance interior spaces and provide comfort to their users by achieving energy efficiency and at the same time creating positive impacts on health, safety and community welfare. We will focus on sustainable architecture as an interconnected network of natural and social systems that provides a diverse range of environmental, cultural and economic benefits. In our four-day workshop we invite you to discuss these issues and develop ideas with us which will then be presented and discussed on the final conference day. The workshop is open for students of all disciplines and especially relevant for students of Architecture, Engineering, Spatial Planning, Environmental Science, Water Management but also psychology, sociology and related disciplines.

Lecturers: Joan Atheel Akrawi (College of Engineering), Ass.-Prof. Nasma Maan M. Thabit (College of Engineering)

Workshops related to SDG 7 (Coord. Prof. Dr. Anwar Alfaidhi)

SDG7A: Clean energy for Mosul: Renewable energy and energy efficient building as key technologies for a “powerful” future

The United Nations with its SDG 7 indicate that by 2030 universal access to affordable, reliable and modern energy services must be ensured. The share of renewable energy in the global energy mix should be substantially increased and the rate of energy efficiency is to be doubled in the same time frame. In the Mosul region as in many other regions of the world, we are far from achieving these goals. In our student workshop we will explore and tackle this problem from multiple perspectives: We will discuss the importance of raising awareness for renewable energy and energy efficiency (REEE) in our society. We will be learning about the scientific and technological foundations of renewable energy such as solar power and energy-efficient building. An additional focus will be on the design of a more sustainable cooling and heating system, which could be applied in Mosul. Based on this knowledge we will develop our own visions for improving the energy supply in our region in a sustainable and modern way. We will present and discuss our visions with others on the final conference day. The workshop is open for students of all disciplines and especially relevant for students of natural sciences (physics, chemistry, biology), environmental sciences, spatial planning, architecture, engineering and related subjects.

Lecturers: Heba Mohammed Tahir Kahlil (College of Science), Maysam Shihab Ahmed (College of Science), Noor R. Saadallah (University of Ninewah), Dr. Raied Al-Wazzan (Andor Technology, United Kingdom)

SDG7B: Clean and renewable energy is the future: Awareness raising for a sustainable energy provision

In SDG 7 it is stated that the share of renewable energy in the global energy mix, has to be substantially increased. This is also reflected in international conferences such as the UN Climate Change Conference 26 (COP26), which resulted in the claim for an increase in the use of renewable energy and the disengagement with fossil-fuel technology for better climate protection. In our workshop we would like to focus on raising awareness for clean and renewable energy. Based on the framework developed in COP26 we would like to engage with you as students in raising awareness in Mosul University and the community beyond. In our four-day workshop we invite you to develop ideas with us which will then be presented and discussed on the final conference day. The workshop is open for students of all disciplines and especially relevant for students of natural sciences (physics, chemistry, biology), environmental sciences, and related disciplines.

Lecturers: Abeer Basil Alsultan (College of Administration and Economics), Huda M. Muneer Abd Alqader (College of Science), Ass.-Prof. Dr. Lamyia Adnan Sarsam (College of Science), Marwa Thamer Mahmood (College of Science), Mohammed Hayder Ali (College of Administration and Economics), Dr. Muhammad Mahmoud Younis (College of Science), Zahraa Badie Ibraheem (College of Science)

Workshops related to SDG 8 (Coord. Dr. Saraa Salim Dawood)

SDG8A: Economic development in Ninewah and Iraq: A multi-perspective assessment

The United Nations in their SDG8 are encouraging the promotion of development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation as foundations of economic growth and for providing sustainable economic development. In our workshop we will shed light on issues related to sustainable economic development and the role that key actors – including the government, the banking system and private companies – may play in this regard from various perspectives. We will focus on national budgeting, the role of banks in giving credits and issues related to entrepreneurship and business management – especially in the field of tourism. An additional topic covered here will be in the field of gas and oil sector as the central economic sector in the Iraqi context. The workshop is open for students of all disciplines and especially relevant for students of economics, business administration, social sciences, sociology, political science and related disciplines.

Lecturers: Dr. Abdullah Idress Mustafa (College of Science), Abdulrahman Mohammed Ahmed (College of Administration and Economics), Dr. Alaa A. D.Taha (College of Administration and Economics), Dr. Amir A. Abdulmuhsin (College of Administration and Economics), Dr. Aws F. Ayub (College of Administration and Economics), Dr. Doaa Nouman Hussein (College of Administration and Economics), Dr. Layla Abdulkarem Mohammed (College of Administration And Economics), Nazar Seddeq Elias Alqahwagi (College of Tourism Science), Mohammed Tallal Mohammed (Northern Technical University), Prof. Dr. Obay Al-Watter (College of Administration and Economics), Dr. Raghda Tareq Abdulateef (College of Medicine)

Workshops related to SDG 9 (Coord. Prof. Dr. Anwar Alfaidhi)

SDG9A: Technological innovations to benefit the environment

Meeting SDG 9 requires that by 2030, infrastructure and industry should be substantially more sustainable and greater adoption of clean and environmentally sound technologies and industrial processes should be achieved. In this workshop we will explore a variety of examples of how we can improve industry and technology related services in a sustainable manner. We review the core principles of sustainable development and challenges to their implementation in the chemical industry and we will discuss the usefulness of smart sensor technology reducing the stress inflicted on our natural environment. Also, we will also learn about fibre optics and its potential to improve industrial and technology-based processes. We wish to develop ideas of how to make use of modern technology-based approaches for a future development in the Iraqi economy without compromising the needs of future Iraqi generations. In our four-day workshop we invite you to learn about and discuss the issues described above and more, develop ideas with us which will then be presented and discussed on the final conference day. The workshop is open for students of all disciplines and especially relevant for students of natural sciences (physics, chemistry, biology), economics, environmental sciences, engineering, computer science/IT and related disciplines.

Lecturers: Dr. Erada Al Dabbagh (College of Science), Dr. Liqaa Idrees Saeed Majdal (College of Petroleum and Mining Engineering), Dr. Yasir Abduljawad Aljawadi (College of Science)

SDG9B: Reduce, reuse, recycle: Gateways to resource efficiency

Improving resource efficiency is one of the core targets addressed in SDG 9 which are supposed to be met by 2030. In this workshop we will explore how green computing as an energy-efficient information technology can be used in order to save our natural resources for example by reducing the energy, paper and other materials used in administrative work settings. Going further than that, we will discuss benefits of green computing technology beyond the reduction of resources needed to employ this kind of technology, and how computer technology may be useful in reducing natural disasters or solving problems in agriculture or sanitation and how electronic waste can be limited. The latter relates to questions on how plastic recycling can avoid potential dangers that are related to having too much plastic waste in the natural environment and alternative practices to recycling. As a third perspective, we would like to discuss the recycling of plant and animal residues for the production of organic fertilizer. Based on these perspectives we would like to take action and develop project ideas that may lead to a more resource efficient way using technologies and industrial as well as private consumption. The workshop is open for students of all disciplines and especially relevant for students of natural sciences (physics, chemistry, biology), economics, environmental sciences, engineering, computer science/IT, and related subjects.

Lecturers: Edrees Edaan Ghadeer (College of Science), Dr. Hiba Ameen Ibraheem Alalaf (College of Science), Dr. Laheeb Mohammad Ibrahim (College of Computer Sciences & Maths), Rana Zeyad Abdulfattah Al Fulyih (College of Science)

SDG9C: The role of smart technology in sustainable agriculture: Beekeeping as an example

Technological solutions have a great potential in the implementation process of all SDGs. At the same time, the use of technology can be resource-intensive and might have impacts on our environment. We will discuss the role of technology in Sustainable Development. As a case example, we look at smart sensor systems in agriculture, specifically, beekeeping. Smart sensor systems can be used to predict the health- and development state of honey bee colonies. Based on this, an early warning system can be implemented and potentially prevent the loss of honey bee colonies. Together, we build such a sensor setup for a honey bee colony to learn about used hardware, software and data analysis and discuss advantages and disadvantages of different approaches. Building up on this, we will think about other applications of sensor systems and information technology, and their potential benefits and risks to sustainable development in Ninevah and Iraq. We will then develop ideas to be presented and discussed on the final conference day. The workshop is open for students of all disciplines and especially relevant for students of natural sciences (biology, chemistry, physics), environmental science, computer science/IT, electrical engineering and related disciplines.

Lecturer: Diren Senger (Research Assistant University of Bremen, Germany), Dr. Hiba Farooq Mohamedameen (College of Science), Dr. Juhina A. Mohammed Ali (College of Agriculture and Forestry), Dr. Layth Hamdi Abdullh Al-Talib (College of Basic Education), Dr. Maan Younus Al-Fathi (College of Education for Pure Science), Dr. Mohammed Yousuf Sayed Ghani (College of Agriculture and Forestry), Montaser Khairie Hussain Khessro (College of Agriculture and Forestry)

SDG9D: How fundamental science contributes to sustainable development

Fundamental scientists in disciplines such as physics, chemistry or medicine work at the frontier of knowledge. They aim to extend the current stock of knowledge, while the outcome of the research is often unknown. This contrasts with applied science where the focus is set on practical applications or product development and yields a direct benefit for the funder, which is often the public. A focus on applied sciences is also conceptualized in United Nations SDG 9, in which scientific research is directly linked to an upgrade of technological capabilities in the industrial sectors of all countries. Every year, billions of US-Dollars are invested by governments and industry companies around the globe into science. However, funding for fundamental research keeps decreasing, so that it becomes more and more difficult to justify research in fundamental science as results of this research do not offer an immediate and measurable short-term gain. In this four-day workshop, we will discuss the image problem of fundamental science these days, where performance and efficiency are the dominant and relevant measures. We will evaluate the benefit of fundamental science for global society in general and with practical examples. We will ask the question whether fundamental research can contribute or is even a key component to achieve the 17 sustainable development goals defined by the UN. We invite you to learn and discuss the issues described above and develop ideas together with us, which will be presented and discussed on the final conference day. The workshop is open for students of all disciplines and especially relevant for students of natural sciences, physics, chemistry, biology, mathematics, medicine, environmental sciences and related subjects. *Lecturers: Afyaa Muayad*

Yuous (College of Science), Dr. Julian Holstein, Salim Jasim Mohammed (College of Science), Dr. Shaymaa Khazaal Younis Alazzawi (College of Science), Dr. Lukas M. Stratmann (Department of Chemistry and Chemical Biology, TU Dortmund)

Workshops related to SDG 10: (Coord. Assist.-Prof. Raed Ahmed Alnumman)


SDG10A: Living in Mosul: A question of social inclusion, human dignity and environmental awareness

Reducing inequalities according to SDG 10 by United Nations means that discriminatory practices and policies have to be eliminated and social, economic and political inclusion should be promoted. Having access to affordable housing is one of the most important basic needs of the population as housing is considered to ensure human dignity and social inclusion, specifically for low-income residents. In Mosul, which is just recovering from ISIS-Occupation, affordable housing may play a decisive role in promoting post-conflict-reconciliation and reforming a community based on more equality. Other aspects related to affordable housing also touch on different areas of sustainability: Providing affordable housing has a political dimension since it may be key to providing political stability and enhancing peace and equality in the community. If new affordable houses are constructed in consideration of the use of natural light and ventilation as well as recycling processes for used water and building materials, this will have also a positive impact on the construction and maintenance costs of housing facility as well as the natural environment since less resources are required and the construction costs can be reduced. In our workshop we wish to discuss aspects of affordable housing from various perspectives. We will develop ideas how raising awareness for the topic can be improved and how affordable housing projects could be facilitated. The workshop is open for students of all disciplines and especially relevant for students of economics, architecture, engineering, environmental science, spatial planning but also social sciences, sociology, political sciences and related disciplines.

Lecturers: Ahmed Ibraheem Mohammed Alobadee (College of Engineering), Duaa Samir (College of Engineering), Ass.Prof. Dr. Raed Salim Ahmed (College of Engineering), Rawia Marwan Dabdoob (College of Engineering)

SDG10B: Making inequalities visible

Inequalities are touching on many fields in our social and economic lives. Issues related to such inequalities leave marks in our surroundings also in the urban space. In our four-day workshops we will focus on displaying these marks in a creative manner. We will discuss basic concepts of social inequality and develop a plan of where they can best be found in Mosul University and Mosul city. In addition, we will learn some basic know-how in landscape photography particularly in urban surroundings. Then we will get into practice: We will go outside and capture some motives in Mosul city which best symbolize inequality-related issues. Our artworks will be presented on the final conference day. The workshop is open for students of all disciplines and especially relevant for students of economics, architecture, social sciences, sociology, political sciences, arts, graphic design, computer science and related disciplines.



Lecturer: Jan Schürmann (Graphic designer and photographer, associated with TU Dortmund)

SDG10C: Transportation for Mosul: A gateway to more equality and environmental benefits

Reducing inequalities by promoting inclusive practices as a requirement for meeting United Nations SDG 10 also is strongly related to equality of access. Taking these questions of access literally, this leads us to issues of inequalities in mobility which may hinder access in economic opportunities, social inclusion and also taking part in the political and cultural sphere for certain groups. In reflection of this, a well-balanced traffic-system becomes a basic prerequisite for granting equal access. Transforming streets into multimodal transportation systems with several lanes for parking lots, bicycles, buses, vehicles, green belt, sidewalks and pedestrian paths may serve as basis also for a well-established public transport system which then may contribute to an increased mobility for the economically disadvantaged. Reconceptualizing the transportation systems may also provide opportunities for integrating modern technology such as “smart streets” or the integration of urban green spaces. In our workshop we wish to shed light on various perspectives related to affordable transportation. We also wish to develop ideas on how we can contribute to raising awareness for the topic and develop our own visions of how affordable transportation projects could be implemented. The workshop is open for students of all disciplines and especially relevant for students of economics, architecture, engineering, environmental science, spatial planning but also social sciences, sociology, political sciences and related subjects.

Lecturers: Baeda Hana Saffu (College of Engineering), Hussein Salman Abdullah (College of Engineering), Shaymaa Khairuddin Abdulqader (College of Engineering)

Workshops related to SDG 11 (Coord. Assist.-Prof. Raed Ahmed Alnumman)

SDG11A: Towards a sustainable campus for University of Mosul

In United Nations SDG 11 it is stated that by 2030, inclusive and sustainable urbanisation and capacity for participatory, integrated and sustainable human settlement should be enhanced. In our workshop we will use the University of Mosul campus as an example for sustainable urban design from multiple perspectives. We will discuss issues of promoting walkability on the campus site and hence contributing to the reduction of potentially harmful emissions. Furthermore, we will touch on questions of equal access to the scientific and educational resources. We aim to connect the requirements of a sustainable remodification of our university campus with approaches to an attractive design, preserving and enhancing its identity and character. In our four-day workshop we invite you to discuss the issues described above and more, develop ideas with us which will then be presented and discussed on the final conference day. The workshop is open for students of all disciplines and especially relevant for students of architecture, engineering, environmental science, spatial planning, education and related disciplines.

Lecturers: Ahmad Y. Tohala (College of Engineering), Faris Atalla Matloob (College of Engineering), Khalid J. Aldeen Ismail (College of Engineering), Khawola Faith Mahmoud (College of Engineering), Dr. Oday Qusay Abdulqader Alchalabi (College of Engineering), Raghad Abdullah Ahmed (College of Engineering), Talaat Ibrahim Alaane (College of Engineering)

SDG11B: Rebuilding now for the Future

In SDG 11 issued by the United Nations it is stated that inclusive and sustainable urbanisation should be fostered. In reflection to this development the construction industry, which is one of the world's strongest economic sectors, is increasingly facing the challenges of including aspects of sustainability in planning and design processes. Another major development in the field of architectural design and planning is the progressing digitalization of the field. Consequently, newest developments call for rethinking existing patterns in design, construction and operation. The objective of this workshop is to share recent developments in the field of soil investigation, re-use of construction waste as well as life cycle assessment and to discuss how these ideas might support rebuilding Mosul. All participants are asked to critically question the presented approaches and to assess their applicability in order to develop the future city. The workshop is open for students of all disciplines and especially relevant for students of economics, architecture, engineering, environmental science, spatial planning.

Lecturer: Simon Oberhollenzer (Institute of Soil Mechanics, Foundation Engineering and Computational Geotechnics at Graz University of Technology), Omer Keen Al Deen (Department of Civil Engineering)

SDG11C: Fundamental strategies to construct sustainable buildings

With SDG 11 the United Nations point out that enhancing inclusive and sustainable urbanisation and capacity for participatory, integrated and sustainable human settlement planning is an important target when it comes to making cities and human settlements more inclusive, safe, resilient and sustainable. In this sense in our workshop we would like to introduce a variety of approaches of how modern planning and construction methods can serve as strategies for constructing sustainable buildings. We would like to introduce the LEED requirements for sustainable buildings, a certificate issued by the US Green Building Council as one central guideline. Referring to this standard, we will discuss important considerations when it comes to facilitating sustainable construction processes such as the selection of a suitable construction site, the use of green construction materials as well as the use of green facades and locally available isolation materials for buildings. Building on this theoretical knowledge we also wish to develop our own vision on how we can contribute to raising awareness for the topic by developing our own sustainable building project ideas to be presented and discussed on the final conference day. The workshop is open for students of all disciplines and especially relevant for students of architecture, engineering, environmental science, spatial planning.

Lecturers: Dr. Abdullah Ismael Ibrahim (College of Engineering), Dr. Ali Natheer Abdul Baki (College of Engineering), Dr. Hamid Adrees Al-Khashab (College of Engineering), Rana Burhan Abdulrahman (College of Engineering), Dr. Reem Ali Talib Alothman (College of Engineering)

SDG11D: Cultural heritage and its importance for economic development and in city planning

United Nations in their SDG 11 advise us to strengthen efforts to protect and safeguard the world's cultural heritage. However today, cultural heritage sites in Iraq in general, and in the old city of Mosul in particular, suffer from many challenges that impede their proper preservation. In this workshop we will discuss the potential of the Mosul architectural cultural heritage as a means to create a path for entrepreneurship and raise the economic level of the region. First, we will clarify the nature and importance of cultural heritage, and its value to society and the country. Building on this, we will focus on identifying the most important architectural elements used in the heritage buildings of the old city of Mosul as a case study. Thirdly we will discuss aspects of integrating cultural heritage on the level of architectural design and urban planning. In our four-day workshop we invite you to learn about and discuss the issues described above and more, develop ideas with us which will then be presented and discussed on the final conference day. The workshop is open for students of all disciplines and especially relevant for students of economics, architecture, engineering, environmental science, spatial planning, history, archaeology.

Lecturers: Dr. Ahmed Abdulwahid Dhannoon (College of Engineering), Anfal Azzam Mohammed (College of Engineering), Ashraf Ibrahim Mahmood (College of Engineering), Dr. Bassam Ehessan Al Hafiz (College of Engineering), Dr. Haitham Ahmed Hussein Al Shuaib (College of Archaeology), Maysaa Mofteq Alobaidi (College of Engineering), Dr. Mohammed Khudhur Mhmood Al-Muwali (College of Archaeology), Dr. Omar Jassam Fathel Alhamo (College of Archaeology)

SDG11E: Bottom-up visions of a sustainable, resilient, and inclusive city of Mosul

What would Mosul look like if SDG 11 – Sustainable Cities and Communities were achieved? Iraq has signed the Agenda 2030 and has thus committed to fulfilling the United Nations' 17 Sustainable Development Goals. In order to achieve the goals, a multi-stakeholder and multi-level approach is necessary. This peer-to-peer interdisciplinary and interactive workshop will facilitate the envisioning of a sustainable, resilient, and inclusive city of Mosul. Together we consider various aspects and sub-goals of SDG 11, for example active environmental protection, living space, resilience and adaptation to environmental challenges, as well as transportation and public space. We will combine discussion rounds with visioning in order to develop ideas and present bottom-up suggestions to some of the problems Mosul and its residents face on the way to greater sustainability. Students from all disciplines are welcome to attend this workshop. No prior knowledge of the SDGs is required.

Lecturers: Franziska Hirschberger, Lukas Kaiser (SDG Ambassadors Graz, Austria), Mohammed Aljawadi, Haneen Shamel Mohammed, Maryam Alfakhrey (SDG Ambassadors Mosul, Iraq)

Workshops related to SDG 12 (Coord. Prof. Dr. Fawzi Habeeb Jebrail)

SDG12A: Doing reconstruction responsibly: Recycling of construction waste when rebuilding Mosul

The question of an environmentally sound management of all wastes throughout their life cycle as it is proposed by SDG12 of the United Nations, is getting crucial in situations where there is a vast amount of construction and demolition waste materials. This also holds true for the situation of Mosul, where during the war of 2014-2017 the destruction of most of the infrastructure and subsequent reconstruction efforts lead to the necessity of using a vast amount of construction and demolition materials for example in road construction, reproducing concrete and other reconstruction projects. This leads to questions of waste material management as well as considering structural characteristics of waste materials in the planning process. In our four-day workshop we invite you to learn about and discuss the issues described above and more, develop ideas with us which will then be presented and discussed on the final conference day. The workshop is open for students of all disciplines and especially relevant for students of architecture, engineering, environmental science, spatial planning.

Lecturers: Prof. Dr. Abdul-Rahim I. Al-Hadidy (College of Engineering), Ashtar Saleh Ahmed (College of Engineering), Prof. Dr. Moataz A. Al-Obaydi (College of Engineering)

Workshops related to SDG 13 (Coord. Prof. Dr. Anwar Alfaidhi)

SDG13A: Taking Climate-Action! Limiting climate-change drivers and reducing climate-change effects in Iraq

When it comes to taking action related to climate change, United Nations SDG 13 reminds us that awareness raising, integrating climate measures in national policies and strengthening capacities with respect to meeting the challenges associated with it, such as natural disasters are crucial when it comes to meeting climate-change related challenges. In our workshop we will lay scientific foundations regarding the causes of climate change such as environmental pollution and acidic rain and radiation hazards. We will also focus on the effects of climate change on natural and human life. Based on the scientific concepts presented here, we will take action by conceptualizing projects that may contribute to awareness raising, limiting climate-change drivers and reducing the climate change effects in Iraq and the entire region. We will present our ideas on the final conference day. The workshop is open for students of all disciplines and especially relevant for students of engineering, environmental science, natural sciences (physics, biology, chemistry).

Lecturers: Dr. Imad Ahmed Hussain (College of Science), Prof. Dr. Mushtaq Abed Dawood Al-Jubbori (College of Education for Pure Sciences), Dr. Yahya Abdulkareem Salman (College of Science), Yusra Malalah Abdullah (College of Science)

Workshops related to SDG 14 and 15 (Coord. Prof. Dr. Fawzi Habeeb Jebrail)

SDG14/15A: Plastic pollution: How can we stop this shocking global threat?

Plastic pollution is widely agreed to be a constant threat for biodiversity on land and water. Due to the huge amount of plastic used by humans, it is estimated that within 31 years the ocean will contain more plastic than it contains fish. There are 513 million tons of plastic that end up in the ocean. Plastic pollution on the environment and living organisms can be reduced through individuals and governments by reducing plastic consumption and searching for alternatives with things that are easy to recycle and degrade quickly. With this workshop we aim to raise awareness for this issue of major importance for protecting our natural life resources. Together we will develop ideas of what we can do in order to limit the global threat related to the vast use of plastics and present and discuss them with others on the final conference day. The workshop is open for students of all disciplines and especially relevant for students of natural sciences (biology, chemistry, physics), engineering, environmental science and related subjects.

Lecturers: Arwa Raad Saadallah (College of Science), Mayan Ibraheem Khalil (College of Science), Rana Waleed Najim (College of Science), Dr. Sahbaa Ali Ahmed (College of Science)

Workshops related to SDG 15 (Coord. Prof. Dr. Fawzi Habeeb Jebrail)

SDG15B: Towards a clear view: Tackling visual pollution of Mosul's Landscape

Visual pollution may limit the aesthetic view of cities and landscapes therefore have a severe impact on our life and nature. It is to a large degree caused in human behavior and therefore can be tackled by raising awareness and setting political frameworks that may limit the problem of visual pollution. In our workshop will investigate the manifestations of visual pollution in the Mosul city and surrounding areas in terms of its severity and to measure the extent to which the population is aware of this problem. We aim to understand visual pollution as a phenomenon from multiple perspectives, including its cultural, social and scientific foundations and interconnections. Based on this knowledge, we will develop our own project ideas of what we can do in order to meet the challenges related to visual pollution, which we will then be present and discuss on the final conference day. The workshop is open for students of all disciplines and especially relevant for students of natural sciences (biology, chemistry, physics), engineering, environmental science and related disciplines.

Lecturers: Enas Mohammed Younis (College of Science), Dr. Firas Mohammed Ali Aljomaily (College of Science)

Workshops related to SDG 16 (Coord. Dr. Amal Zedan)

SDG16A: Environmental security and sustainable peace in Mosul: Challenges and opportunities

United Nations' SDG 16 sets guidelines for promoting peaceful and inclusive societies for sustainable development. In our workshop we would like to focus on security as the foundation for peaceful coexistence. We would like to expand the perspective from traditional understandings of the security concept to non-traditional conceptualizations including environmental security which also involves environmental aspects such considering climate-change related risks. Focusing on the situation in the city of Mosul, in this phase of post-conflict transition we will discuss the potential of such a broad security concept in terms of these questions: What are the environmental realities in Mosul after the war? What are the strategic challenges for environmental security in Mosul? And, what are the opportunities for developing environmental security in the city of Mosul? In our four-day workshop we invite you to learn about and discuss these issues, develop ideas with us which will then be presented and discussed on the final conference day. The workshop is open for students of all disciplines and especially relevant for students of law, social sciences, sociology, political science, philosophy, education, psychology and related disciplines.

Lecturers: Maha Ahmed Ebrahim (College of Political Science), Saja Fattah Zaidan (College of Political Science), Tareq Mohammed Dhannoon AL Taie (College of Political Science)

SDG16C: The concept of interest-based negotiation in adversarial situations negotiation and mediation in civil cases

This subject is designed to acquaint students with the concept, main principles and process of mediation in legal disputes. As well, students are welcome to acquire mediator's practical skills, which definitely will benefit their legal professional career in the future. This subject is of practical nature – the most part of the learning process is conducted through discussions, group and individual practical tasks, role plays and self-reflection. One objective of this workshop is to obtain theoretical knowledge on mediation, gain practical skills in performing mediator's role and to acquire basic and systematic understanding about the importance and advantages of the settlement in legal disputes. Students will get to know different approaches towards dispute resolution and let them discover the main differences of cooperation-based mediation in comparison with competition-based court or arbitration procedures. Transborder conflict resolution challenges the participants as well as the facilitators: culture, distance, time and technology play a very important role. Practical examples and experiences will be discussed and ideas developed how to prepare for intercultural transborder dispute resolution settings presented. The workshop is open for students of all disciplines and especially relevant for students of law, social sciences, sociology, political science, philosophy, education, psychology and related disciplines.

Lecturers: Dr. Ammar Ahmed Rashid (College of Political Science), Dr. Mohammed Ibrahim Ali (College of Law), Prof. Dr. Sascha Ferz (Institute of the Foundations of Law, University of Graz)

SDG16D: Global citizenship for sustainable peace?

International efforts to foster sustainable peace have a bad reputation – with good reasons: political fragmentation and violent conflicts increased despite or because of international presence in Lebanon, Libya or Iraq. The recent Taliban takeover of Afghanistan following years of international engagement is only the latest episode in a series of failures. International and especially western endeavors of seeking to foster peace in post-war contexts are in crisis. In this workshop, we will discuss current international peace efforts and will think about possibilities for more sustainable alternatives. We will especially reflect on the role of education in the prevention of violent extremism and its relation to other aspects of relevance for peacebuilding efforts. Building on every participant's everyday observations, we will try to develop more authentic and locally embedded approaches to improve one's everyday-situation and thereby contribute to a more sustainable peace. In our four-day workshop we invite you to learn about and discuss the issues described above and more, develop ideas with us which will then be presented and discussed on the final conference day. The workshop is open for students of all disciplines and especially relevant for students of law, social sciences, sociology, political sciences, philosophy, education, psychology and related disciplines.

Lecturers: Ahmed Jameel Sulaiman Al Dulaimi (College of Basic Education), Kuany Kirr Kuany (UNESCO Iraq), Dr. Maximilian Lakitsch (Institute of the Foundations of Law, University of Graz)

Organisers and supporters

The student conference is jointly organized by Mosul University, TU Dortmund University and Graz University under the academic leadership of Prof. Dr. Heike Wendt (Professor for Education Research, University of Graz) in close collaboration with Mosul University presidency (Prof. Dr. Muneer Salim Taha), an interdisciplinary steering committee under the coordination of Prof. Dr. Anwar Alfaidhi, Prof. Dr. Fawzi Habeeb Jebrail, Dr. Saraa Salim Dawood Gargusee, Ass.-Prof. Dr. Amal Zedan, and Ass.-Prof. Raed Ahmed Alnumman are additional members of the steering committee. The project is managed by the TU Dortmund University under the supervision Prof. Dr. Dietwald Gruehn with the support of BA MA Felix Senger. The conference is Supported by funds of the German Ministry of foreign affairs through the German Academic Exchange Service (DAAD). Additional partners are the SPARK organization with funding from the Ministry of foreign affairs of the Netherlands as well as the Iraqi UNESCO office.

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