

Minutes Network meeting SAMS at TH Lübeck (20.09-21.09.2021)

Participants

Name	University/ function	Name	University/ function
<u>German colleagues</u>		<u>Jordanian Colleagues</u>	
Prof. Dr. Bertram Wolf	HS Anhalt, german network head	Prof. Dr. Ralf Roszkopf	GJU, Vice President
Prof. Dr. Frank Schwarze	TH Lübeck, Vice President	Dr. Walid Al-Zyoud	GJU, dean of SAMS
Prof. Dr. Rainer Senz	HS Beuth	Dr. Adnan Al-Lahham	GJU, exchange coordinator
Prof. Dr. Leonore Heiland	HS Zwickau	Dr. Mohammad Khanfar	GJU, exchange coordinator
Prof. Dr. Karsten Köhler	Hochschule Albstadt-Sigmaringen (online)	Prof. Dr. Samer Al-Gharabli	GJU, Deanship of Scientific Research
Prof. Dr. Martine Herpers	HS Fulda	Iris Wildfeuer	GJU, IO
Prof. Dr. Sliman Shaikheleid	Furtwangen		
Prof. Dr. med. Georgi Chaltikyan	TH Deggendorf		
Prof. Dr. Ulrich Bauer	HS Kempten		
Prof. Dr. Veronika Hellwig	TH Lübeck		
Dagmar Dhiel	TH Lübeck, IO		

The network meeting started with a general introduction round and welcome session. Welcome addresses were held by Prof. Frank Schwartz, Vice-President of TH Lübeck, Prof. Dr. Ralf Roszkopf, Vice-President of GJU and by the representatives of the School of Applied Medical Sciences, Dr. Walid Al-Zyoud, the dean of the school, and the exchange coordinators for the departments, Dr. Mohammad Khanfar (Dpt. for Pharmaceutical-Chemical Engineering) and Dr. Adnan Bashir Al-Lahham (Dpt. for Biomedical Engineering). The network head Prof. Dr. Bertram Wolf (Hochschule Anhalt) for the German network also welcomed the participants.

After an introduction of the other participants the network moved on to its first point on the agenda

- **Updates from GJU** - by Prof. Dr. Ralf Roskopf

He started his presentation with some general information about GJU. GJU is a university of applied science and its main pillars are two- fold, the German Dimension, supported by the DAAD, and the focus of employability and practical experience. There are currently 2500 students enrolled at GJU, of which each will spend one whole year in Germany during which they will study one semester at one of the 120 partner universities GJU has in Germany, and spend the second semester doing an internship. The vice president thanked the German partners for their collaboration which made it possible that the German year took place even throughout the pandemic. Since the situation is stabilizing the other mobility programs between the two countries such as Flying Faculty and Study Group Mobility are also starting again.

He then moved on to describe important changes that happened at GJU in the past year.

Due to the conditions of lockdown in the pandemic online teaching improved in quality and moved from initial emergency response to qualitative teaching. 15 smart classrooms were built at GJU. The smart classrooms open more opportunities in joint teaching, such as joint an blended teaching, a mixture of physical and asynchronous/ synchronous teaching. This will help Flying Faculty program as well since they now have the option to split their modules and teach part online before coming to GJU and teaching the rest in presence. In general the improvements in digitalization help to level the barrier between the two countries technologically as well as financially.

He moved on to some information about the German language Center at GJU, which is one of the biggest centers in the world, with around 2000 enrolled students in language courses daily. There were some changes at the GLC in response to the prevailing issue with the language level. A B2 track was established and should become the standard level goal in the future. For now B1 is the criteria for students to leave on their German year. German 1 to 6 courses were restructured, the official B1 exam is taken in German 5, and German six now focusses entirely on application and cultural training. Furthermore the possibility to take German language courses outside of GJU was eliminated and a successful B1 certificate became a requirement for graduation from the university.

After the speech by Prof. Dr. Roskopf the dean of the school, Dr. Walid Al-Zyoud moved along to the next agenda point

- **German Accreditation for the Bachelor Degree –**
audit scheduled to take place early September 2021 - by Dr. Walid Al-Zyoud

Dr. Walid became the acting dean of SAMS in 2020. He informed the network that the “master degree in pharmaceutical and chimerical engineering “ had received the Jordanian accreditation. The second, and most important part of his action plan however is the German accreditation. The audit for this accreditation took place in early September and the results are expected within two weeks of the network meeting. The first impression was positive. Once the report has been completed the necessary changes will need to be made in order to qualify for the accreditation. The idea behind achieving the accreditation is to unify the point system and create more equivalency between the partner universities and GJU. This will make exchange much easier in the future. The Jordanian system of credit hours which GJU had used so far will therefore be converted to ECTS.

The dual study plan will also be included in the accreditation process. The concept of dual studies is new in Jordan but the long term goal of GJU is to have dual studies tracks at all faculties. The dean mentioned that there are many good companies in the pharmaceutical industry to work together, so this should be achievable by the next academic year.

Network head Dr. Bertram Wolf (HS Anhalt) inquired how many ECTS the Bachelor program would be composed of. Dr. Walid explained it will be 30 credit hours per year (with an optional summer semester where students can add courses if need be). The GJU VP elaborated further on this- the total Bachelor Degree would have 300 ECTS. He also explained that since this is the first time ever that the German accreditation is given to an institution outside of Germany what GJU will receive is not the seal but a certificate of equivalence which will certify GJU to be on one level with the German university system.

- **Research Cluster** – by Prof. Dr. Samer Al-Gharabli

The next point of the network meeting agenda was the new idea of the Research Clusters at GJU. Prof. Dr. Samer Al- Gharabli, head of the Deanship of scientific Research, presented this idea to the network. The motivation behind the research clusters is to boost collaboration and to merge expertise of professors, studies and industries. GJU is looking for partners to form the cluster and to use the momentum for good research. The collaborations can be both short- or-long term and the idea is the also eventually commercialize the products/ outcomes of the cluster. This will also boost the economy in Jordan, meanwhile the German industry can benefit from lower production costs and vast resources in Jordan. Both countries can benefit from each other's technologies while the infrastructure of the projects can be shared and funds can be attracted from both countries.

He then presented an idea for a research cluster for the SAMS network. The unique environment in Jordan, with a lot of diversity in landscape and eco-climate, including African, Mediterranean, desert and green areas, leads to a broad spectrum of flora. Many of these plants are not yet categorized and analyzed. The possible research idea would be to make a "Jordan flora bank". Plants would be collected, categorized and catalogised, later the products would be extracted and given to the pharma industry in Germany for example for research. He then explained the different steps to be considered in this project

1. Extraction and screening facilities needed
2. A platform would be needed for the plant register
3. Work and analysis would be shared
4. Creation of infrastructure
5. Seed funding would ne needed

A discussion on this topic ensued in the network. Dr. Veronika Hellwig, the host at TH Lübeck, mentioned that the legal situation should be clear, intellectual ownership of the cluster needs to be established. Dr. Bauer (HS Kempten) seconded this concern. Questions about funding also arose.

It was decided that this topic should be discussed in another online meeting in more detail with those interested.

- **Faculty and staff exchange, statistics and research interests** presentation about the PCE programs (B.Sc. and M.Sc.) -
- by exchange coordinator Dr. Mohammad Khanfar

Dr. Khanfar started with his presentation about the B.Sc. program in Pharmaceutical and Chemical Engineering (PCE), at the GJU. His presentation showed a strong focus on the activities of mutual interest. These activities include the flying faculty, train the trainer program, the German year and the students mobility programs. All of the activities have been affected by the Covid-19 pandemic. DR. Khanfar emphasized the importance of the mentioned activities and on their role in fortifying the mutual relationships between Jordan and Germany. He also gave an overview on the numbers of outgoing students and graduates of his department and introduced his faculty members and labs in use by the department at GJU.

- **M.Sc. program in Pharmaceutical and Chemical Engineering.**
- by Dr. Mohammad Khanfar

Dr. Mohammad Khanfar presented the different tracks of the recently approved M.Sc. program in Pharmaceutical and Chemical Engineering. The program has two different sections, Pharmaceutical, and Chemical, with the opportunity to pursue higher education in any of the offered tracks. The program is a modified version of the master degree program already offered at Beuth Hochschule für Technik Berlin. In the future, Dr. Khanfar expressed his wishes to expand the program to include courses about Quality Assurance and Analytical Chemistry, and to have partners from the German universities of applied sciences as thesis co-supervisors, or as courses instructors.

- **Presentation of planned Master in Biomedical Engineering**
- by Dr. Adnan Bashir Al-Lahham

This envisioned master program still requires approval from the Jordanian Ministry of Education but Dr. Adnan is optimistic that in one year GJU will receive this approval. He explained the structure of the program and its core courses. The German dimension can support this program also though the usual exchange methods. Dr. Wolf asked what percentage of GJU students continue with their master in Germany and how many are interested in pursuing a master's degree at GJU. He was informed by the exchange coordinator that its around 20% who go abroad.

Vice president Ralf Roskopf explained the difference in the Jordanian system to the network- a typical master program student in Jordan is already working in the professional field, therefore the master programs are adjusted to this, in contrary to Germany where students usually start their professional career after completion of their master's degree. This is why German students complete their masters degree after five years and Jordanians after seven (on average).

The question was raised to the network if considering these differences in degree structure a student exchange between the two countries on master level would be possible. The language question was also raised, at GJU all students learn German but master students who did not also graduate from a GJU bachelor program would not have a German language level preparation. Exchange would therefore need to focus on Master programs in Germany taught in English. Dr. Hellwig mentioned a possible master in Hamburg which is taught in English (biotechnology) and might work for this

collaboration. Dr.Chaltikyan (HS Deggendorf) mentioned the option of GJU joining the double degree that Deggendorf has with Armenia.

- **Masterprogram „Health Informatics“**
-by Dr. Walid Al-Zyoud

The idea of this master program in “Health informatics” was mentioned also at the last network meeting. Dr. Walid gave the network an update on the program and asked for input from the network regarding Dual Studies options. He also inquired from Dr. Chaltikyan (Deggendorf) in particular about a possible collaboration. According to the latter a double degree might be easier to establish. This led to the next point on the agenda in which he presented the existing program in this field at TH Deggendorf.

Introduction of the Master in Digital Health –

-by Prof. Dr. med. Georgi Chaltikyan from TH Deggendorf

Prof. Dr. med. Georgi Chaltikyan started his presentation with some background info on TH Deggendorf.. He then moved on to explaining the content of the Master in Digital Health. It is a Master of science, with a strong focus on management which aims at preparing students for leadership in digital transformation within the healthcare system. The program also has a strong international character and is taught in a hybrid format. The program was established because of the shift in the profession where the position of the digital health specialist who has medical knowledge as well as IT skills is becoming increasingly popular in hospitals. The students enrolled in the program have medical or biomedical backgrounds as well as IT background. This mix in backgrounds makes the study plan complex, Deggendorf has therefore opted to use the concept of mdice for non-medical personel (“Medizing für Nichmediziner“). Dr. Wolf asked about the employability of graduates, are they accepted by the staff in hospitals? Dr. Prof. Dr. med. Georgi Chaltikyan replied that the digitalization of the health care system in Germany has produced the gap that the graduates fill.

The dean of SAMS Dr.Walid was very interested in this program and considered how and if such a program could be introduced at GJU. The VP of GJU mentioned the example of an envisioned interdisciplinary degree between the School of Architecture and Built Environment and the School of Electrical Engineering and IT at GJU. Maybe a program like this could be under a multi-umbrella of SAMS and SEEIT following this example.

SAMS collaboration with SIEMENS / Innovation Think Tank on-campus

– Feedback round/ Discussion

After a short break the network re-convened for another discussion round. Dr. Walid spoke some introductory words about the innovation think tank, a competition where students can submit their ideas. Students are the target audience of this program. SIEMENS provides the capacity and the

space for this and students in turn provide ideas and innovation. The idea was mentioned that the think tank could also be a path to execute graduation projects by presenting them to the tank.

Dr. Erwing (TH Lübeck) inquired about the legal framework and if the students would be protected by SIEMENS lawyers. Dr. Bauer liked the idea and stated that it was the collaboration in projects like this that made GJU attractive for students. He proposed a system of “translators” to help students to put their ideas into words and train them to pitch their ideas efficiently.

This ended the discussions on the first day of network meeting. The host university TH Lübeck invited the guests on a tour of their laboratories to round up the day.

Sept. 21st 2021 second day of SAMS network meeting

- **In Support of the German Year, cross-cultural exchange, short films**
-by Prof. Dr. Ulrich Bauer

Dr. Bauer introduced the project of creating short films in order to better prepare the GJU students for their exchange to Germany. The clips tackle certain topics that they have noticed the students struggle with during their time at HS Kempten. The films are made by students, a thesis was even structured around this project. The clips range from administrative steps at the university, to exam preparation but also cultural situations and real -life examples of what student life looks like in Germany. He explained that everyone can produce the clips and stressed that everyone has a say in them. He encouraged the partners to also produce some short films to introduce their departments to the students before they arrive. He then opened the discussion round in particular to the question of what the other GJU partners thought was important to still use as topics for the clips. Dr. Ralf Roskopf suggested sending a questionnaire asking for topics to the GLC and to students who just finished their German year. From other surveys GJU had carried out in the past it had shown that students would like to know more about the laws in Germany and what is and is not allowed. It was also suggested students at Kempten can have a discussion with GJU students during their German Year to work out what needs to be on the movies. Dr. Samer Al-Gharabli mentioned the IK presentation from the IO as a means to compare if the content of these presentations is already covered by the clips. He also suggested, seconded by Dr. Chaltikyan, that it might be an option to upscale the project and make it a general marketing project of presenting Germany to the Arab world.

Dr. Walid mentioned that expectations are a two way communication and it might be good to ask both sides about what they expect from the exchange.

Closing the discussion Dr. Bauer asked the network members to get in contact with him for any ideas or suggestions they might think of.

- **Presentation project “valorization of olive mill wastewater”**

-by Dr. Veronika Hellwig

This project started in 2017 and was inspired by a similar project related to the waste -water in marzipan production in Lübeck. Both the marzipan production and olive oil production face a problem of what to do with the waste water. Often the production companies do not care about this issue, however it is an option to think about if there could be another use for the waste produced in the production process. Maybe it could even be financially beneficial for the companies.

Prof. Hellwig talked about two sources of polyphenols, well known anti-oxidants, which are found in almond skin and in olive mill wastewater. Hot water is used for peeling skin of the almond needed for marzipan production, the used water is rich in polyphenols that could be extracted and used as pharmaceutical components. In Jordan equally, water is a key ingredient in producing olive oil that is separated from the water by centrifugation. The remaining wastewater is of high polyphenolic content. In her presentation Dr. Hellwig stated that zeolites, natural ores in Jordan, could be used for the extraction of polyphenols from the mill wastewater.

All the substances were analyzed by a PDH student from the chemistry department at GJU.

Continuation of the analysis in the olive mill wastewater project also opens up further possibilities for other PHD projects in the future.

After this final presentation the network members carried out a general discussion on topics of concern such as the status quo of credits for German year and what the consequences are if students do not reach the required numbers of points during their time in Germany. Exchange coordinator Adnan explained that this can cause a problem since the students return to Jordan and need to find a way to recover the points they lost. However, solutions can be found and the German partners are not responsible for this. Students can for starters re-take the exams from a distance, many of the German partner universities allow this, or they can compensate at GJU by choosing electives. The partners also wanted to know what the consequence is for a student who fails to provide an internship report. It was confirmed that the report is a criteria for graduation from GJU.

The network speaker Dr. Wolf also asked if there is a wish from GJU side for the partners to support GJU students with certain concessions such as specialized texts in English or exam questions in English. The VP answered this question saying that yes this is always welcome. However the GLC and GJU in general is working on improving the students language level and generally courses can and should be taken in German. In fact, students are only allowed to take two courses in English during their semester in Germany.

The GLC and the DaF are working on handouts for Flying Faculty for how to integrate the German language in their lectures. This will also help to confront students with lectures in German before their German year. This led into a discussion on the Flying Faculty program, especially the issue of cancelled courses. FF mobility should apply to stable courses only in the opinion of the vice president of GJU, aside from content and language criteria this should always be considered by the Exchange Coordinators when allocating a Flying Faculty participant.

Dr. Samer also stressed the importance of using all the possible seats for mobility programs. Dr. Adnan agreed with this and added that industry partners can also be invited. In the opinion of Dr. Roskopf the digital options should also be made use of more, for example to start a course online and then join in person. This creates flexibility also for someone coming from the industry since it is easier to combine this with a regular work schedule. As previously mentioned it will also allow German professors to teach full modules without being present in Jordan for the full duration.

Regarding the expansion of the network Dr. Rosskopf encouraged the network members to reach out to other colleagues. The initiative for new contacts needs to come from the Exchange Coordinator, the International office can then communicate with the International office of the potential partner for the details.

The Vice president and the GJU guests thanked the host for the hospitality and the organization of the 2021 network meeting of the SAMS network.

- Date for the next network meeting was set for 12.th and 13th of September 2022
- Possible host universities are Fulda or Munich