



THE GERMAN-UKRAINIAN FORUM OF YOUNG RESEARCHERS
Kyiv-Lviv-Kharkiv, 7-12 December 2017

BEST-PRACTIS PRESENTATIONS



Prof. Jochen Fornasier
fornasier@em.uni-frankfurt.de

Jochen Fornasier, born 1968 in Bochum, Germany, studied Classical Archaeology, Ancient History, and Prehistory at the Westphalian Wilhelms-University in Münster. After his doctorate (1999), he led archaeological excavations on the Taman'-Peninsula (Southern Russia) in a cooperation project between the University of Münster and the Institute for the History of Material Culture in St. Petersburg. From 2000 to 2004 he worked in the Eurasian Department of the German Archaeological Institute in Berlin and led the German-Russian excavation project in the Greek colony Tanais near the modern city Rostov-on-Don. In 2007 he was habilitated with a work on the Greek colonization of the Black Sea area at the Martin-Luther-University Halle / Wittenberg. Since 2009, Jochen Fornasier is working at the Goethe University Frankfurt / Main, where he has been appointed an extraordinary professor in 2014. His recent scientific studies include studies on Greek colonization, ancient religious beliefs and ancient mythology. Since 2014, together with Alla Buyskikh, he leads the German-Ukrainian interdisciplinary cooperation project in the ancient Greek colony of Olbia Pontike on the Ukrainian Black Sea coast, mainly funded by the German Research Foundation (DFG).



THE GERMAN-UKRAINIAN FORUM OF YOUNG RESEARCHERS
Kyiv-Lviv-Kharkiv, 7-12 December 2017



Dr. Alla Buyskikh
allabuy@ukr.net

Born 12.04.1960 in Kyiv, studied Archeology at Kyiv State University, Faculty of History.
1978-1982 – Research Institute of Theory and History of Architecture, Ministry of Buildings
From 1982 till nowadays – Institute of Archaeology, National Academy of Sciences of Ukraine; after
2016 – director of the Department of Classical Archaeology
1993 – Ph Dissertation “Order in the architecture of Olbia, Tyras, Chersonesos”
2009 – Habilitation “Spatial Development of Chersonesos in Taurica in Classical time”
From 1982 till nowadays – Archaeological expedition at Olbia Pontika: excavation technical assistant, 1995 – deputy director, 2011 – director of excavations
Scientific interests – Greek and Roman architecture in Northern Black Sea Region, Greek colonization of the Northern Black Sea Region, initial period of polis development in Olbia and North-Western part of Black Sea littoral, Greek painted pottery of archaic time, trade connections in the period of Greek colonization.
2000-2002 – Alexander von Humboldt-Stipendiatin, Eurasien-Abteilung des DAI (H. Parzinger, B. Böttger – Leitern).



THE GERMAN-UKRAINIAN FORUM OF YOUNG RESEARCHERS
Kyiv-Lviv-Kharkiv, 7-12 December 2017

DIGGING THE PAST - SHAPING THE FUTURE

First results of a German-Ukrainian excavation project in the ancient Greek colony of Olbia Pontike (Mykolaiv Oblast), **Alla Buyskikh / Jochen Fornasier**

Ancient Olbia Pontike is one of the most important cities that were founded during the Greek colonization of the Black Sea area (8th–6th century BC). Field surveys were conducted in the central area of the city for several decades, and have brought forth a great amount of important information about its origin and genesis. Still, little is known about the size, division, and architectural structure of the town outside the urban centre. Hence, the overall picture of Olbia is still incomplete – a deficiency that led to a new German-Ukrainian research project, which has started systematic investigations in the outer part of the city in 2014. The aim of our multidisciplinary project is to explore the development, size, and structure of the outer urban territory of Olbia Pontike as an important urban component of a Greek Black Sea colony. Geophysical prospection offers opportunities to find answers regarding the extension and structure of the suburb as well as its ancient western border. Archaeological fieldwork is then conducted based on such geophysical prospection, at the same time checking and updating its results. Finally, ceramic analyses are completing the archaeological fieldwork, which are, in this form, a novelty for Olbia and help to understand the development of local ceramic production in the 6th/5th century BC.

In our presentation, we will report on the first results of our cooperation project. Being partially of outstanding nature, they have already fundamentally expanded our knowledge of the development of a Greek colony city far away from the ancient Mediterranean world. The presentation will also focus on the genesis, structure, and organization of the international cooperation project itself, in which the German and Ukrainian participants work in direct scientific exchange. These joint efforts in theory and practice during the excavation campaign allow a better understanding of the different research traditions, but at the same time also always require compromise and aim towards mutual solutions. Within the framework of the German-Ukrainian Forum for Young Scientists, we would like to show - besides the actual excavation results - how different scientific traditions can be sensibly combined to build the foundation for a fruitful research project.



THE GERMAN-UKRAINIAN FORUM OF YOUNG RESEARCHERS
Kyiv-Lviv-Kharkiv, 7-12 December 2017



Prof. Birgit Glasmacher
glasmacher@imp.uni-hannover.de

Birgit Glasmacher graduated in Mechanical and Chemical Engineering from RWTH Aachen University in Aachen, Germany. She received her master's degree in Biomedical Engineering Sciences from the University of Dundee, UK and her Ph.D. from the Faculty of Mechanical Engineering at RWTH Aachen University. She worked as Post-Doc and then as head of the Department of Cryobiology & Biomaterials of the Institute for Biomedical Technologies, Helmholtz-Institute for Biomedical Engineering (HIA) at RWTH Aachen University before she was appointed Full Professor for Multiphase Processes and Director of the Institute for Multiphase Processes, LUH. She is spokeswoman of the Center for Biomedical Engineering at LUH. She has been the Secretary General of the European Society for Artificial Organs (ESAO) from 2008 to 2011 and the Secretary of the International Society for Cryobiology (SFC) from 2007 to 2009. She serves on the Board of the Society for Low Temperature Biology (SLTB), the International Faculty for Artificial Organs (INFA) and also in the German Association of Engineers (VDI) in Hannover and as spokeswoman of VDI state of Lower Saxony. She recently became co-chair of the committee of Women in Biomedical Engineering (WiBME) of IFBME and served as past president of EAMBES. She also served as Co-chairs of the annual meeting of the SLTB 2016 in Dresden, 2009 and SLTB 2013 in Hannover, of the annual meeting of the DGBM in 2007 in Hannover, DGBMT 2014 and GDK 2016 in Hannover and as co-organizer of the ESAO 2003 meeting in Aachen. Her main research interests are related to the de-



THE GERMAN-UKRAINIAN FORUM OF YOUNG RESEARCHERS
Kyiv-Lviv-Kharkiv, 7-12 December 2017

velopment and validation of medical technology, especially that involving experimental testing, developing of tissue engineered valves and grafts and their long-term storage via cryopreservation, manufacturing of scaffolds via electrospinning, elctrospraying, and ice templating. Professor Glasmacher is involved in standardization work concerning biomaterials and biocompatibility and establishing hemocompatibility testing procedures.

Birgit Glasmacher, Ph.D. is Full Professor for Multiphase Processes / Biomedical Engineering and Director of the Institute for Multiphase Processes, Faculty of Mechanical Engineering at Leibniz Universität Hannover (LUH), Germany. Professor Glasmacher has been involved in biomedical engineering, process engineering, cryobiology and cryotechnology since more than 30 years. She has authored or co-authored more than 160 publications most of which are with her graduate and PhD students and serves as reviewer for national and international funding agencies and peer-reviewed journals. She has advised more than 150 M.Sc. and 25 PhD students. In the field of cryoengineering, Prof. Glasmacher developed in vitro preservation strategies and devices, long-term storage technique for human tissues and cells with alternative cryoprotectants combined with special focus on induced ice nucleation. Currently, the research on epigenetic changes due to cryo stress and stem cell encapsulation techniques has been addressed by her group.



THE GERMAN-UKRAINIAN FORUM OF YOUNG RESEARCHERS
Kyiv-Lviv-Kharkiv, 7-12 December 2017



Prof. Oleg Avrunin

oleh.avrunin@nure.ua

Oleg Avrunin graduated in Radiotechnical faculty of Kharkiv National University of Radioelectronics (KNURE), Kharkiv, Ukraine. He received his Ph.D. from the Department of Biomedical Electronic devices and systems, Faculty of Electronics in KNURE. He worked as a Post-Doc Researcher, Associated Professor of Biomedical Engineering Department (BME) and then Professor of the BME Department in KNURE. Now, he is Full Professor and Head of the BME Department in KNURE, a member of two academic councils, Academy of Sciences of Applied Radio Electronics and Ukrainian Association of Biomedical Engineering, visiting scientist at the Institute of Multiphase Processes at the University of Leibniz (Hannover, Germany) and guest professor of the Harbin Engineering University (Harbin, China). His main research interests are related to the digital image processing for Biological and Medical applications, medical navigation systems for image guided surgery, 3D modeling and visualization methods, medical training and E-learning systems, processing of microscopic images, the development of methods and tools for functional diagnosis of nasal breathing and computer planning for minimally invasive surgery. Teaches technical informatics disciplines for programming of microprocessor systems & FPGA and methods for digital processing of Biomedical images. He is a supervisor of international student Startups. He leads international scientific activities of the DAAD, Tem-pus and Erasmus+ projects. He has authored or co-authored more than 220 publications. He has advised more than 30 M.Sc. and 8 PhD-students.



THE GERMAN-UKRAINIAN FORUM OF YOUNG RESEARCHERS
Kyiv-Lviv-Kharkiv, 7-12 December 2017

**ADVANCES IN BIOMEDICAL ENGINEERING: OWN RESEARCH AND
COOPERATION HIGH-LIGHTS, Birgit Glasmacher / Oleg Avrunin**

Biomedical engineering includes the development and testing of synthetic and naturally occurring biomaterials. 3D tissues and structures made out of these biomaterials aim to contribute to tissue engineering and regeneration. Prof. Glasmacher's Institute, the Institute for Multiphase Processes and Center for Biomedical Engineering, works in this field to develop novel strategies to create functional artificial heart valves, small caliber vascular grafts, 3D porous scaffolds for tendon, bone, knee joints and nerve conduits including deep temperature storage. Application of these devices includes the cardiovascular and skeletal system, immunoisolation, drug delivery, and peripheral nervous system. To fulfill the research topics, the Institute is divided into three main research groups, dedicated to Biomaterials, Interfacial Processes and Cryotechnology. These groups are closely linked to each other. Since many years, the Institute is collaborating closely with scientists and research facilities in Ukraine.

The presentation will include information on recent achievements of the Institute in the field of biomedical engineering while pointing out significance of cooperation between Germany and Ukraine. Since 2009, the Institute for Multiphase Processes, Leibniz Universität Hannover has established close cooperation with research and educational institutions in Ukraine. We collaborate intensively with the Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine (IPC&C, NASU), Kharkiv State Zoo Veterinary Academy (KSZA), Kharkiv National University of Radio Electronics (KNURE) and V.Ye. Lashkaryov Institute of Semiconductor Physics (ISP, NASU). Research and exchange activities are being performed within BMBF Projects, IP@Leibniz, Erasmus plus Program and DAAD. Within the last years, eleven Ukrainian bachelor, master and PhD students came to Hannover for a research stay, whereas four German students went to Ukraine. We are working on biomedical image processing as well as implementation of 3D printing technology for tissue engineering (Prof. Avrunin, KNURE), cryopreservation of blood and blood components (Prof. Zhegunov, KSZA) and development of cryopreservation protocols for efficacious long-term storage of cells and tissues (Prof. Petrenko, IPC&C). Within the Memorandum of Understanding between our Institute and ISP in Kyiv signed in 2013, we work on development of novel bioactive coatings on degradable magnesium as well as on biomorphic porous silicon carbide ceramics synthesized from wood precursors for bone implant engineering (Prof. Klyui, ISP). Such cooperation is of utmost importance to link research facilities of both countries, giving an opportunity for young scientists as well as students to take part in education and research activities in Ukraine and Germany.



THE GERMAN-UKRAINIAN FORUM OF YOUNG RESEARCHERS
Kyiv-Lviv-Kharkiv, 7-12 December 2017



Prof. Jörn Kalinowski
joern@cebitec.uni-bielefeld.de

Jörn Kalinowski was born in 1959 and raised in a small town in Lower Saxony, Germany, where he developed an early interest in biology and in computers. He studied biology at Bielefeld University and worked as a computer programmer between the terms, since both disciplines had nothing to do with each other at the late 1970ies. At the end of his studies he joined the Department of Genetics that was one of the first institutions in Germany to work on DNA sequencing (1982). Since DNA sequences made it necessary to work with computers, he continued his academic career in doing lab work in the field of industrial biotechnology and in supervising the computer infrastructure of the department. He obtained his Ph.D. in biology in 1990 and got permanently employed at Bielefeld University, Department of Genetics in 1993. Later he joined the newly founded Center for Biotechnology and was appointed Head of the Technology Platform Genomics, a facility running the big machines in Genomics, Transcriptomics, Proteomics and Metabolomics. Besides, he established his own research group at the Faculty of Biology, entitled Microbial Genomics and Biotechnology, where he was appointed Professor.

More information can be found at:

https://www.researchgate.net/profile/Joern_Kalinowski

<http://www.cebitec.uni-bielefeld.de/~joern>



THE GERMAN-UKRAINIAN FORUM OF YOUNG RESEARCHERS
Kyiv-Lviv-Kharkiv, 7-12 December 2017



Dr. Bohdan Ostash
bohdanostash@gmail.com

Bohdan Ostash was born and raised in the rural Lvivska region of the Ukraine. He studied biology and received a B. S. in biology from Ivan Franko National University of Lviv (IFNUL). Bohdan entered the graduate program in Genetics at IFNUL in 1999 and graduated from the Department of Genetics and Biotechnology in 2003 with a PhD centered on the examination of biosynthesis of angucycline polyketides with Professor Victor Fedorenko. Bohdan then completed his postdoctoral training with Professor Suzanne Walker in the Department of Microbiology and Molecular Genetics at Harvard Medical School. While at Harvard, he initiated genetic studies on phosphoglycolipid antibiotics produced by *Streptomyces ghanaensis*. Dr. Ostash is currently a Senior Researcher in the Department of Genetics and Biotechnology of IFNUL and Professor (part-time) at the above Department. In his research Prof. Ostash takes genetic approach to explore and exploit actinobacterial secondary metabolome.

See also http://bioweb.franko.lviv.ua/genetic/teachers_/ostash.php;
https://www.researchgate.net/profile/Bohdan_Ostash



THE GERMAN-UKRAINIAN FORUM OF YOUNG RESEARCHERS
Kyiv-Lviv-Kharkiv, 7-12 December 2017

**NEXT-GENERATION SEQUENCING AND ITS APPLICATIONS IN
BIOTECHNOLOGY: A CASE OF ANTIBIOTIC-PRODUCING STREPTOMYCES**

Jörn Kalinowski/ Bohdan Ostash

The presentation will introduce the biotechnological departments at the Center for Biotechnology (CeBiTec) of Bielefeld University and will demonstrate the technology that is highly developed at our institute, consisting of genome or transcriptome sequencing with so-called “next-generation” sequencing methods, in close connection with bioinformatics data analysis. Besides the technology part, Prof Kalinowski will focus on application examples, where sequencing brought novel and relevant insights into bio(techno)logical systems. In addition, Prof. Kalinowski likes to convey Prof. Kalinowski’s (restricted) personal view on cooperation and personal exchange between Ukraine and Germany.

Dr. Ostash’s activity is mostly centered on *Streptomyces* and related genera of actinobacteria. The latter possess huge (by microbial measure) genomes and complicated life cycle. An actinobacterial genome is densely populated with gene clusters for production of bioactive natural products, known as antibiotics in sensum latum. Major effort is put into investigation of regulatory mechanisms that govern biosynthesis of antibiotics and coordinate the latter with colony development.

Over the last 10 years we deal with three species: *Streptomyces ghanaensis*, producer of unusual antibacterial compound moenomycin; *S. cyanogenus*, producing angucycline polyketides of landomycin family, and, recently, *S. albus*, a platform for expression of different actinobacteria-derived gene clusters. We describe our main achievements; how genomics has shifted the research paradigm; and the importance of collaboration with Bielefeld Center of Biotechnology to overall success of our scientific endeavors.