

RESEARCH

Research Services Office Newsletter

Issue 14, April 20, 2017



NEWSLETTER HIGHLIGHTS

Dear Colleagues and Students!

Please welcome the 14th edition of our Research Newsletter. We are pleased to say that the number of our readers is increasing with every released newsletter, which reflect the growing interest in research life of NU. We would like to sincerely thank you for that.

Research Services Office seeks to cultivate a broad and diverse research culture that has a positive effect on the lives of our students and faculty members as well as on academic and administrative staff. Therefore, we continue our mission by publishing plenty of useful information on research news and events at NU, funding opportunities, new NU publications and announcements of major NU research events that you will find in this newsletter. We hope you enjoy every page.

We welcome your feedback and look forward to continuing to bring news, resources, and other information from the Research Services Office.

Thank you for staying with us!

Sincerely,
Research Services Office

CONTENTS

RESEARCH NEWS

NU's Horizon-2020 grant project updates.....	5
CFD Modeling of Flow Characteristics in Micro Shock Tubes.....	6
NLA scientific article wins the JWOCN Clinical Manuscript Award.....	7
Inaugural International Conference of Kazakhstan Educational Research Association (KERA) "Trends in Eurasian Education Policy and Practice".....	8
Nazarbayev University joins the race in decoding human thoughts for Brain-Computer Machine Interfaces.....	10
First imaging flow cytometer Image-stream X Mark II in Central Asia, Russia, and Post-Soviet region was successfully launched at Nazarbayev University.....	13
Research news from the University Medical Center.....	14
"HӨP" dairy product to put into production.....	15
NLA scientists publish new articles in journals with a high impact factor.....	16
Environmental Science & Technology Group (ESTg) news.....	18
Research News from the Graduate School of Business.....	19
Graduate School of Business publishes first National report GEM (Global Entrepreneurship Monitor): Kazakhstan 2015/2016.....	21
Research News from the School of Engineering.....	22

GRANTS & COMPETITIONS

New funding opportunities.....	25
Research Awards for Health Professionals.....	25
Small Grants in Humanities and Social Sciences.....	26
Secondment Fellowships.....	26
Applications open for Kurita Water and Environmental Foundation Research Grant Program... Eurasia Programme.....	27
The Hubert H. Humphrey Fellowship Program 2018-2019 Academic Year.....	29
USAID Enriching Youth for Tomorrow in Turkmenistan (USAID –Kazakhstan).....	31
"Original—isn't it?" New options for the humanities and cultural studies.....	32
Between Europe and the Orient—A Focus on Research and Higher Education in/on Central Asia and the Caucasus.....	33
Life? - A fresh scientific approach to the basic principles of life.....	34
Three-year post-doc position in Germany.....	35

USEFUL INFORMATION

Amended Research Council Bylaws, membership and new form of delegation of authority of the member of the Academic Council/Research Council.....	36
New publications at Nazarbayev University.....	37
Promoting interdisciplinary research: Pure research management solution.....	37

(Continued on page 4)

Research performance evaluation using SciVal.....	38
How to write a good research grant proposal. Tips from the Economic and Social Research Council, UK.....	39
Writing a book proposal.....	40

CONGRATULATIONS!

SST’s faculty member publishes 5 articles at top Physics and Engineering journals in the last month	43
SHSS professor receives a Swiss National Science Foundation grant.....	44
SST faculty member becomes the winner of the Famelab competition.....	44
NU students receive the Yessenov Foundation research grants.....	45

ANNOUNCEMENTS

International seminar on “Towards Smart Sustainable Cities—Integrated Approaches,” Senate Hall, Nazarbayev University, 15-16 June, 2017.....	46
SST organizes a Mathematics Summer School, June 5-10, 2017.....	47
IET Cyber-Physical Systems Theory and Applications.....	48
NLA & ISTC Joint Workshop in Antibiotic Resistant Strains / June 21-22, 2017.....	50
IV Asian Congress on Radiation Research / August 16-18, 2017.....	50
Newsletter’s previous issues.....	51

RESEARCH NEWS

NU's Horizon-2020 grant project updates

Dr. Talgat Nurgozhin, Director of Center of Life Sciences, Dr. Vassilis Inglezakis, Associate Professor at ChE Department and Director of Environmental Science and Technology Research Group, and Dr. Stavros Pouloupoulos, Associate Professor and acting Head of ChE Department, joined forces in the context of Nanomed Research Action (HORIZON 2020) and **established a new research area** *Advanced Porous Materials for Medical Applications* (AdPoMed) and **research group** (Bio-ESTg), which working closely with international partners, and through an interdisciplinary approach, will propose innovative and cost-effective methods for treatment of radio-related toxicity, heavy metal poisoning and radiation cancer genesis prevention. The vision of the group is to perform high-quality research that besides publishing will lead to solutions that will have immediate benefits to people's life and society. Combining materials science, chemical engineering, and life sciences, Bio-ESTg will seek solutions and relevant funding to develop advanced innovative materials and techniques in fields like cancer treatment and environmental remediation.

Nanoporous and Nanostructured Materials for Medical Applications
NanoMed

Project aims to develop advanced and efficient methods of treatment of

- radiation sickness
- radio-related toxicity
- heavy metal poisoning
- radiation cancerogenesis prevention

Project objectives

- Synthesis nanostructured porous materials
- Focused on treatment of injured by radiation and chemotherapy cells
- Design nanoporous composites for heavy metals and radionuclides
- Assess the performance and safety in vitro and in vivo
- Treatment and prevention of oncological diseases and radiation

Collaboration

Chemical engineering, Medical engineering, Physical and colloid chemistry, Surface phenomena, Biochemistry, Cell biology, Biorganic chemistry, Radiobiology, Clinical pharmacology

Funding and support

Budget of 972 000 EURO

10 countries-participants

134 exchange business trips

More info on: <https://ec.europa.eu/programmes/horizon2020/>

HORIZON 2020

CFD Modelling of Flow Characteristics in Micro Shock Tubes



An important numerical study on flow characteristics in micro shock tubes has just been published in the Journal of Applied Fluid Mechanics (Vol. 10, No. 4) by **the 3rd year Mechanical**

The characteristics of the resulting unsteady flow are not well known as the physics of such tubes includes additional phenomena such as rarefaction and complex viscous effects at low Reynolds numbers. In the present study, computational fluid dynamics (CFD) calculations are made for unsteady compressible flow within a micro shock tube using the van-Leer MUSCL scheme and the two-layer ***k-ε*** turbulence model. Novel results were obtained in this study, and discussed, concerning the effects of using different diaphragm pressure ratios, shock tube diameters and wall boundary conditions, namely no-slip and slip walls.

Engineering student, Abilkaiyr Mukhambetiyar with some supervision given by Dr. Desmond Adair, Nazarbayev University and Prof. Martin Jaeger of the University of Tasmania, Australia. The work was also discussed at the recent XII International Scientific Conference of Students and Young Scientists (Science and Education - 2017) held at the Eurasian National University, Astana on the 14th April, 2017.

The use of micro shock tubes has become common in many instruments requiring high velocity and temperature flow fields, for example in micro-propulsion systems and drug delivery devices for medical systems. A shock tube has closed ends, and the flow is generated by the rupture of a diaphragm separating a driver gas at high pressure from a driven gas at relatively low pressure. The rupture results in the movement of a shock wave and contact discontinuity into the low-pressure gas, and an expansion wave into the high pressure gas.

NLA scientific article wins the JWOCN Clinical Manuscript Award

The scientific paper *A Comprehensive Review on Current Status of Topical Odor Controlling Therapies for Chronic Wounds* which has been published in the *Journal of Wound Ostomy & Continence Nursing* has won a prize of this journal JWOCN Clinical Manuscript Award. The authors of this paper are NLA researchers: Talgat Nurgozhin, Director, Center for Life Sciences, Timur Saliyev, Head of Laboratory of Translational Medicine and Life Sciences Technologies, NLA, and Alma Akhmetova, Junior researcher, NLA. The prize will be given at the Conference of Wound, Ostomy and Continence Nurses Society, which will be held on May, 2017 at Calvin L. Rampton Salt Palace Convention Center in Salt Lake City, Utah, USA.

In this study our researchers analyzed the process of wound healing, which is often accompanied by bacterial infection or critical colonization, resulting in protracted inflammation, delayed reepithelization, and production of pungent odors. The malodor produced by these wounds may lower health-related quality of life and produce psychological discomfort and social isolation. Current management focuses on reducing bacterial activity within the wound site and absorbing malodorous gases. For example, charcoal-based materials have been incorporated into dressing for direct adsorption of the responsible gases. In addition, multiple topical agents, including silver, iodine, honey, sugar, and essential oils, have been suggested for incorporation into



dressings in an attempt to control the underlying bacterial infection. This review described options for controlling malodor in chronic wounds, the benefits and drawbacks of each topical agent, and their mode of action. Authors also discussed the use of subjective odor evaluation techniques to assess the efficacy of odor-controlling therapies. The perspectives of employing novel biomaterials and technologies for wound odor management were also presented.

To read more visit:

1. <https://www.ncbi.nlm.nih.gov/pubmed/27684356>,
2. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5098468/>

Inaugural International Conference of Kazakhstan Educational Research Association (KERA) “Trends in Eurasian Educational Policy and Practice”

On 9-11 of February 2017, Nazarbayev University hosted the inaugural international conference of Kazakhstan Educational Research Association (KERA). The theme of the Conference was “Trends in Eurasian Educational Policy and Practice”. More than 200 participants from Kazakhstan and other countries attended the Conference. Local and international researchers, international experts in the field of education, representatives of the Ministry of Education and Science of the Republic of Kazakhstan, public and private educational organizations took part in the Conference. Representatives of the National Research University Higher School of Economics (Russia), Omsk State University, Kazan Federal University, Ural Federal University, and National Association of Scholars (US) participated in the Conference.

Aida Sagintayeva, the founding President of Kazakhstan Educational Research Association opened the Conference with a welcome speech. She expressed hope that KERA would become the center of research in the field of education in Kazakhstan. “I see KERA as a growing professional community, committed to public good through the development of high-quality research in the field of education that would have a social impact. “In this regard, I urge all the members of our community to represent values of academic integrity, objectivity, openness, transparency and adherence



to research ethics”, noted the founding President. Also, Aida Sagintayeva paid attention to the issue of the gap between researchers, practitioners and policymakers and proposed ways and mechanisms for expanding access to research findings and results among different stakeholders.

It was followed by the speech given by Janyl Zhontaeva, Director of Department of Pre-School and Secondary Education of the Ministry of Education and Science of the Republic of Kazakhstan.

The KERA Conference was honoured by the participation of Professor of Utrecht University, Theo Wubbels who is the current President of the European Educational Research Association. Congratulating the participants with the inaugural KERA Conference, Professor Wubbels made a presentation titled “Effective Higher Education: Theory and Policy”.

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The key speakers of the Conference included Loretta O'Donnell, Vice-Provost of Nazarbayev University, David Bridges, Professor of the Faculty of Education, University of Cambridge (welcoming remarks via video), Almagul Kultumanova, Vice-President of Information-Analytical Center, Ministry of Education and Science of the Republic of Kazakhstan, Zhanbol Zhilbaev, President of Altynsarin National Academy of Education, Alima Ibrasheva, Head of the Department for Higher and Professional Education of Information Analytical Center, Peter Wood, President of the National Association of Scholars (USA), Aigul Kazzhanova, Managing Director of Nazarbayev Intellectual Schools, Autonomous Organisation for Education, Gulbakhyt Menlibekova, Professor of Eurasian National University, Michael Tsedisio Makoelle, General Director for Research of Nazarbayev University Graduate School of Education.

The Conference Networks included the followings:

- Curriculum innovations;
- Trilingual education;
- Inclusive education;

- Evaluation and measurement in the field of education;
- Teacher Education;
- Educational research in the context of community, family and school;
- Ethnic pedagogy and history of education;
- Research in the field of education policy;
- Research in the field of pre-school and secondary education;
- Research in the field of training and vocational education;
- Research in the field of higher education.

Kazakhstan Educational Research Association (<http://www.kera.kz>) is the first Association of the Eurasian region that became part of the European Educational Research Association (www.eera.de). The EERA also includes British Educational Research Association, Swiss Society for Research in Education (SSRE), Finnish Educational Research Association (FERA) and other national professional communities from more than 30 countries.

Nazarbayev University joins the race in decoding human thoughts for Brain-Computer/Machine Interfaces

The Non-Invasive Brain-Machine Interface Systems Laboratory lead by Dr. Berdakh Abibullaev in the Department of Robotics and Mechatronics at Nazarbayev University is a new facility dedicated to the design, development of the brain-computer/machine interface (BMI) systems in Kazakhstan.

The BMI research aims to restore or substitute lost motor function in patients with neurological conditions such as stroke, spinal cord injury, amyotrophic lateral sclerosis or in patients with amputated limbs. This technology, which is also known as a thought-translation device, is based on building a direct

communication and control channel between human and an external device without involving any peripheral and muscular activity [1] (see Fig. 1).

BMI systems have already been employed to control external devices, e.g. computer cursors [2] and robotic prostheses [3], using invasive methods. Moreover, in recent studies, BCIs have been used to control lower-body and upper-body exoskeletons for stroke and paraplegic recovery and rehabilitation via non-invasive approaches [4].

Our research at NU focuses on the

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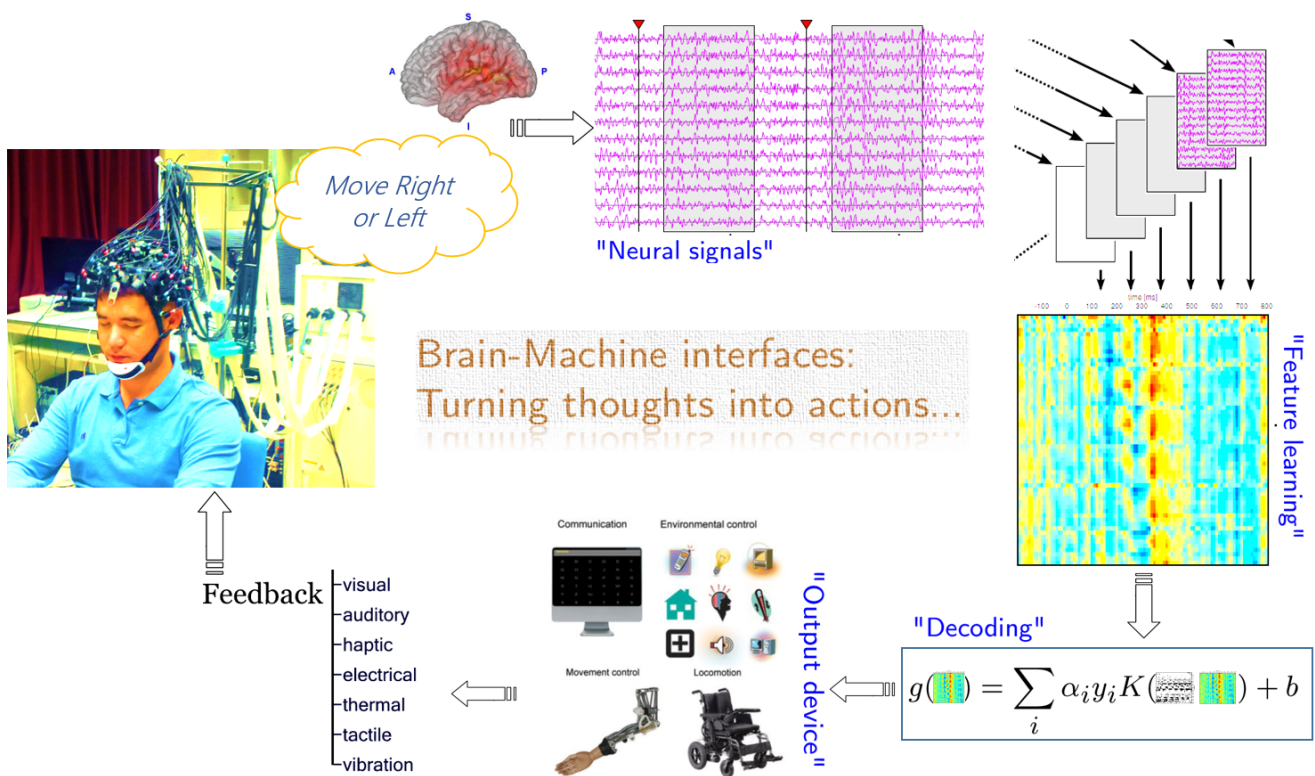


Fig.1. A brain-machine interface system decodes different brain activity patterns produced by a user and translates into appropriate control and communication commands.

(Continued from page 10)

development and cross-validation of new neurotechnologies in Kazakhstan to improve the quality of life for disabled people at the interface between engineering, robotics and neuroscience. Currently, we are working on the following research topics:

1. to enable communication capability between brains and computers,
2. to develop neural interfaces to restore human motor functions after stroke.
3. to develop brain-actuated assistive robotic systems for disabled persons

Design and optimization of a Brain-Computer Interface speller in Kazakh language.

In 2016, robotics department students Arailym Zhumadilova and Akbay Kuderbekov have developed the initial prototype of Brain-Computer Interface (BCI) based mental-typewriter in Cyrillic characters. Their idea was to develop a BCI technology that will be useful for local people with communication problems: persons afflicted with amyotrophic lateral sclerosis or spinal cord injuries, multiple sclerosis, muscular dystrophies and cerebral palsy.

Only recently, we have finished design and optimization of Kazakh language based BCIs speller on health subjects and moving onwards to conduct clinical trials with patients. This research will be conducted in collaboration with the national neurosurgery center in Astana, and it should enable ALS patients to communicate with their relatives. Currently, three students are actively involved in this research. Among them

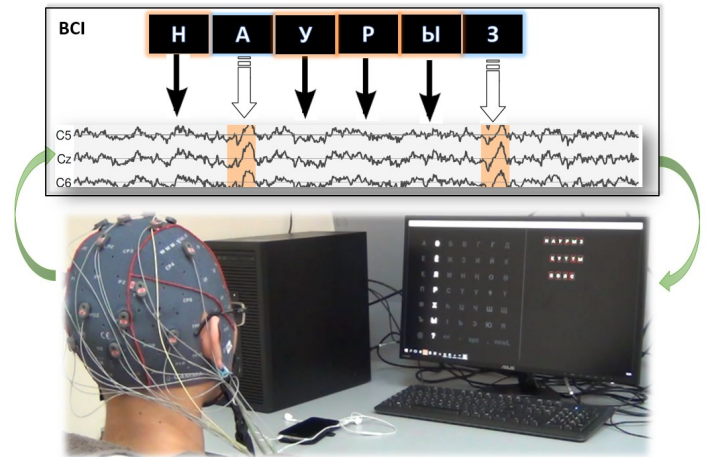


Fig.2. The Kazakh language speller. The BCI decodes electrical brain activities time-locked to visual sensory stimulus associated with the selection of a specific character and thus allowing mental typing (see demo at <https://youtu.be/f3t-PzEq29A>).

Abylaikhan Zhumagazy, 2nd year robotics department student, has shown great BCI mental-typing practice with high accuracy.

Interested people are welcome to be a part of the research as a participant and experience mental typing with the BCI system in our lab. Please contact via email indicated above.

Brain-machine interfaces for neural rehabilitation after stroke

In another interesting research project, our team is working on the development of novel BMI systems for rehabilitation engineering, and studying brain plasticity after stroke. Here, a non-invasive BMI system will be augmented with a therapeutic robot to provide therapy for patients after stroke across a broad spectrum of impairment severity, that includes patients in the control loop thereby making it 'active' for inducing cortical plasticity.

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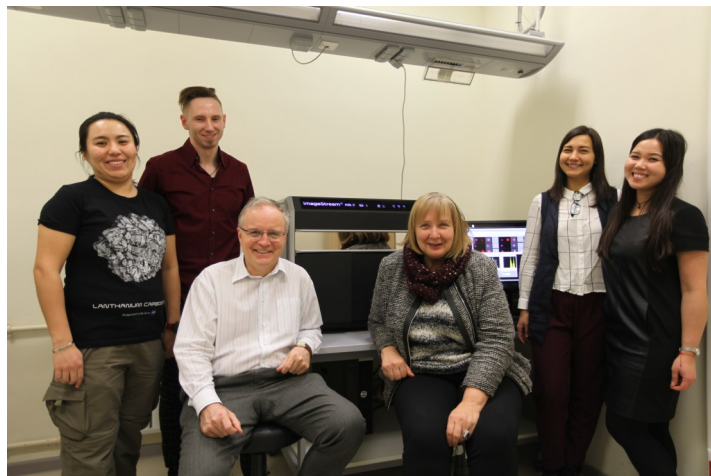
Opportunity for students

The undergraduate and graduate students at NU now have an opportunity to actively participate in the projects related to BMI systems with the investigator. Our lab is equipped with high-density 64-channel scalp electroencephalography system (Guger Technologies, Austria) with active electrode caps (64 ch). Moreover, we have different robotic systems to be integrated with the BMI system. The projects mentioned are wide enough to create many strong thesis topics for any students who are interested in the research and develop new technology on the domestic orthotics and prosthetic industry (e.g. building novel interfaces for restoring human motor function; e.g. locomotion in persons with gait deficits).

1. Wolpaw, Jonathan R., et al. "Brain-computer interfaces for communication and control." *Clinical neurophysiology* 113.6 (2002): 767-791.
2. Kim, Sung-Phil, et al. "Point-and-click cursor control with an intracortical neural interface system by humans with tetraplegia." *IEEE Transactions on Neural Systems and Rehabilitation Engineering* 19.2 (2011): 193-203.
3. Hochberg, Leigh R., et al. "Reach and grasp by people with tetraplegia using a neurally controlled robotic arm." *Nature* 485.7398 (2012): 372-375.
4. Venkatakrisnan, Anusha, Gerard E. Francisco, and Jose L. Contreras-Vidal. "Applications of brain-machine interface systems in stroke recovery and rehabilitation." *Current physical medicine and rehabilitation reports* 2.2 (2014): 93-105.

First imaging flow cytometer Imagestream X Mark II in Central Asia, Russia and Post-Soviet region was successfully launched at Nazarbayev University

First state-of-the-art imaging flow cytometer (Amnis-Merck) in Central Asia, Russia and post-soviet region was successfully installed and started-up at Nazarbayev University on February, 16, 2017 through a long-term collaboration of Professor Ivan Vorobjev (Dept Biology, School of Science and Technology) and researchers from Laboratory of Fluorescent Methods, National Laboratory Astana with an Adjunct Professor from Harvard Medical School, Dr. Natalie Barteneva.



The primary idea behind this collaboration was to create a complimentary research infrastructure at Nazarbayev University and to promote development of joint research projects and technology transfer between researchers from NU and Harvard University. The first milestone was achieved when an advanced 6-lasers flow cytometer/sorter SORP FACSAria II (BD Biosciences, USA) was acquired by Nazarbayev University in 2014. Exploitation of SORP FACSAria II has brought a boost of research capabilities and competitive scientific results. In 2015, the flow cytometer/sorter was presented to The President of Republic of Kazakhstan, Nursultan Nazarbayev, during his visit to Nazarbayev University by Veronika Dashkova, a young Bolashak alum, who recently visited Harvard for 3 months after winning Kazakhstani-American CRDF grant in collaboration with Dr. Barteneva. Young scientists from Dept Biology SST, Zarina Sautbayeva and Yeldar Baiken also worked at Harvard on

fellowships from International Union against Cancer (Switzerland) and Talap scholarship (NU) learning nuts and bolts of state-of-the-art technologies.

The possible applications of currently acquired ImageStream X Mark II imaging flow cytometer will include research on the role of programmed cell death in age-related, advanced screening of target therapy programs for the development of personalized medicine, studying of development mechanisms of multiresistance of tuberculosis and other intracellular pathogens, detection and characterization of exosomes and other extracellular vesicles, screening of bioactive compounds of microalgae and many others. Future plans of creating the Center of Excellence in conjunction with Amnis-Merck and invite our colleagues from Europe and South-East Asia for joint scientific conferences and training workshops on imaging flow cytometry and its applications are under way.

Research news from the University Medical Center



The prestigious international journal ***Lancet Global Health*** (impact factor 14.7) has published in the April 2017 issue a scientific letter entitled 'Cerebral palsy: a multidisciplinary, integrated approach is essential' the first author of which is **Dr. Sholpan Bulekbayeva, Director of the Republican Children's Rehabilitation Center**, one of the hospitals of the Nazarbayev University Medical Center (UMC).

The letter advocates for a multidisciplinary, integrative approach to rehabilitation, to be initially provided in child rehabilitation centers, as an effective way to manage cerebral palsy, a serious syndrome of motion impairment resulting from a lesion in the developing brain. The multidisciplinary approach includes medical rehabilitation, assessment by psychologists, interventions for intellectual disability and learning difficulties, individualised education plans, occupational therapy, and social adaptation. Methods used in medical rehabilitation include kinesiotherapy; hydrokinesiotherapy; robot-assisted walking; botulin; physiotherapy; behavioral, social, play, and music therapy; occupational therapy; neuropsychological diagnosis and rehabilitation; speech therapy; special

and inclusive education. Social adaptation includes adaptive physical education and sports, and professional orientation.

The Republican Children's Rehabilitation Center was opened in 2007 and admits more than 4200 children annually, of whom around 2400 have cerebral palsy. The letter calls for efforts in middle-income (and, whenever possible, low-income) countries to fund, open, and sustain centers similar to the UMC Republican Children's Rehabilitation Center to improve appropriate diagnosis and treatment of children with the syndrome and ensure good long-term results.

"НӘР" dairy product to put into production

by PE "National Laboratory Astana"

"Astana-Өнім" JSC started to produce the "NƏR" synbiotic beverage on the basis of its existing dairy plant. This year a trial launch of the beverage and its sale is expected around the territory of Astana and Akmola region.



NAZARBAYEV
UNIVERSITY
NATIONAL
LABORATORY ASTANA



It is needed to mention that "NƏR" was created by scientists from the Life Science Center, NLA. The production of this synbiotic, which is a product for the high-quality longevity, is a long-awaited event for the National Laboratory Astana. The probiotic leaven is recommended as an auxiliary therapy for diabetes mellitus, arterial hypertension and obesity. The drink will also be recommended as the part of a five-day diet into Kazakhstan's pre-school and school educational institutions, medical and public institutions, health resorts and sanatoriums of the country.



The synbiotic yogurt drink consists of probiotic leaven, pectin, prebiotic ingredient inulin, fish collagen, which is a source of essential amino acids, vitamins, trace elements, and completely natural milk.

The effectiveness of "NƏR" has been confirmed in pre-clinical and two phases of clinical trials. The drink has also the biosafety report.

At present, measures are initiated to register and certify the product, and to prepare the premises for the installation of a new technological line for the production of functional food products.

NLA scientists publish new articles in journals with a high impact factor

Risks for tuberculosis in Kazakhstan: implications for prevention

Zhaxybay Zhumadilov, General Director, NLA and Saule Rakimova, Leading researcher, NLA published their new research on tuberculosis in Kazakhstan in the *International Journal of Tuberculosis and Lung Disease* in cooperation with scientists from Columbia University, New York, USA, Columbia University Global Health Research Center of Central Asia, Almaty, Kazakhstan and National Center for Tuberculosis, Almaty, Kazakhstan. The objective of the study was to examine associations between incarceration history and tobacco, alcohol, and drug consumption, and human immunodeficiency virus (HIV) infection and diabetes mellitus (DM) with TB.

This matched case-control study included 1600 participants who completed a survey on sociodemographics, history of incarceration, tobacco, alcohol and drug use, and HIV and DM diagnosis. Conditional logistic regression analysis was used to examine associations between a TB diagnosis and risk factors.

Participants who had ever smoked tobacco (aOR 1.73, 95%CI 1.23–2.43, $P \leq 0.01$), ever drank alcohol (aOR 1.41, 95%CI 1.03–1.93, $P \leq 0.05$), were HIV-positive (aOR 36.37, 95%CI 2.05–646.13, $P \leq 0.05$) or had DM (aOR 13.96, 95%CI 6.37–



30.56, $P \leq 0.01$) were more likely to have TB.

The association between TB and tobacco use, alcohol use, HIV and DM in Kazakhstan suggests a need for comprehensive intervention and prevention approaches that also address tobacco and alcohol use, DM and HIV.

The *International Journal of Tuberculosis and Lung Disease* (IF 2.148) publishes articles on all aspects of lung health, including public health-related issues such as training programs, cost-benefit analysis, legislation, epidemiology, intervention studies and health systems research. The IJTLD is dedicated to the continuing education of physicians and health personnel and the dissemination of information on tuberculosis and lung health world-wide. Certain IJTLD articles are selected for translation into French, Spanish, Chinese or Russian.

Phylogeography of human Y-chromosome haplogroup Q3-L275 from an academic/citizen science collaboration

Maxsat Zhabagin, researcher, Laboratory For Population Genetics, NLA in

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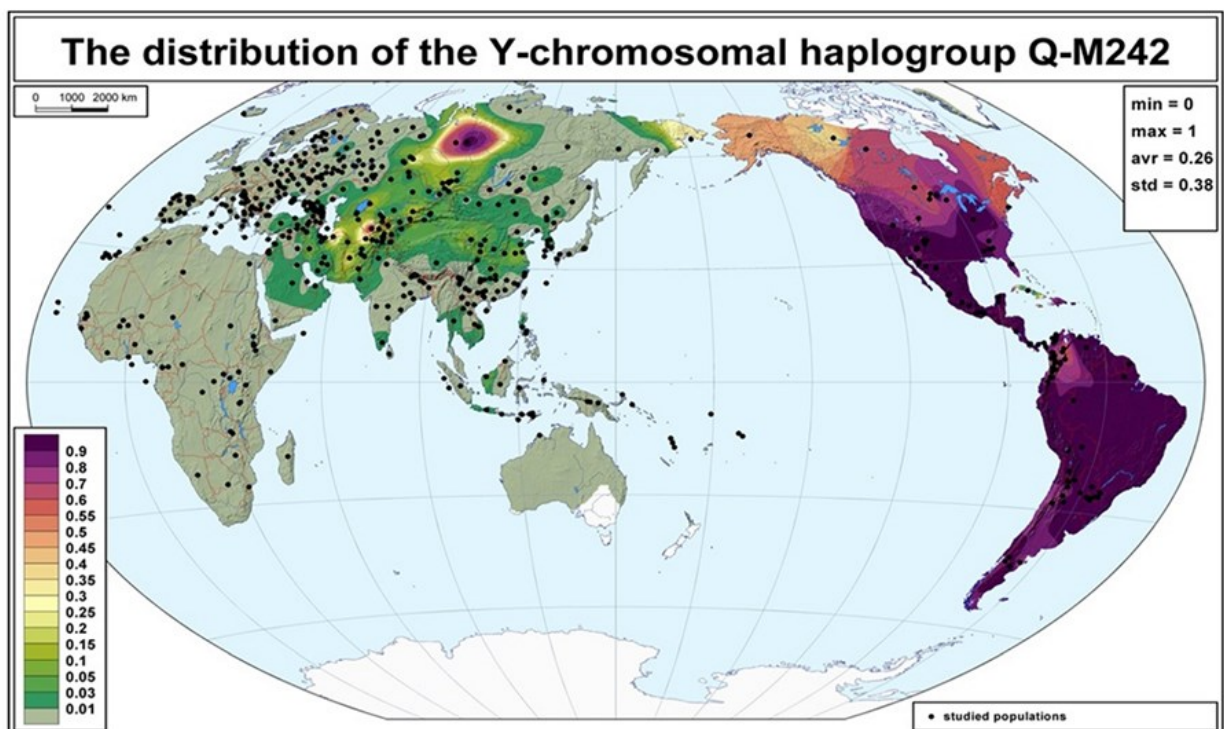
cooperation with well-known scientists Oleg Balanovsky, Rebecah Canada, Nadia Al-Zahery and others published a new study in *BMC Evolutionary Biology* (IF 3,6) on the potential of full Y-chromosome sequencing for reconstructing haplogroup Q3 phylogeography.

Researchers analyzed 47 fully sequenced Y-chromosomes and reconstructed the haplogroup Q3 phylogenetic tree in detail. Haplogroup Q3-L275, derived from the oldest known split within Eurasian/American haplogroup Q, most likely occurred in West or Central Asia in the Upper Paleolithic period. During the Mesolithic and Neolithic epochs, Q3 remained a minor component of the West Asian Y-chromosome pool and gave rise to five branches (Q3a to Q3e), which spread across West, Central and parts of South Asia. Around 3–4 millennia ago

(Bronze Age), the Q3a branch underwent a rapid expansion, splitting into seven branches, some of which entered Europe. One of these branches, Q3a1, was acquired by a population ancestral to Ashkenazi Jews and grew within this population during the 1st millennium AD, reaching up to 5% in present day Ashkenazi.

This study dataset was generated by a massive Y-chromosome genotyping effort in the genetic genealogy community, and phylogeographic patterns were revealed by a collaboration of population geneticists and genetic genealogists. This positive experience of collaboration between academic and citizen science provides a model for further joint projects. Merging data and skills of academic and citizen science promises to combine, respectively, quality and quantity, generalization and specialization, and achieve a well-balanced and careful interpretation of the paternal-side history of human populations.

A



Environmental Science & Technology Group (ESTg) news



Environmental Science & Technology Group

PUBLICATIONS

A new paper is published entitled "Removal of phosphate from aqueous solutions by adsorption onto Ca(OH)₂ treated natural clinoptilolite" in Chemical Engineering Journal, a top Journal of impact factor of 5.310.

⇒ Link: <http://www.sciencedirect.com/science/article/pii/S138589471730390X>

A new book Chapter is published entitled "Olive mill waste: recent advances for the sustainable development of olive oil industry" in "Olive mill wastewater: recent advances for the sustainable management of olive oil industry", Elsevier-Academic Press (2017)

⇒ Link: <http://www.sciencedirect.com/science/article/pii/B9780128053140000029>

PROJECTS

The group was awarded two new projects:

- Development of municipal solid waste combustion and incineration technology for Astana (Kazakhstan) and investigation of municipal solid waste blending effects on reactivity of coals in CFB combustion and gasification processes, ORAU-funded project
- Study of Oil Pipeline Corrosion, funded by the private entity "Karachaganak Petroleum Operating" (KPO)

EXPO 2017

ESTg will be the consultant of the Italian and Greek Pavilions for the organization of events in EXPO2017.

Tentative dates: 14-16 August 2017

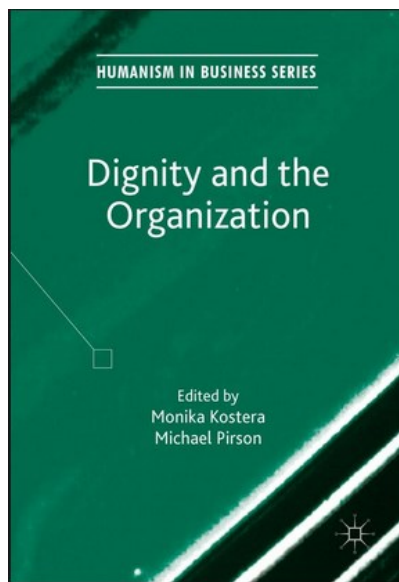
Event title: Our Common Future; Energy, Environment & Development.

Research News from the Graduate School of Business

In this month's issue, we would like to share with you the research news from the faculty of the Graduate School of Business.

Ralitza Nikolaeva:

"I have contributed to this book, that was published recently: <http://www.palgrave.com/us/book/9781137555618>"



Marek Johec:

Marek Johec, NUGSB Professor on Finance, & Ensi Tszie's proposal on China's OBOR project and its impact for Central Asia has been selected for funding by the NAC-NU Central Asia Studies Program.

The authors of the two best papers will be offered a one-month fellowship at the George Washington's CAP to work on their paper and submit it to a peer-reviewed journal.



The first conference will be at Nazarbayev University in Astana in early June 2017.

Anatoli Colicev:

"First my two publications with NU affiliation in 2016:



1. **Colicev, Anatoli, Peter O'Connor, and Vincenzo Esposito Vinzi.** "Is investing in social media really worth it? How brand actions and user actions influence brand value." *Service Science* 8.2 (2016): 152-168.

Although previous studies have documented a positive link between traditional media and brand performance, how social media is related to brand value has not yet been comprehensively

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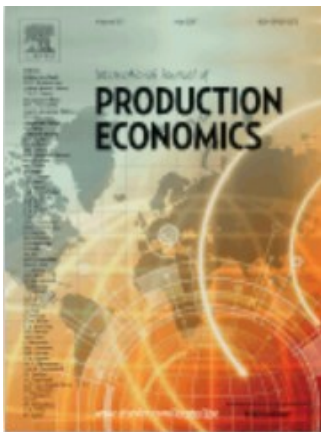
explored. We propose a conceptual model to address this research gap, collecting a unique data set that data on three social media platforms (Facebook, Twitter, and YouTube) and brand value for 87 brands in 17 industries. We empirically test our model with partial least squares path modeling (PLS-PM). First, we find that user actions on YouTube and brand actions on Facebook have a positive influence on brand value.

Second, we find that the effect of social media goes above and beyond pure word-of-mouth spread. We test for alternative models, by first accounting for sample heterogeneity and second by including brand strength as a control variable, finding that the main model results' are indeed robust. Our study advances knowledge on social media marketing for both academics and practitioners.

customer service, and economic and operational performance as key antecedents of Partnering Capability. Our empirical findings show that Partnering Capability is directly induced by operational performance and departmental integration. In addition, customer service along with departmental integration generates a chain of indirect effects due to economic and operational performance.

3. And third, me and Tuuli are giving a keynote speech in University of International Business in Almaty (26-28 April) for the conference on ENTREPRENEURSHIP, INNOVATION & INTERNATIONALIZATION: THE ERA OF BIG DATA.

<http://uib.kz/en/mezhdunarodnaya-konferentsiya-predprinimatelstvo-innovatsiya-i-internatsionalizatsiya-era-bolshih-dannyh/> "



2. **Colicev, Anatoli,** Pietro De Giovanni, and Vincenzo Esposito Vinzi. "An empirical investigation of the antecedents of partnering capability." *International Journal of Production Economics* 178 (2016): 144-153.

In this paper, we propose a new approach to evaluating firms' Partnering Capability. While previous research treats Partnering Capability as an exogenous factor, we take into account its antecedents and thus conceive it as endogenous. Our motivations are driven by the fact that firms ex-ante evaluate their partners by assessing their Partnering Capability. We focus on departmental integration,



Atanu Rakshit and Dmitry Khanin:

NUGSB Professors Atanu Rakshit and Dmitry Khanin will present their paper first at the Family Enterprise Research Conference (FERC) in Ashville, North Carolina, US (June, 2017) and then at the Academy of Management Annual Conference in Atlanta, US (Georgia). The

(Continued on page 21)

(Continued from page 20)

paper is titled *Is Non-Family CEO Advantage Contingent on Firm Growth and Area of Management Practice?*

In addition, Dmitry Khanin will present his paper ***Institutional Traps, and Social Entrepreneurs? Institutional Work, Strategies and***

Tactics, with Rene Chester Goduschet from the University of Southern Denmark at Goduschet at the The 1st IESE-LUISS Conference on Responsibility, Sustainability and Social Entrepreneurship in April, 2017 (Rome, Italy). The paper will be presented at the session Defining Hybrid Organizations. Professor Khanin will also chair this panel.

GSB publishes first National report GEM (Global Entrepreneurship Monitor): Kazakhstan 2015/2016



Graduate School of Business has published the first National report GEM (Global Entrepreneurship Monitor): Kazakhstan 2015/2016 in 3 languages.

The NU team (Dmitry Khanin, Venkat Subramanyan, Assel Uvaliyeva, Bakyt Ospanova, Yerken Turganbayev, Aiman Yedige) and the Economic Research Institute is the National team which represents Kazakhstan in this prestigious world's foremost study of entrepreneurship.

Global Entrepreneurship Monitor: Kazakhstan 2015/2016 report is based on

data collected in the Republic of Kazakhstan under the direction of the Graduate School of Business, Nazarbayev University in collaboration with Economic Research Institute. The goal of this report is to highlight the progress of entrepreneurship in Kazakhstan. We aim to provide unique insights into how policy makers as well as business and government leaders can enhance the economic and social benefits which accrue from a growing population of small and medium size entrepreneurs.

To view the report, please [click here](#).

Research News from the School of Engineering

Collaboration with Hong Kong Polytechnic University (HKPolyU)

Some collaboration initiatives have been discussed since the Vice Provost of NU visited the Hong Kong Polytechnic University in November 2016. To implement the initiatives, further discussions have taken place in SEng in early 2017. Specifically, the Hong Kong Polytechnic University introduced two research schemes, namely **Research Student Attachment Scheme** and **Belt-Road Research Fellowship**. SEng has submitted applications through its Research Committee (one student application and five research fellowship applications from faculty members) and the results will be released later this year. On the 23rd March 2017, Professor Brian Leung visited the Department of Land Surveying and Geo-Informatics (LSGI) of the Hong Kong Polytechnic University in order to explore further collaborations. During the visit, Professor John Shi, Head of LSGI, introduced the Department and suggested a number of areas for collaboration. We agreed on more joint research activities, such as exchange of faculty and research students, joint research projects, etc. We also discussed the viability of joint doctoral degree program between the two institutions. It is important to mention that a group of LSGI students will pay a visit to NU in August 2017. The Department of Civil Engineering has been invited to be the hosting unit and some student activities will be arranged. We look forward to developing more collaborations with HKPolyU in the near future.

Collaboration with University of Wisconsin-Madison (UWM)

Two professors from UWM will visit Department of Civil Engineering in the School of Engineering on 15th - 18th May 2017. This staff exchange aims to explore and strengthen the research collaboration between the two institutions. Some activities have been planned and they include research seminars, research collaboration meeting with faculty members, an introductory talk to NU students about studying overseas in UWM and US. Furthermore, the two visitors will try to assist in student recruitment interviews if time allows. When the new research laboratories in block 3 are due to launch before the forthcoming summer, the two UWM visitors will be invited to provide their expert advice on the utilisation and management of space and facilities. To keep the collaboration moving, it is anticipated that some faculty members of the Department of Civil Engineering will pay a visit to UWM in 2018.

Dr. Shazim Ali Memon has recently received Research Productivity Award (2016-17)

Dr. Shazim Ali Memon has recently received Research Productivity Award (2016-17) announced by Pakistan Council for Science and Technology, Pakistan. He published 11 SCI Journal papers in one academic year having a cumulative impact factor of 35.762 and is the only Civil engineer of Pakistan whose name appears in this list. This award is granted to active

(Continued on page 23)

(Continued from page 22)

scientists based on their publications in international journals and their performance, as evaluated empirically by Journal impact factors, citations and peer review.

Recent Research Contribution by Ming Yang, Department of Chemical Engineering

1. Dynamic risk assessment in process industries

To utilize abundant data for safety analysis in a chemical plant, a dynamic failure prediction analysis approach has been developed with the integration of the principal component analysis and the Bayesian network approach. This approach is able to identify the critical process variables that contribute the most to process performance variations and also model the interaction among these variables to detect and predict the system failure. This integrated approach uses big data analysis.

Ref.: Adedigba, S.A., Khan, F., Yang, M. (2017). Dynamic Failure Analysis of Process Systems Using Principal Component Analysis and Bayesian Network. *Industrial & Engineering Chemistry Research*, 56, 2094-2106.

2. Management of TENORMs produced during oil and gas operation

Enhanced oil and gas production activities lead to the increased production of Technologically Enhanced Naturally Occurring Nuclear Materials (TENORMs). This has raised a radiological concern for workers, the public and the environment. The available studies have focused on identification and assessment of

TENORMs; no attention yet has been given to the safe handling and management of produced TENORMs based on scientific evaluation or adoption of new technology. A recent work attempts to propose set of recommendations and conceptual understanding of a technology to manage TENORMs concerns. A novel Thermo-chemi-nuclear Conversion Technology (TCT) is proposed to treat TENORMs. This technology is designed to manage TENORMs wastes along with household, sewage, industrial effluent, and hazardous wastes, and eventually convert them into fuel and renewable energy.

Ref.: ALNabhani, K., Khan, F., Yang, M. (2017). Management of TENORMs Produced during Oil and Gas Operation. *Journal of Loss Prevention in Process Industries*, 47,161-168.

(Continued on page 24)

Summary of Significant Research Activities of SEng Faculty Members

Names	Activities	Notes
Luis R. Rojas-Solórzano	International seminar on "Towards Smart Sustainable Cities - Integrated Approaches" to be held between 15-16 of June 2017	General Chair
Luis R. Rojas-Solórzano	The 4th International Conference on Materials, Mechanics and Management, ICMMM2017, organized by the College of Engineering Trivandrum, Kerala-India, 13-15 July 2017	Keynote speaker
Michael Yong Zhao	The 2017 International Conference on Advanced Technologies in Design, Mechanical and Aeronautical Engineering (ATDMAE 2017), co-organized by Nanyang Technological University (NTU) and the Hong Kong Society of Mechanical Engineers (HKSME). The conference will be held at Nanyang Technological University (NTU), Singapore, from Jul. 12-14, 2017 .	Conference Chair

GRANTS & COMPETITIONS

New Funding Opportunities



Image Source: [Dixie State University](#)

We have identified new funding opportunities, all of which are suitable for the researchers based in Kazakhstan.

For your convenience, we also added funding opportunities listed in the previous issues of the Research Newsletter. The information on them can be found in the same Excel document.

For more information, please [click here](#).

Research Awards for Health Professionals

This scheme offers practising health professionals the opportunity to carry out humanities or social science research, in any area of health.

You can apply for a Research Award if you've completed general medical, dental, veterinary, nursing, clinical, or any other professional health training. You should be a practising health professional with little or no research experience.

You must also have sponsorship from an [eligible host organisation](#) in the UK, Republic of Ireland or a low- or middle-income country.

Preliminary application deadline

- **6 July 2017**

Full application deadline

- 21 September 2017

Shortlisting

- November 2017

Interviews

- January 2018

More information at:

<https://wellcome.ac.uk/funding/research-awards-health-professionals>

Small Grants in Humanities and Social Science

Small Grants fund programmes of activities that enable researchers to establish and develop networks, explore new areas of research and increase the impact of their work.

Career stage:

[Early](#), [Intermediate](#), [Senior](#), [Returning to research](#)

Where your host organisation is based:

UK, Republic of Ireland, [Low- and middle-income countries](#)

Level of funding:

Usually up to £30,000



Duration of funding:

Flexible, usually 6 to 12 months but can be longer

Key dates

There are no deadlines for this scheme – you can apply online at any time.

For more information, please visit the [Wellcome Trust website](#).

Secondment Fellowships

Secondment Fellowships are for early-career humanities and social science researchers who we already fund. Researchers spend three to six months at one of the following organisations:

- Parliamentary Office of Science and Technology (POST), London
- Science Museum, London
- World Health Organization (WHO), Regional Office for Europe, Copenhagen
- Organisation for Economic Co-operation and Development (OECD), Paris

Key dates

We consider applications once a year.

Application deadline

26 April 2017



Career stage:

[Postgraduate](#), [Early](#)

Level of funding:

A fully-funded extension to a fellowship, PhD or research assistant position

Duration of funding:

3 to 6 months

For more information, please visit the [Wellcome Trust website](#).

Applications Open for Kurita Water and Environmental Foundation Research Grant Program!

Application deadline: 27 April 2017

The Kurita [Water](#) and Environmental Foundation (KWEF) is currently accepting applications for its Research Grant Program with an aim to support scientists in Asian countries who are conducting research in their own countries on the conservation and restoration of water resources, which are defined as oceans, surface water and underground water as well as the areas of land adjacent to them.

Research Areas

Research subjects related to water [environment](#) in the applicant's country can be applied.

- Examples of appropriate research subjects are: water / wastewater treatment, water quality analysis, sustainability of water environment sanitation, water ecosystem, agricultural water use, industrial wastewater treatment.

Grant Information

The maximum amount of 300,000 yen per project per year.

Duration

The grant period will be one year, from October 1, 2017 to September 30, 2018.

Eligibility Criteria

The applicant must reside in Asian

Kurita Water and Environment Foundation
公益財団法人 クリタ水・環境科学振興財団

KWEF Research Grant Program

countries (except [Thailand](#), [Indonesia](#) and [Vietnam](#)).

- The applicant must conduct research at university, college, or associated institute.
- The applicant should be under 40years old.
- The applicant must submit a recommendation letter of "Japanese researcher".

How to Apply

Interested applicants must download the application form in English or Japanese through the given website.

For more information, please visit [KWEF Research Grant Program](#).

Eurasia Programme

A [call for applications](#) for two-year project funding is now open. The application deadline is 22 September 2017, at 15:00 Norwegian time.

Who may apply?

- **The applicant** must be an accredited Norwegian higher education institution, or an institution with accredited higher education programmes.
- **The main partner** must be an accredited institution for higher education in Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Tajikistan and Ukraine. Institutions in Turkmenistan and Uzbekistan may be included as network partners only. The main partner institution must provide education programmes at a level equivalent to that offered at the Norwegian applicant institution.

Applications must be written in English and be submitted fully completed, including attachments, through [SIU's online platform for applications and reporting](#) (Espresso), latest within the call's final deadline.

Recent allocations

On 15 November 2016 the Eurasia Programme Board granted support to 12 long-term projects.

[See here for an overview of the supported Eurasia long-term projects.](#)



Eurasia project development funding: 16 applicants have been allocated a total of NOK 1 085 180 to develop their proposals for Eurasia long-term projects 2016.

[See the list of Eurasia projects awarded funding.](#)

By the application deadline on 26 October 2015, SIU had received 37 eligible applications for long-term project cooperation, at a total amount of NOK 184 274 855. The applications were handled by the Eurasia Programme Board in its meeting on 25 and 26 January 2016. 13 proposals were supported, at a total amount of NOK 64 197 942.

[See the list of Eurasia projects awarded funding for 2016.](#)

More information available on [the SIU website.](#)

The Hubert H. Humphrey Fellowship Program 2018-2019 Academic Year

Leaders for a Global Society

The Hubert H. Humphrey Fellowship Program provides accomplished young and mid-career professionals with ten months of non-degree academic study, leadership development, and professional enrichment in the United States. Humphrey Fellows are selected based on their potential for leadership and commitment to public service either in the public or the private sector. 14 universities across the United States host Humphrey Fellows. In recent years, these universities have included: American University-Washington College of Law, Arizona State University, Boston University, Cornell University, Emory University, Massachusetts Institute of Technology, Michigan State University, Pennsylvania State University, Syracuse University, University of California – Davis, University of Maryland-College Park, University of Minnesota, Vanderbilt University, and Virginia Commonwealth University.

Professional Fields

Humphrey Fellowships are awarded to candidates in the following fields:

Sustainable Development

- Agricultural and Rural Development
- Economic Development/Finance and Banking
- Natural Resources/Environmental Policy/Climate Change
- Urban and Regional Planning



Democratic Institution Building

- Communications/Journalism
- Law and Human Rights
- Public Policy Analysis and Public Administration
- Trafficking in Persons Policy and Prevention
- Technology Policy and Management
- Human Resource Management

Education

- Educational Administration, Planning and Policy
- Higher Education Administration
- Teaching of English as a Foreign Language (Teacher Training or Curriculum Development)

Public Health

- Public Health Policy and Management
- Substance Abuse Education, Treatment, and Prevention
- HIV/AIDS Policy and Prevention

Eligibility Requirements

Applicants must:

- Possess a first university/undergraduate degree;
- Have a minimum of 5 years full-time

(Continued on page 30)

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- professional experience beyond attainment of an undergraduate/first university degree prior to August 2018;
- Not be teachers/scientists/researchers with no management or policy responsibilities (except teachers of English as a second language and specialists in substance abuse prevention and treatment);
 - Not have attended a graduate school in the United States for one academic year or more during the seven years prior to August 2018;
 - Not have recent U.S. experience of over six months during the five years prior to August 2018;
 - Be a citizen of Kazakhstan and not have a permanent resident status in another country;
 - Demonstrate leadership qualities;
 - Have strong English skills;
 - Have a record of public service in the community.

Application Documents

- Online application
- Recommendation letters (two letters only) One of the letters should be from the candidate's current employer. If recommendation letters are submitted online, it is not necessary to upload them to the application.
- Diplomas and transcripts: Diplomas and transcripts for all higher education degrees received. English translations if diplomas and transcripts are in Russian and/or Kazakh.

Application Procedure **The application deadline is July 1, 2017.**

The online application is available at <https://ie.embark.com/apply/humphreyfellowship>. For questions applicants may contact the Public Affairs Section of the U.S. Embassy in Astana at (7172) 70-22-95 *Nominations are made by the Embassy and are reviewed in the United States by independent review committees. The J. William Fulbright Foreign Scholarship Board has final approval of nominees. The new Humphrey Fellowships are announced in March 2018.*

USAID Enriching Youth for Tomorrow in Turkmenistan (USAID-Kazakhstan)

The [United States](#) Agency for International Development ([USAID](#)) is seeking applications from qualified U.S. and Non-U.S. [organizations](#) to fund a program entitled USAID “Enriching [Youth](#) for Tomorrow” in [Turkmenistan](#) with an aim to improve the capacity of Turkmen youth aged 14-30 to contribute to their local economy and community.

This integrated activity seeks to equip youth with the skills necessary to participate in the labor market, contribute to society in a productive manner through civic engagement and community service, and improve the enabling [environment](#) through youth-sensitive policies, processes, and services.

Focus Areas

- Workforce development
- Civic engagement and awareness,
- Strengthening the enabling environment for youth development

Funding Information

- USAID intends to provide \$3,175,000 in total USAID funding over a four year period.
- The ceiling for this program is \$3,175,000.
- The period of performance anticipated herein is four years.

Eligibility Criteria

- U.S. and non-US organizations may participate under this NFO.

- USAID welcomes applications from organizations which have not previously received financial assistance from USAID.
- Applicants must have established financial management, monitoring and evaluation processes, internal control systems, and policies and procedures that comply with established U.S. Government standards, laws, and regulations. The successful applicant(s) will be subject to a responsibility determination assessment (Pre-award Survey) by the Agreement Officer (AO).
- The Recipient must be a responsible entity. The AO may determine a pre-award survey is required to conduct an examination that will determine whether the prospective recipient has the necessary organization, experience, accounting and operational controls, and technical skills – or ability to obtain them – in order to achieve the objectives of the program and comply with the terms and conditions of the award.

How to Apply

Applications must be submitted online via given website.

For more information, please visit [Grants.gov](#).

"Original – isn't it?" New Options for the Humanities and Cultural Studies



Next Deadline: Presumably before the End of 2017

✉	area of research: humanities and cultural studies, theoretical social sciences
📍	type of funding: research projects; funding of a teaching substitute
💰	up to 80.000 or 150.000 Euro (depending on funding line)
🕒	12 or 18 months (depending on funding line)
🏠	post-doctoral researchers/project teams in Germany; possible to include international cooperation partners
⚠	short application; anonymized selection procedure
★	additional benefits: funding for communication of science and research

"Originality" is a crucial criterion of quality in the humanities and cultural studies. The specific nature of the themes belonging to the humanities and cultural sciences, though, makes it extremely difficult to say precisely what constitutes "original", "new", or "innovative". It may encompass anything that contradicts the established knowledge or generally accepted intuition; or just as well the development of a new approach to research, a new hypothesis, a new theory, observation of a new phenomenon, and discovery of knowledge gaps.

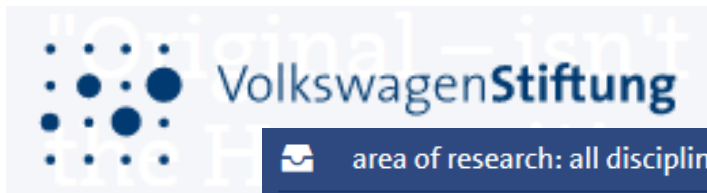
With this new funding offer the Foundation wishes to encourage scholars in the humanities and cultural studies to embark on projects of groundbreaking originality. Funding will be made

available for initial exploration of the research idea.

With this funding initiative the Foundation is also treading new paths concerning the application and selection procedure – in at least three different ways: In order to expedite processing and enable decisions in between 4 to 5 months, the selection procedure has been trimmed and made as straightforward as possible. There is also an innovative review process, combining pre-selection on the part of the Volkswagen Foundation, and final selection by a panel of experts. Anonymized review ensures that the originality of the idea remains the sole selection criterion.

For a more detailed information, please click [here](#).

Between Europe and the Orient – A Focus on Research and Higher Education in/on Central Asia and the Caucasus



Deadline: June 1, 2017

- ✉ area of research: all disciplines
- 📍 type of funding: events/meetings (science/research); structural PhD programs; reintegration measures
- 🚩 researchers in Central Asia and Caucasus with cooperation partners in Germany
- ★ additional benefits: training programs, funding for communication of science and research

Thematic Calls

Within the frame of two thematically defined calls for proposals in the areas of environmental and social sciences, the Volkswagen Foundation has been supporting 13 cooperative research projects since 2014 and 2015, respectively. These involve significant participation of scholars and scientists from the target region and are accompanied by training and advancement of young researchers. Further calls for joint research proposals in these or other thematic areas are not envisaged.

Structurally-Oriented Measures

In addition to the thematic calls, the Volkswagen Foundation will in future also be offering support for a number of measures. These can be applied for at any time. They include training measures for young researchers from the region, projects on the integration of researchers from Central Asia and the Caucasus who are returning from abroad, targeted aid

for the creation and expansion of the academic infrastructure in the region, as well as workshops, symposia and summer schools.

Details of conditions and the application procedure can be found under [Information for Applicants 72 \(pdf\)](#). Applications must be filed electronically via the electronic application system.

Call for Proposals for Structured Doctoral Programs

The Foundation intends to support the establishment and implementation of structured doctoral programs (graduate schools) at selected universities in Central Asia and South Caucasus, in coordination with national funding organizations in the region. To facilitate, in cooperation with German universities, the development of such sustainable institutional structures for the training and qualification of young scholars and scientists in the region funds may be requested within this call to

(Continued on page 34)

(Continued from page 33)

finance salaries/scholarships for up to 12 PhD students and 2 postdocs, stays of the PhD students and visits of their supervisors at the respective partner group, as well as consumables and equipment if necessary. Details of the

conditions and the application procedure can be found under [Information for Applicants 72d \(pdf\)](#). Applications are to be submitted electronically via the electronic application system. **Deadline for applications is June 1, 2017.**

For more information, please [see the official website.](#)

Life? – A Fresh Scientific Approach to the Basic Principles of Life



Deadline: October 17, 2017

- area of research: natural and life sciences
- type of funding: research projects
- up to 1.5 million Euro
- up to 5 years
- researchers at all stages of their postdoctoral career; single or integrative joint projects (up to 5 partners), opt. to include international partners
- outstanding projects at the interface between natural and life sciences investigating the principles of life
- additional benefits: funding for communication of science and research; additional funding for refugee scholars and scientists; training programs

The Foundation's initiative addresses not only individuals at all stages of their postdoctoral career, but also integrative joint projects with (international) cooperation partners working at the interface between natural and life sciences whose projects hold promise of producing novel findings on principles of life.

In view of the ambitious nature of this kind of research the Volkswagen Foundation is able to provide long-term

funding for up to five years. Up to 10 projects are envisaged for funding per call, each in an amount of a maximum of 1.5 million euros.

Further details on the conditions and the application procedure can be found under [Information for Applicants \(pdf\)](#). Proposals must be submitted electronically in English via the electronic application system.

More information can be viewed [here.](#)

Three-year post-doc position in Germany

Leuphana University Lüneburg (foundation under public law), Faculty of Sustainability, invites applications for the position of a

Post-doctoral Research Associate

(Wissenschaftliche/r Mitarbeiter/in),
salary group E 13 TV-L, full time

Global Environmental Policy and Governance Analysis

starting 1 June 2017 or later for a duration of 36 months. The position is appointed in the framework of a three-year research project funded by the German Research Foundation (DFG):

Governance of Environmental Sustainability in Telecoupled Systems

of Global Inter-Regional Connectedness (GOVERNECT)

The project will be jointly situated at Leuphana University Lüneburg, Chair of Governance and Sustainability (Prof. Dr. Jens Newig, Dr. Edward Challies) and at the University of Osnabrück, Chair of European Integration (Prof. Dr. Andrea Lenschow), involving two post-doc positions in total.

GOVERNECT will study the governance of global interconnections between distant regions ('telecoupling').

Drawing on the literatures on global environmental governance, social-ecological systems, global production networks, multilevel and polycentric governance, and policy coherence and integration, we ask: How can unsustainable telecoupled systems be effectively governed towards sustainability? How do states, civic and private sector actors approach this challenge? Empirically, the project will conduct one in-depth case study (soy commodity chain between Brazil and Germany, post-doc situated in Osnabrück), and around 15 comparative case studies (post-doc situated in Lüneburg). GOVERNECT will develop explorative-strategic governance scenarios, engaging with relevant stakeholders and speculating on the plausibility, the likely effects, and the interactions of potential governance options. GOVERNECT is the first project to systematically address the governance and policy challenges of global telecoupling.

A project summary is available at <http://www.sustainability-governance.net/governect>

USEFUL INFORMATION

Amended Research Council Bylaws, Membership and new Form of delegation of authority of the member of the Academic Council/Research Council

Research Services Office has reviewed the previous version of the Research Council bylaws that was approved by Managing Council on May 28, 2013. New version of Research Council Bylaws, Membership composition and new Form of delegation of authority of the member of the Academic Council/Research Council were approved by Managing Council on February 21, 2017. The following set of documents was declared void:

1. Policies and procedures of the Research Council of "Nazarbayev University" №12, approved by the decision of Rector of "Nazarbayev University" on November 25, 2011;
2. Bylaws of the Research Council of the autonomous organization of education "Nazarbayev University" № 28.05.13, approved by the decision of the Managing Council of the autonomous organization of education "Nazarbayev

University" on May 28, 2013.

3. Membership of the Research Council of the autonomous organization of education "Nazarbayev University", approved by the decision of the Managing Council dated 26 December 2014 № 26.12.14.

Please find the abovementioned documents on the following links:

1. [Bylaws of the Research Council of the autonomous organization of education "Nazarbayev University";](#)
2. [A form of delegation of authority of the member of Academic Council / Research Council;](#)
3. [Membership of the Research Council of the autonomous organization of education "Nazarbayev University".](#)

Nazarbayev University's New Publications

Google Alerts is one of Google's tools to keep track of trends, interesting topics, or anything really new that appears on the web. We would like to introduce you the recent alerts (*since January 1, 2017 – April 17, 2017*) on the published papers by our colleagues so you can keep track on NU research successes.

To view the recently published papers, please [click here](#).



Promoting interdisciplinary research: PURE research management solution

Nazarbayev University has purchased the Pure research management solution to promote interdisciplinary research, facilitate and ease any research-related procedures: starting from providing information on any research works (articles, books, book chapters, working papers, conference proceedings, etc.) to internal grant and project management.

To help us ease the research management procedures for you, please fill out all research-related data in your profiles.

The NU faculty and researchers should have received their details to log in to the Pure system from the **"purehosted"**

sender. If you have problems logging in to the system, please email **Aiman Temirova** at aiman.temirova@nu.edu.kz.

Aiman Temirova has already visited all Schools and NLA. If your research unit would like to get a training on how to use Pure, please email to Aiman Temirova.

The step-by-step guideline on how to enter data and update your profiles can be downloaded by following **this link**.

We appreciate your cooperation!

*Kind Regards,
Research Services Office*

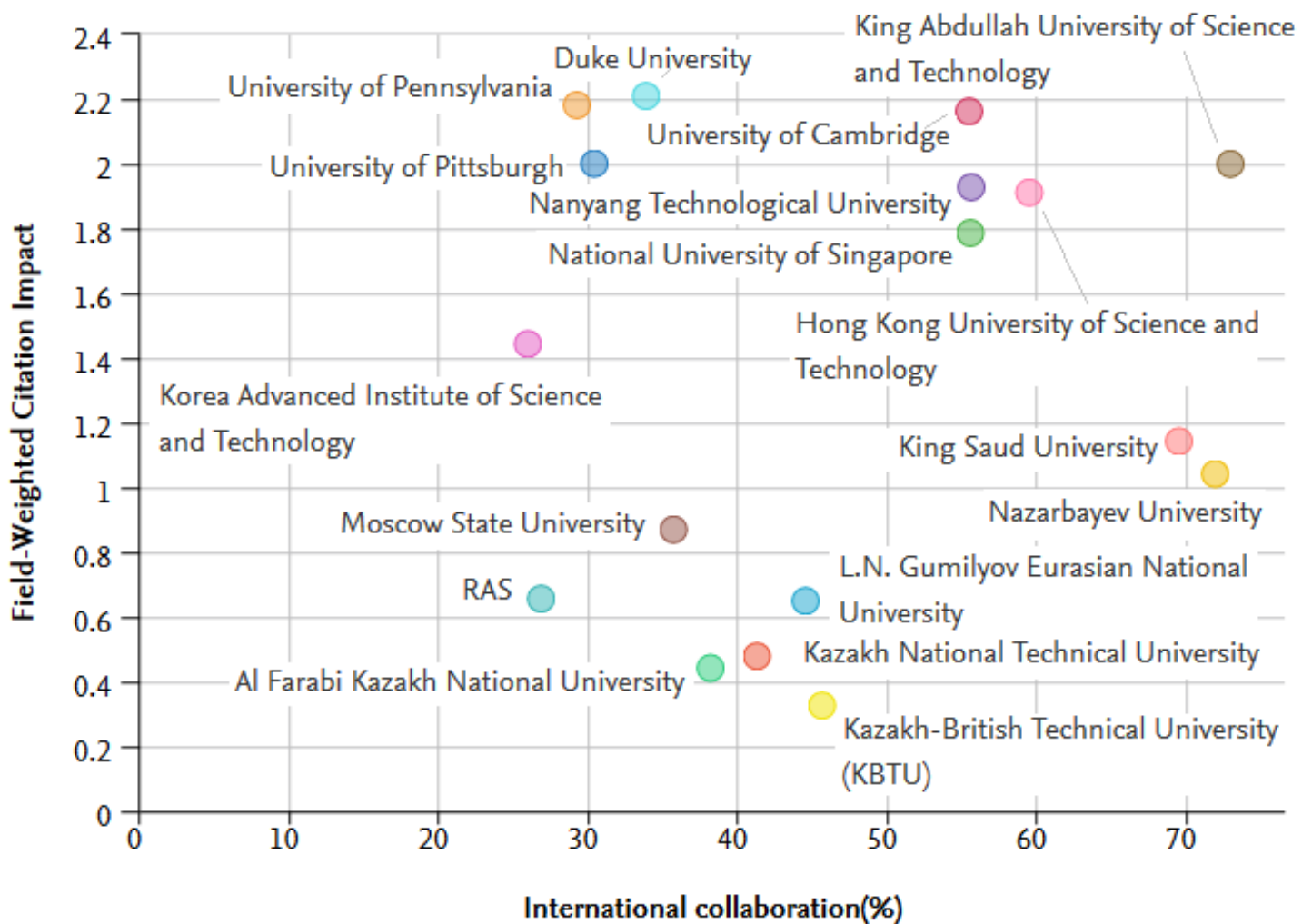
Research Performance Evaluation using SciVal

In this month's issue, we are delighted to share an updated presentation on the research performance of Nazarbayev University using the SciVal research solution.

Since its inception in 2011, Nazarbayev University faculty and researchers have released **1090** peer-reviewed publications indexed by Scopus, and have been cited **2,867** times (source: Scopus, April 12, 2017). The approximate number of citations per the peer-reviewed publication is 2.63.

In order to provide you with more comprehensive information on the NU's research performance, we prepared a [presentation using SciVal research evaluation](#) platform that is based on Scopus.

If you have any questions regarding the provided information, please contact **Aiman Temirova** (email address: aiman.temirova@nu.edu.kz), Manager for Research Monitoring and Assessment, Research Services Office.



Benchmarking the research performance of Nazarbayev University, national and international institutions using Field-Weighted Citation Index and International Collaboration share of peer-reviewed publications from 2011 to 12 April 2017.

How to write a good research grant proposal. Tips from the Economic and Social Research Council, UK (ESRC)

The content and quality of the proposal you submit to us will determine whether or not you are successful. Therefore it is vital that you have a full understanding of what is required, as well as knowing the various stages of the application process, so that you maximise your chances of gaining a grant.

Our 'how to' guide

There are three parts to our guide:

[Writing a good proposal, part 1](#) (link)

- Allow yourself time
- Study your funding source
- Read the guidance documents
- Discuss your proposal
- Justify your costings

[Writing a good proposal, part 2](#) (link)

- Content and presentation

[Writing a good proposal, part 3](#) (link)

- Knowledge exchange and impact
- Check the details
- What happens next? If you are successful

All funding agencies will have their own criteria for deciding on allocation of their resources. It is worth while taking time to familiarize yourself with these and ensuring that your proposal clearly addresses your targeted source of support.

We are (ESRC) an agency funded by the government and its mission is "to promote and support by any means, high quality, basic, strategic and applied research and related postgraduate training in the social sciences; to advance knowledge and provide trained social scientists which meets the needs of users and beneficiaries, thereby contributing to the economic competitiveness of the UK, the effectiveness of public services and policy, and the quality of life; and, to provide advice on, and disseminate knowledge and promote public understanding of, the social sciences".

All successful ESRC research grants demonstrate four characteristics. They must:

- promise excellent research
- be of value to potential users outside or within the research community
- convince of the ability to deliver research
- demonstrate value for money (not necessarily the same as cheapness).

Further information relating to how proposals are peer reviewed and the standards against which you will be judged are provided within ESRC's [Peer Reviewer Training tool](#) - this is an online course which takes around an hour to complete, although it is possible to dip in and out as well.

To view the YouTube video and more information on the tips from the ESRC UK, please see [their website](#).

Writing a Book Proposal

by Lori Flores, Assistant Professor of History at Stony Brook University

Graduate students and junior colleagues often ask me for advice on how to navigate the transition from completing a dissertation to revising it into a book. Part of that process is learning how to write book proposals for academic publishers. Based on my own experiences, I've come up with seven tips that might help demystify proposal writing.

Disclaimer: I'm a historian, but I think these suggestions translate across disciplinary boundaries.

View your work with fresh eyes. If you've just finished your dissertation, congratulations! Now set it aside for a good while. Trying to tackle dissertation-to-book revisions too soon will prevent you from seeing graduate school-inspired jargon and from spotting what content needs to be tweaked, cut, or added. Many times, you need a more distant perspective on your work in order to articulate to editors how you plan to produce a book — an entirely different beast from a dissertation in terms of framing, style, and structure. While you're taking that break, circulate your work to valued colleagues for their suggestions, and tackle other passion projects or interesting new readings in your field for some inspiration. If you've already taken a break and are ready to come back to your project, start by asking yourself some tough questions: Are you putting forth a strong argument that will reach a broader range of readers than it did in its previous iterations? Is your authorial voice



Image: Mariano Rivera (2007) / Flickr user Staxringold

authoritative, accessible, and uniquely you? Are there models (other books you admire) that can help you think about narrative craft and flow? This is the time to look at your intellectual contribution with a wider, more ambitious lens.

Don't wait too long to approach publishers. The entire work does not need to be revised before you send in a proposal. I have talked to many people who have been reluctant to begin writing their book proposals because they think the entire manuscript needs to be revised, polished, and ready for scrutiny. It doesn't. In fact, academic-press editors rarely ask to see more than one or two sample chapters in addition to your proposal.

So at this point, polish your introduction and strongest chapters. Rest assured that the full manuscript will not be due in the hands of readers for a while, with the author and press mutually agreeing upon that submission date well in advance.

(Continued on page 41)

Tailor your proposal to the publisher. Check the websites of scholarly presses for their submission guidelines. Pay attention to what each press wants, and tailor accordingly. A book proposal is usually no longer than 10 pages. It should include a brief cover letter addressed to the appropriate editor, followed by a clear, concise description of the project and a rationale for its publication (meaning — its scholarly significance, its appeal to both specialists and generalists, and any qualities that distinguish the book from its competition).

Your proposal should answer these questions:

- Why should this press care about adding your book to its catalog?
- What important intellectual conversations are you engaging and influencing?
- What are the various audiences who would be interested in — and buy — this book?
- Does your work possess any crossover appeal or timeliness?

In addition, you should mention whether you have successfully published excerpts from the work already and include estimates of the word/illustration count and the date when you expect to send in the full manuscript.

Pitch well. Book exhibits at scholarly conferences are the ideal place to pitch your manuscript to a potential editor. In advance of the meeting (it doesn't need to be the "big" conference of your field, either — small conferences might actually get you more face time with a press), email the appropriate acquisitions editor to set up a time to

talk. Provide a brief description of your book, along with your CV, and end by asking if the editor would like to receive your proposal before, during, or after your meeting (some editors want all the materials ahead of time, and some don't). In any case, never send lengthy, unsolicited manuscripts to editors. But feel free to pitch to as many, and meet with as many, presses as you want at this stage. If you're lucky enough to be approached by a press first, take advantage of its interest and follow up in a timely manner.

Ask editors the right questions. Think about what's important to you in a publisher. Ideally, you want to work with a press that has a solid reputation and has published other books you like and respect. Sure, prestige is important. But give additional thought to the way a press will treat you over the course of your relationship. Here's what to ask a publisher:

- Which editor/s would I be working with, and how closely?
- How long does the overall process take (from proposal to editorial-board response to readers' reports, and from copyediting to proofs to publication)?
- Can I join a particular book series I admire in that press?
- How many books does the press produce in the span of one season?

Getting a better idea of a publisher's timeline and priorities will help you set your own schedule (if you have a tenure calendar or another kind of calendar for your life to keep in mind). Ask colleagues what their experiences have been with different presses, particularly if they have published very recently.

Be patient yet vigilant. Some editors

(Continued on page 42)

might end up ignoring your work, while others will be more attentive. Once you have prioritized your list of interested publishers (if you're lucky enough to have more than one), proceed to working with your first choice and submit whatever work the editor wants to send out for readers' reports and the press's editorial board. If there are lags in communication, follow up respectfully about the status of your submission. During this time, don't burn your bridges with any other presses until you are officially offered a book contract to sign.

Approach that contract wisely.

Getting offered a book contract is flattering and exciting, but be sure to ask some more important questions.

- Is this an advance contract (meaning the press wants to work with the manuscript, but is not fully committing to publishing it yet), or a full contract?
- Are you responsible for coming up with any subvention funds (meaning, extra money from your university or outside grantors to help pay for your book's publication)?
- If you are working with oral histories or human subjects, does the press have its own proprietary consent forms you will be required to complete?
- How affordable will the book be (illustrations, copyright permissions, and length can hike up the price)?
- Can the press offer you a simultaneous run in hardcover and paperback?
- What are the author's royalties, if any, for hardcover, paperback, and ebook editions?
- How many free author's copies will you receive?

Try to negotiate what is important to you before signing any contract, while realizing that you may have to give in to certain terms.

Book proposals can be revelatory in themselves. Writing mine helped me see more clearly what I planned to revise, reframe, and refine in my work, and that was extremely useful. Publishing a book is a long and bumpy road, but tackling the proposal is an important first step that can help clear some mental obstacles out of your path. *(Editor's note: A version of this essay first appeared on the blog, [Borderlands History](#).)*

See more at: www.chroniclevitae.com

CONGRATULATIONS!

SST's faculty member publishes 5 articles at top Physics and Engineering journals in the last month

Five works of Dr. Costas Valagiannopoulos under sole NU affiliation have been published at top Physics and Engineering journals. In particular, links to the corresponding works can be found below.

- [J79] A. D. Boardman, A. Alberucci, G. Assanto, V. Grimalsky, B. Kibler, J. McNiff, I. Nefedov, Y. Rapoport, **C. A. Valagiannopoulos**, Waves in hyperbolic and double negative metamaterials including rogues and solitons, DOI: doi.org/0.1088/1361-6528/aa6792, Nanotechnology, 2017.
- [J78] S. Savoia, **C. A. Valagiannopoulos**, F. Monticone, G. Castaldi, V. Galdi, and A. Alù, Magnified imaging based on non-Hermitian nonlocal cylindrical metasurfaces, DOI: doi.org/10.1103/PhysRevB.95.115114, Physical Review B, 2017.
- [J77] N. Tsitsas and **C. A. Valagiannopoulos**, Anomalous reflection of visible light by all-dielectric gradient metasurfaces,

Journal of the Optical Society of America B, 2017, DOI: doi.org/10.1364/JOSAB.34.0000D1

- [J76] **C. A. Valagiannopoulos**, C. Simovski and S. Tretyakov, Breaking the Black-Body Limit with Resonant Surfaces, DOI: doi.org/10.1051/epjam/2017002, EPJ Applied Metamaterials, 2017.
- [J75] **C. A. Valagiannopoulos**, N. Tsitsas, and A. Lakhtakia, Giant enhancement of the controllable in-plane anisotropy of biased isotropic noncentrosymmetric materials with epsilon-negative multilayers, Journal of Applied Physics, DOI: doi.org/10.1063/1.4975482, 2017.

We would like to congratulate Dr. Costas Valagiannopoulos, Assistant Professor at SST Physics Department, on a great achievement and wish him all the best in his research endeavors!

SHSS professor receives a Swiss National Science Foundation grant



Prof. Philippe Forêt (HPRS, SHSS) has been appointed Carson Fellow at the Ludwig-Maximilians University of Munich, where he will spend two semesters on research leave.

The project on the governance of green energy for which Philippe has received a Social Policy grant has been selected for an award by the Swiss National Science Foundation. The SNF/FNS grant will cover three years of funding (stipends to two doctoral students, conferences, workshops, fieldwork, open-access publications, etc.). It will be managed by the Graduate Institute of Geneva, where its PI, Prof. Marc Hufty, is based.

We would like to congratulate Prof. Forêt and wish him all the best with his SNF/FNS project!

SST faculty member becomes the winner of the FameLab competition

We would like to congratulate Artur Saudabayev, faculty member of the School of Science and Technology at Nazarbayev University for winning the FameLab scientific communication competition.

During the competition, Artur presented the Blockchain technology, a novel distributed database architecture, which is predicted to cause major transformations in our life in the near future.

As the national winner, Artur is given the chance to represent Kazakhstan at The Times Cheltenham Science Festival in June



2017, and compete against over 25 other contestants from around the world.

NU students receive the Yessenov Foundation research grants

4 students from the School of Sciences and Technology and 2 students from the School of Engineering won grants to do 2017 summer research internship abroad.

Congratulations to Kazbek Sultanov (Robotics and Mechatronics), Timur Beremkulov (Physics), Danat Issa

(Physics) and Bralin Amir (Physics) of the School of Science and Technology, and Darya Mikhailenko (Electrical and Electronic Engineering) and Ruslan Khamedov (Mechanical Engineering) of the School of Engineering.

Well done! We wish you great achievements in your future endeavors!

ANNOUNCEMENTS

International seminar on "Towards Smart Sustainable Cities – Integrated Approaches", Senate Hall, Nazarbayev University / 15-16 of June 2017

Dear colleagues,

It is my pleasure to announce and invite you all to attend the international seminar on "Towards Smart Cities - Integrated Approaches", to be held this coming 15-16 of June at Senate Hall, Nazarbayev University.

This international seminar is co-organized by Nazarbayev University, Swissnex (Swiss Pavillion, EXPO-2017), Swissuniversities, NU-IET Student Chapter and NU-IMechE Student Chapter, within the context of EXPO-2017.

We will be hosting this important event in which more than 15 Swiss senior researchers and international guests, together with Kazakhstan-based senior researchers will present their ongoing investigation and future plans in the following session-tracks:

. Smart Governance, Policy-Making and Sustainable Development

. Smart Energy Systems (divided into: Decentral Energy Systems & Smart Grids, Renewable Solar and Wind Energy Systems in Smart Cities, Energy Storage and other Optimization)

- Smart Buildings
- Smart Transportation

- Smart Environment (special sub-tracks: Smart Water; Waste Management and Others)
- Smart Funding-Cooperation (to be held at Swiss Pavillion, EXPO-2017)

The last session will be held at the Swiss Pavillion and will be devoted to: (a) discussion about current sources of funding for join Swiss-Kazakhstan projects; (b) Visiting Research opportunities for faculty and graduate students; (c) networking between Swiss researchers and Kazakhstan-based peers.

[Click here](#) to view the current draft of the program.

Mark your calendars and please contact me if you have a presentation (20 min) you want to give within any of the above mentioned tracks. Space for presentations is limited, but some arrangements may still be done with enough anticipation.

The extended Organizing Committee of the seminar:

- **Honorary Chair:** Mr. Shigeo Katsu (President, Nazarbayev University)
- **Honorary Chair:** Prof. Ilesanmi Adesida (Provost, Nazarbayev

(Continued on page 47)

University)

- **Honorary Chair:** Mr. Manuel Salchli (Head of Major International Events, Commissioner Swiss Pavillion, EXPO-2017)
- **General Chair:** Prof. Luis R. Rojas-Solórzano (School of Engineering, Nazarbayev University)
- **General Co-Chair:** Dr. Philippe Roesle (Project Manager, Swissnex Mobile, Swiss Federal Department of Foreign Affairs)
- **General Co-Chair:** Prof. Vicente Carabias-Hütter (Institute of Sustainable Development, Zurich University of Applied Sciences -ZHAW-)
- **Program Chair:** Dr. Almagul Mentbayeva (National Laboratory Astana, Nazarbayev University)
- **Program Co-Chair:** Mr. Farkhat Muratov, M.Sc. (National Laboratory

Astana, Nazarbayev University)

- **Public Relations and Internal Liaison Chair:** Mr. Anuar Amanzholov, M.Sc. (Director, EXPO Dept., NURIS, Nazarbayev University)
- **Organizing Committee Member:** Prof. Philippe Foret (School of Humanities and Social Sciences, Nazarbayev University)
- **Organizing Committee Member:** Mr. Abilkaiyr Mukhambetiyar (President, NU-IMEchE Student Chapter)
- **Organizing Committee Member:** Ms. Aidana Daulbayeva (President, NU-IET On Campus Student Chapter)

Luis Rojas-Solórzano

(General Chairman of the Organizing Committee)

SST organizes a Mathematics Summer School, June 5 – 10, 2017

The Mathematics Department, in collaboration with other Departments of SST, organize a one-week **Summer School on “Mathematical Methods in Science and Technology”** at Nazarbayev University, School of Science and Technology, 5 – 10 June, 2017. Introductory lectures will be given on fundamental applications of Mathematics to 20 – 25 selected 3rd and 4th year undergraduates as well as

graduate students of NU and other Universities in Astana, Almaty and elsewhere. For more information on the Summer School and the process of submitting applications, please see [link 1](#) and [link 2](#).

*IET Cyber-Physical Systems:
Theory & Applications*

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IEEE Transactions on Emerging Topics in Computational Intelligence

Guest editors: **Alex James**, Nazarbayev University; **Khaled Salama**, KAUST; **Hai Li**, Duke University; **Biolek Dalibor**, Univerzita Obrany, Brno; **Giacomo Indiveri**, ETH, Zurich; **Leon Chua**, University of California, Berkeley

Submission Deadline: October 30, 2017

<https://mc.manuscriptcentral.com/tetci-ieee>

SPECIAL ISSUE ON: Smart Vision Circuits and Systems for the Internet-of-Things

IET Cyber-Physical Systems: Theory & Applications

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For more information, please [click on the link.](#)

NLA & ISTC Joint Workshop in Antibiotic Resistant Strains / June 21-22, 2017

National Laboratory Astana, Nazarbayev University and the International Science and Technology Center (ISTC) conduct preparatory works for the organization of *Antibiotic Resistant Strains* workshop that will be held on June 21 – 22, 2017 in Astana, Kazakhstan.



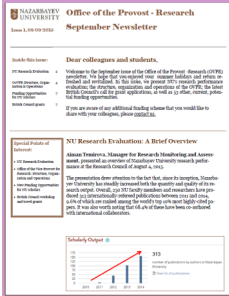
More than 20 scientists from different countries (USA, Italy, Sweden, Japan, Israel, Armenia, Kyrgyzstan, Georgia and Kazakhstan) will come together to discuss several aspects of antibiotic resistance (ABR): on molecular methods of studying antibiotic resistance strains, on the problem of antibiotic resistance in pediatrics, alternative ways of antibiotic use, and influence of antibiotic resistance to society and environment.

IV Asian Congress on Radiation Research / August 16-18, 2017

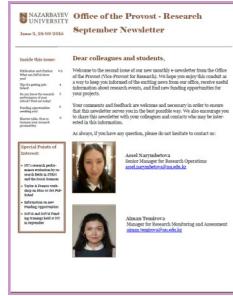
National Laboratory Astana is pleased to announce the launch of the IV Asian Congress on Radiation Research, which will be held under the EXPO 2017 program in Astana on August 16-18, 2017. The purpose of the Congress is to discuss the most important achievements and trends in the peaceful use of the atom, radiation safety of personnel of radiation-hazardous enterprises and modern methods of reducing radiation risk during work with sources of ionizing radiation. The lecturers and speakers of the Congress are leading scientists and radiobiologists from Kazakhstan and foreign states. All information about the Congress is available at www.acrr2017.kz.



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