

RESEARCH

Research Services Office Newsletter

Issue 8, March 1, 2016



NEWSLETTER HIGHLIGHTS

Dear Colleagues and Students,

The onset of spring always brings very bright and positive emotions. We would like to open our March newsletter with congratulations to the better half of humanity with International Women's Day, 8th March.

Dear women of NU!

Please accept our warm, sincere and heartfelt congratulations on the International Women's Day!

Celebrating this beautiful spring holiday, we pay tribute and sincere respect and gratitude to our women for wisdom and patience, kindness and warmth, the ability to combine professionalism and an active social life with tenderness and sensitive attitude towards the world.

You raise and educate children, create coziness and comfort, surround your families with care and attention, and give joy to the surrounding world while working hard for the prosperity of our University and the country. We are proud of your talents and successes; admire the unique femininity and genuine charm, energy and hard work.

The Research team sincerely wishes you good health, happiness, prosperity, professional success and a nice spring mood!

Please accept our March issue as a present of valuable research and professional information.

In this newsletter you can find an interview with Byron Crape, Assistant Professor of Practice from NU School of Medicine, fresh news about the research life of University, and plenty of useful information on funding opportunities and coming research events.

Don't forget to take a look at our Publications and Congratulations columns to congratulate your colleagues on recent achievements in publishing and research.

We hope you enjoy reading this newsletter, and of course would be delighted to hear from you if you would like to know more.

***Sincerely,
Research Team***

For any further information please contact:
Assel Narymbetova (assel.narymbetova@nu.edu.kz)
Aiman Temirova (aiman.temirova@nu.edu.kz)

CONTENTS

SPOTLIGHT

Talk with Dr. Byron Crape, School of Medicine.....	4
--	---

RESEARCH NEWS

500 days to the EXPO-2017: Issues of energy security and renewable energy.....	8
New research lab in the School of Engineering.....	9
New research equipment arrivals in Chemical Engineering lab #3.143.....	11
Launch of the Environmental Science & Technology Group's webpage.....	12
Lab tour of the Chemical Engineering and TechnoPark laboratories.....	12

GRANTS & COMPETITIONS

Interdisciplinary research: Revised Synergia funding scheme.....	13
Innovation UK's Energy game changer (forthcoming call for proposals).....	14
US Embassy program small grants.....	15
BG's Master's degree scholarship for NU staff.....	17
Go green in the city 2016 (competition for students).....	18
Competition for the Best NU Green Campus Concept.....	19
New funding opportunities.....	20

USEFUL INFORMATION

New publications at Nazarbayev University.....	20
Development program of the Research University of the AOE "Nazarbayev University" for 2016-2020.....	21
International Science & Technology Center.....	22
Nazarbayev University's research performance evaluation using SciVal.....	23

CONGRATULATIONS!

To the British Council grant recipients.....	24
To Nurbek Tazhimbetov, SST student, on being admitted to a PhD at Stanford University.....	24

UPCOMING EVENTS

Discovery Days: ThermoFischer Scientific.....	25
Workshop: <i>Resilient Structure and Infrastructure</i>	26
Workshop: <i>Water Management and Environmental Impact Assessment in the Oil and Gas Industry</i>	27
Field trip to Solid waste treatment plant.....	28
21st International symposium on Heavy Ion Fusion (HIF2016).....	29
Newsletter's previous issues.....	30
Contact us.....	inside back cover

SPOTLIGHT

Talk with Dr. Byron Crape, School of Medicine

Nazarbayev University School of Medicine (NUSOM) is a newly formed School of NU that has achieved impressive results in one year of its existence. Here are the impressive facts about it:

- *NUSOM was established with the mentoring of the University Of Pittsburgh School Of Medicine, one of the major academic medical centers in the U.S., and the first program it offered was a 'Doctor of Medicine' (MD). It is the only medical school in the country that is based on a U.S. M.D. curriculum that is taught in English, designed to hone students' skills in both critical thinking and caring attitudes;*
- *NUSOM hired local and international faculty who have taught, practiced medicine, and conducted research in some of the finest medical schools around the globe; Today there are about 30 faculty members at NUSOM from all around the world;*
- *NUSOM successfully held its Opening Ceremony for the start of classes for the MD program in August 2015. The first cohort of MD students totaled 20 students, a group of very intelligent and promising students who went through rigorous selection;*
- *NUSOM is launching two new programs this year, including the Master of Public Health and the Professional Development Program for Registered Nurses. The MPH classes will commence in August 2016 and the application process for both programs is already open.*



- *NUSOM is developing an integrated research program in biomedicine and health, in collaboration with our international strategic partner, research centers. NUSOM faculty members are extensively involved in various research projects and it holds monthly research seminars which are well attended by not only MD students but other students and faculty as well.*

Today, we have a wonderful opportunity to talk to one of the members of the School, Prof. Byron Crape, about two of the many newly launched projects of the School. One of them is the investigation of the Kalachi sleeping syndrome outbreak, which has started at the end of the previous year. Another one is the launching of the Master of Public Health Program this coming fall.

(Continued on page 5)

(Continued from page 4)

Research team will receive first-hand information from the source for our readers.

Research Team: Thank you for agreeing to have an interview with us today.

Byron Crape: I'm happy to share information about NUSOM projects with you and readers.

RT: Can you please tell us what is so special in the Kalachi study case?

BC: Kalachi and the connected village of Krasnogorsk are villages of the Esil district of the Akmola region of Kazakhstan with a combined population of about 700 people. Since March 2013 the villagers began to turn to doctors with complaints of falling asleep for days, drowsiness, memory loss and hallucinations. Since the beginning of the outbreak, an estimated 70-80 people have been afflicted. Many victims have fallen asleep several times.

Numerous health ministry commissions, scientists from the Research Institute for Radiation Medicine and Ecology, Karaganda Research Centre of Labor Hygiene and Occupational Diseases, other specialists conducted thousands of studies, but have not been able to establish the exact cause of the disease. Experts ruled out infection and bacterial factors, and the radiation background in the village is within normal limits.

RT: How long have you been studying and gathering information about Kalachi sleeping syndrome?

BC: The NUSOM team, which includes Azamat Seksenbayev, Dmitriy Viderman, Lyazzat Toleubekova, Marina Khvan, Zhaxybek Nurtlessov and myself, together with the help of our colleagues from the Scientific-Research Institute of Radiation Medicine and Ecology in Semey



conducted the survey of population in Kalachi in October 2015. The outbreak survey included large numbers of questions about people's work conditions, living conditions, food, water, heating and cooking, sex, ethnicity, health history, activities and other information. In addition, both geographic locations using GPS were taken of households and other locations and daily weather data was acquired during the time of the outbreak. This type of outbreak investigation is the first to be conducted in Kalachi. All other investigations conducted medical, physical, radiological, biological or chemical testing of random samples in the environment in Kalachi. NUSOM was the first to conduct a comprehensive classic outbreak investigation in Kalachi.

We are planning to finish the first bivariate and multivariate modeling analyses of the collected data in March to draw our first findings on the testing of the many hypotheses on the modes of transmission and sources of the Kalachi sleeping syndrome.

RT: Do you have any hypothesis about the root of the problem?

BC: We have a number of them: carbon monoxide poisoning /carbon dioxide asphyxiation originating from the aban-

(Continued on page 6)

(Continued from page 5)

doned Uranium mine or due to household cooking and heating, the Kleine-Levin syndrome, radiation sickness from radon gas, plant toxins in the region, fungal toxins in the household, viral infection, bacterial infection, fungal growth, and contamination of well water/food/air/river/fish.

We are planning to test each of them. I will be happy to share our findings with you after we complete the analyses.

We will be taking into account time of sleeping syndrome occurrence, geographic distributions, personal and health characteristics of people who were and weren't afflicted changes in daily rainfall and wind, and differences in behavioral exposure characteristics between those afflicted and not afflicted. Many of these factors are often not considered in outbreaks. Especially as with this outbreak, the exposure causing the syndrome is often not present, given that cases occur sporadically. Thus testing of soil, water, food and air will often miss the exposure because the exposure is not present at the time. Timing becomes essential to detect the exposure.

RT: Good luck with all you investigations! We are also very keen to discuss wonderful news from NUSOM – launching the Master of Public Health Program at NU.

BC: The Master of Public Health Program is a two-year multidisciplinary program in public health. The multidisciplinary population-based field of public health is the vibrant dynamic science and art of reducing population rates for adverse physical and mental health conditions, diseases and disabilities, reducing disease severity and complications, prolonging life and improving quality of life through research, evaluation, administration, program implementation, policy and action.

The Program will be launched this coming fall.

RT: What are the aims of the program?

BC: NUSOM aims to engage students through transformational education and training in internationally accepted best practices in population-based approaches to address health, health conditions and disease determinants for the prevention and control of disease, disability and untimely death.

We also want to provide graduates with competencies in public health sciences to produce health and biomedical research and program evaluations of the highest quality based on international standards.

Another set of skill that program will give to graduates are competencies in management and health service assessment for the administration of health institutions and the development of health policies.

RT: What professions graduates of the

(Continued on page 7)



(Continued from page 6)

program will be able to apply for after receiving the master degree?

BC: We believe that the main employers of our graduates will be organizations like Ministry of Health, Hospitals, World Health Organization, UNAIDS, World Bank, Research and Policy Centers, Corporate Health Programs, Pharmaceutical and Health Insurance Companies, Universities etc.

RT: Is this program unique in some way for Kazakhstani higher education?

BC: This program is not the first one in Kazakhstan, several other Universities have similar programs, but most focus only on public health administration. We offer a truly multi-disciplinary degree based on international standards that has the advantage of being imbedded in a

School of Medicine which offers us a rich source of educational resources and thesis opportunities. We not only focus on public health administration, but also emphasize and provide challenging courses in quantitative and qualitative research and assessment methods, health program and policy development, environmental health, community health and health education, health determinants, and many other fields. Our faculty is made of international and internationally-trained specialists in these fields, including faculty in other Schools at Nazarbayev University as well.

RT: The Research Team is wishing you success in all your beginnings and will keep an eye on all your achievements.

BC: Thank you!



RESEARCH NEWS

500 DAYS TO THE EXPO-2017: ISSUES OF ENERGY SECURITY & RENEWABLE ENERGY

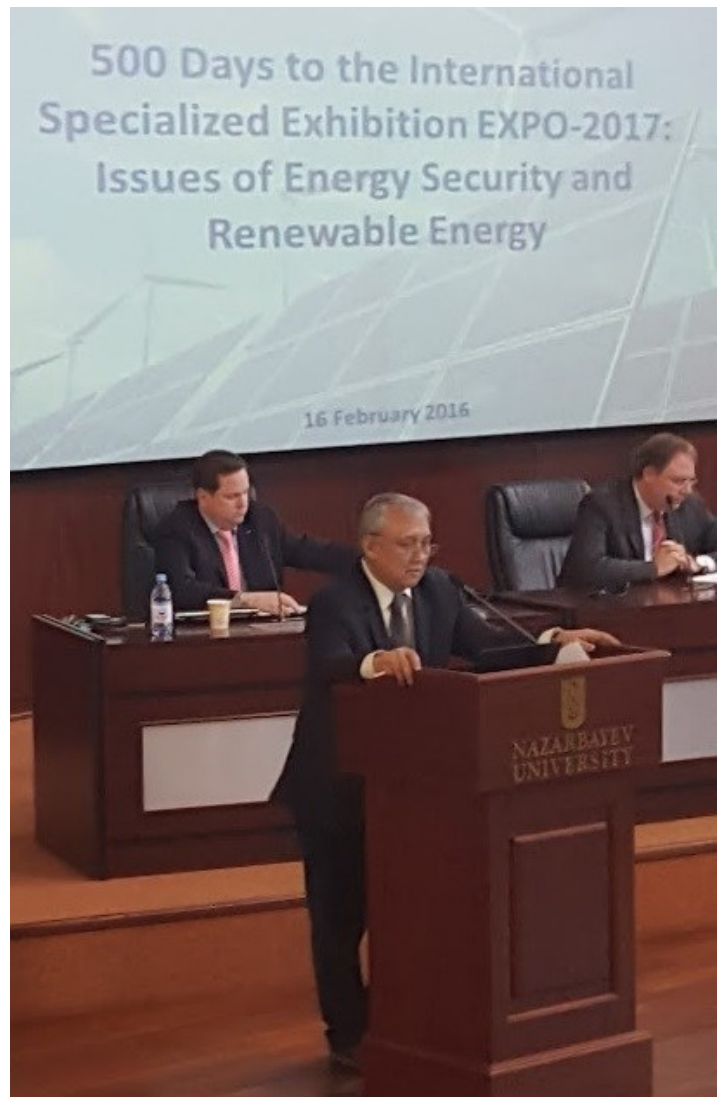
Nazarbayev University, in collaboration with the Konrad Adenauer Foundation, organized a conference “500 days to the EXPO-2017: Issues of energy security and renewable energy” on 16 February, 2016.

The conference started with opening remarks of Dr. Kanat Baigarin, Vice-President for Innovations, Nazarbayev University, and Thomas Helm, resident representative Konrad Adenauer Foundation Kazakhstan, and welcoming remarks of Dr. Aigul Solovjeva, member of the Parliament of Kazakhstan. The event then continued with panel discussions “Geostrategic Challenges of Energy Security” and “Contribution of Renewable Energy to Energy Security.”

The conference attracted many representatives from international organizations, European embassies and industrial companies.

During the meeting, it was mentioned that the EU and Kazakhstan have agreed in January 2015 to initiate a new “Enhanced Partnership and Cooperation Agreement.” The EU energy cooperation with Kazakhstan and other Central Asia and the Caspian Region countries remains largely dependent on the geopolitical situation in the region.

For Kazakhstan, its energy cooperation and “modernization partnership” with the EU becomes even more important in the near and mid-term future, as it



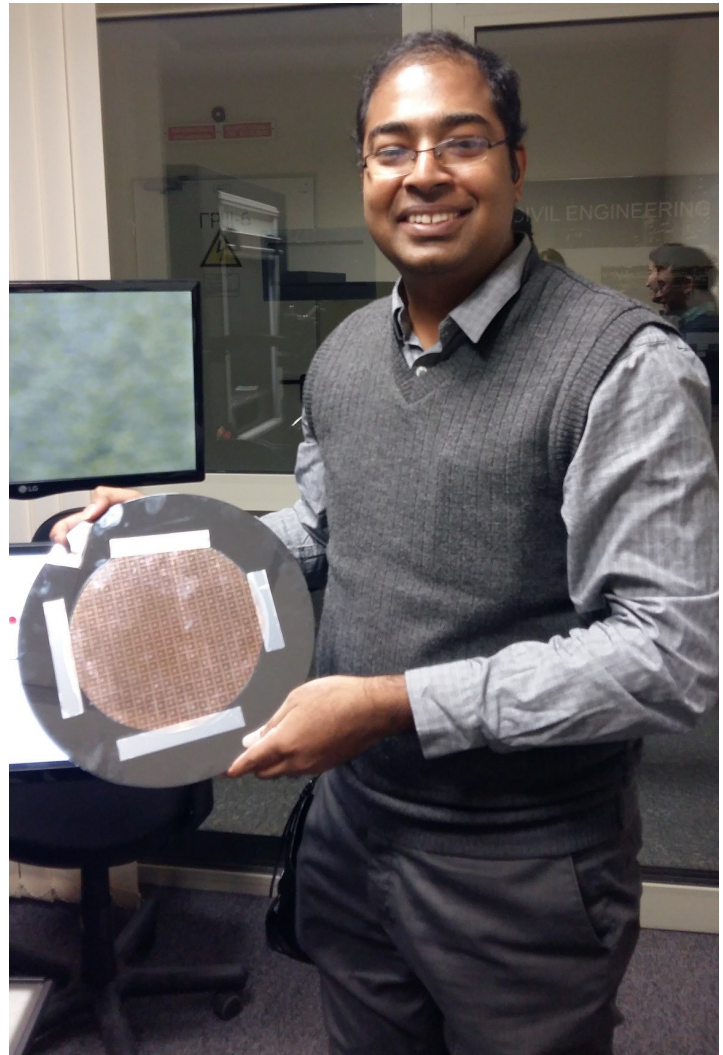
seeks to diversify its oil and gas imports, as well as its energy mix, by expanding the share of renewable energies (RES) up to 50 per cent by 2050. Kazakhstan’s “green energy concept” for the expansion of RES offers numerous opportunities for the EU to engage in Central Asia and the Caspian Region and to support Kazakhstan’s transformation and decarbonization efforts on its path to a sustainable future.

NEW RESEARCH LAB IN THE SCHOOL OF ENGINEERING

A state of the art *Semiconductor Device and Circuits Characterization* research lab is functional at Nazarbayev University

The lab was conceptualized through the discussions between **Dr. Alex James**, Associate Professor in School of Engineering, and professors from Oxford University as a result of the ORAU funded research grant "NOISESIP" that intends to develop a new integrated image sensor and required Nazarbayev University to develop facilities to conduct measurements on integrated circuits.

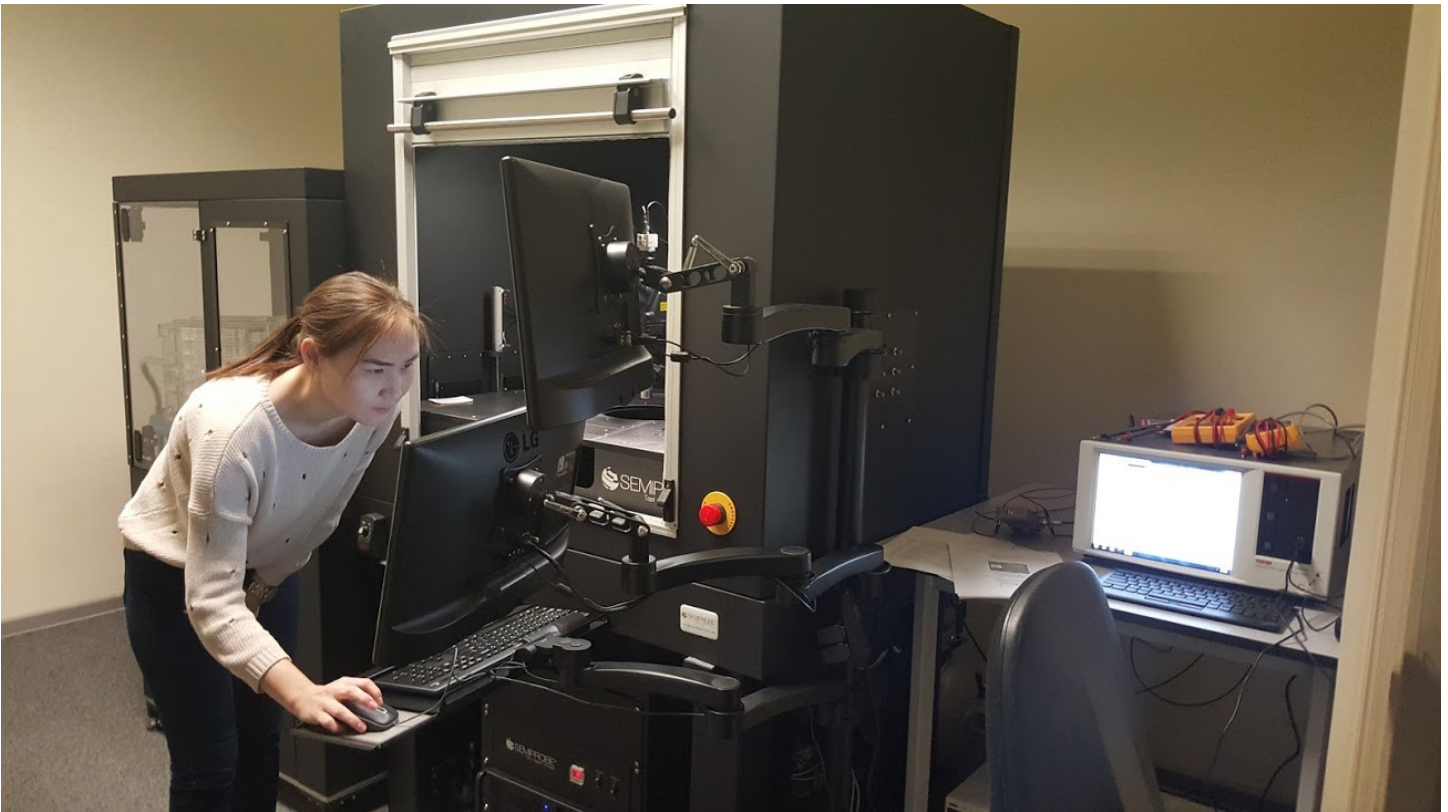
The semiconductor device and circuits characterization lab is established to enhance the capability of circuit design and layout tools to the post-Silicon on-chip validation activity for research and learning very large scale integrated circuits (VLSI). The lab is an integral part of the School of Engineering, is the first research-grade lab in Electrical & Electronics Engineering, and supported by the research activities in Bioinspired Microelectronics Systems Group. The lab was developed in consultation with professors from Oxford University, who are also the first research collaborators to this lab. The solutions offered in the lab includes an industry standard wafer probing solution using probe station for modern Silicon integrated devices and circuits, characterization for CMOS and RF circuits using parametric analyzers, wire bonding of the die and provides a complete set of software tools (mixed signal EDA tools) for application specific integrated circuits (ASIC) design and de-



velopment.

Based on the complexity of the devices and circuits, the software and hardware required for design and validation require extensive expertise in VLSI test and verification, circuit design, and validation. Setting up the right mixture of measurement equipment is a tricky task and is often driven by the nature of IC applications. The device analysis and measurement robustness can get affected due to changes in temperature, process and device variations making the test and measurement a chal-

(Continued on page 10)



(Continued from page 9)

lenging area of study.

The lab is open for **use by research scientists, Ph.D. students, M.Sc. or B.Eng., students specialized in Electronic Circuits and Chip design.** The lab has some existing collaborations with industry and leading research universities for the manufacturing of the integrated circuits that the researchers would be able to make use for developing prototypes. In the upcoming months, facilities will be utilized to build prototypes and systems using nonlinear devices such as memristors, CMOS vision sensors, and memory arrays, with an aim to build on-chip neuromorphic circuits and systems.

For further information, you can contact the coordinator of the lab, Prof Alex James, Associate Professor in Electronics Engineering, School of Engineering, Nazarbayev University.



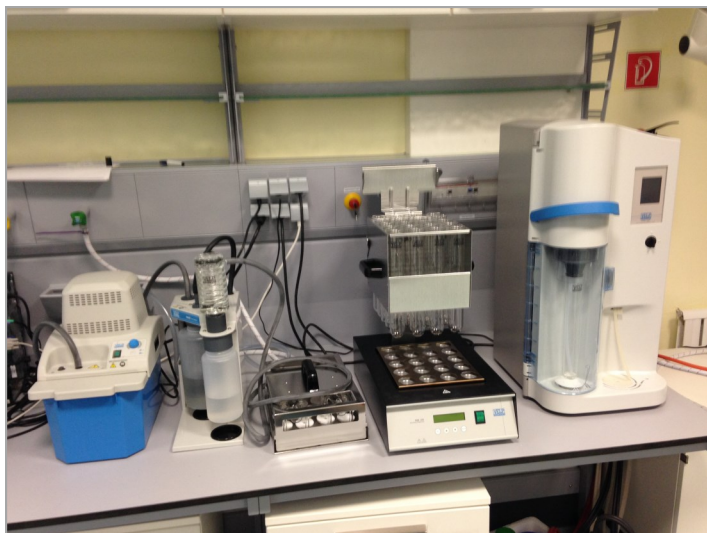
NEW RESEARCH EQUIPMENT ARRIVALS IN LAB #3.143

We are delighted to inform you on the new arrivals of the research equipment in the Chemical Engineering lab #3.143, which is now becoming a vivid hub of teaching and research.

The Chemical Engineering lab provides services for courses as well as for many researchers and projects across Nazarbayev University.

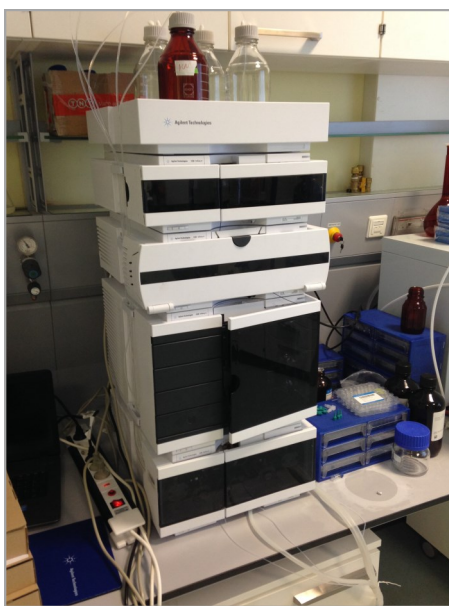
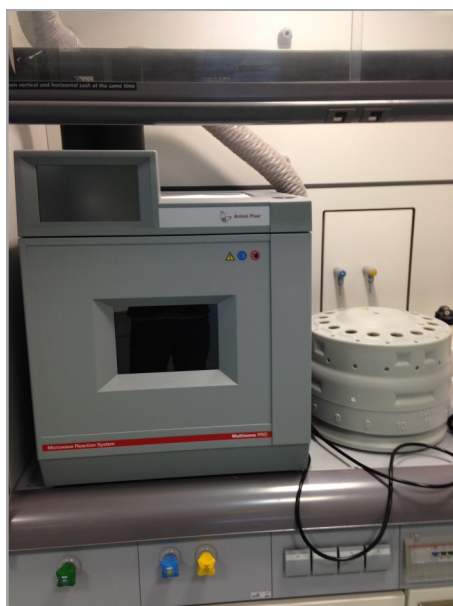
Here is a list of the major new equipment received by the lab #3.143:

- High Pressure Liquid Chromatography (HPLC) Agilent 1290
- ATR module for Fourier transform infrared spectrophotometer (FT-IR)
- Kjeldahl digestion system (full set)
- Density meter
- K-T titrator
- Mixer mill
- Pellet Press
- Microwave digester



The lab #3.143 also received a number of smaller equipment such as pH-meters, conductivity meters, etc.

If you wish to visit the lab, please contact directly Dr. Inglezakis, Assistant Professor, Department of Chemical Engineering, School of Engineering.



LAUNCH OF THE ENVIRONMENTAL SCIENCE & TECHNOLOGY GROUP'S WEBPAGE

We are pleased to inform you that a webpage of the Environmental Science & Technology Group was launched.

ESTg is lead by Assoc.Prof. Vasileios Inglezakis.

https://seng.nu.edu.kz/?page_id=4012

Environmental Science & Technology is an interdisciplinary and broad area and offers the opportunity to bring together researchers from various backgrounds and provide a high-level approach with an international vision, in-depth knowledge and research. We welcome faculty, students and other members of NU community to contact us and explore



collaboration opportunities in the following areas:

- Water & Wastewater Treatment;
- Soil Science;
- Porous Materials and Membranes Technologies;
- Air Pollution & Gaseous Emissions;
- Pipeline Corrosion & Engineering;
- Municipal Waste Management.

LAB TOUR OF THE CHEMICAL ENGINEERING AND TECHNOLOGICAL LABORATORIES

A lab tour of the laboratories #6.154 and #3.143 of Chemical Engineering Department and TechnoPark was organized for NU students and staff by the AIChE Students Chapter and Chapter Advisor, Dr. V.J. Inglezakis, on February 25.

The event participants were able to see at work the equipment used in Chemical Engineering research.

If you missed the lab tour and wish to explore the opportunities of doing research in Chemical Engineer-

Chemical Engineering Lab Tour

You will see:

- Continuous Distillation Columns
- TC/TN Multianalyser
- FTIR
- XRF
- Porosimeters
- Liquid-Liquid Extraction columns
- Anaerobic Wastewater Treatment Unit
- Reverse Osmosis Unit
- and many more...

Where: 6.154, 3.143 TechnoPark

Date: 25 Feb, Thr

Time: 1.30 - 4.30 pm

ing, please contact Prof. Inglezakis at vasileios.inglezakis@nu.edu.kz

GRANTS & COMPETITIONS

INTERDISCIPLINARY RESEARCH: REVISED SINERGIA FUNDING SCHEME

Call for Applications. Deadline: 01/06/2016

Within the scope of the innovations in project funding, the Swiss National Science Foundation has revised the Sinergia funding scheme, which is now also governed by new regulations. The funding scheme "Interdisciplinary Projects" has been integrated into Sinergia. The



SWISS NATIONAL SCIENCE FOUNDATION

From now on, the SNSF will award Sinergia grants for pioneering collaborative and interdisciplinary projects (breakthrough research) conducted by consortiums of two to four researchers. Some of the new features are based on the revised Funding Regulations.

GRANTS

- Up to CHF 3.2 million, minimum of CHF 50,000
- Duration: 1 to 4 years

ELIGIBILITY OF APPLICANTS

- All applicants must have obtained a doctorate at least four years before submitting the application or have equivalent research experience.
- All applicants must be employed with a work-time percentage of at least 50% for the duration of the project at a research institution eligible to receive research funding from the SNSF or have been given written assurance of such

employment.

- All applicants must be in a position to carry out research projects under their own responsibility and to lead project staff.
- All applicants must make a substantial contribution to the proposed research. The research infrastructure necessary to carry out the proposed research must be at their disposal.
- If there are three or more applicants, one applicant may be based at a research institution abroad, if his/her expertise is essential, meaning it is not available in Switzerland (2+1, 3+1).

For more information, please visit [the Swiss National Science Foundation's website](#).

ENERGY GAME CHANGER

Forthcoming competition

We are pleased to share the information on the forthcoming competition call from the Innovate UK, which is interested in providing funding to research entities working closely with the business sector .

- **Key features:** Investment of up to £2 million in technical feasibility studies to encourage new entrants to the energy sector and stimulate the adoption of disruptive technologies.
- **Program:** Feasibility studies
- **Award:** Up to £2 million
- **Opens:** 28 Mar 2016, 00:00
- **Registration closes:** 04 May 2016, 12:00
- **Closes:** 11 May 2016, 12:00

****Additional funding of up to £500,000 now being provided by the Nuclear Decommissioning Authority****

Innovate UK is to invest up to £1.5 million in technical feasibility studies to encourage new entrants to the energy sector and stimulate the adoption of disruptive technologies. Up to a further £500,000 is also available from the [Nuclear Decommissioning Authority \(NDA\)](#) for support of relevant projects.

The aim of this competition is to find innovative solutions to long-standing challenges faced by the energy sector. Innovate UK believes that game-changing technologies can solve these problems, either by the development of completely new ideas or through technology trans-

The logo for Innovate UK, featuring the words "Innovate UK" in a bold, purple, sans-serif font.

fer from other sectors. Innovate UK is therefore seeking proposals that are led by innovative SMEs, which can provide disruptive solutions to the challenges that are in the scope of the competition.

In order to encourage novel and radical solutions, projects must be led by an SME whose main business lies outside the energy sector. They can work alone or collaboratively with partners of any size from any sector.

Small businesses could receive up to 70% of their eligible project costs, medium-sized businesses up to 60% and large business partners up to 50%. We expect projects to last 6 to 12 months and to range in size from total costs of £25,000 to £100,000, although we may consider projects outside this range.

The competition opens on **28 March 2016** and the deadline for video submissions is at **noon** on **11 May 2016**.

To find out more, please [click here](#).

US EMBASSY PROGRAM SMALL GRANTS

Call for Applications. Deadline: 25/03/2016

The U.S. Embassy Small Grants Program is designed to develop civil society in Kazakhstan and advance the interests and will of Kazakhstani citizens.

The current deadline for submission of concept papers is midnight March 25, 2016.

ELIGIBILITY

Non-governmental or non-profit organizations registered in Kazakhstan are eligible for this program. Applications from organizations registered outside of Kazakhstan, commercial organizations, political groups carrying out partisan activities, and charity organizations will not be considered.

Project proposals must address one of the following themes:

Theme 1: Promotion of civil society, including public participation in government decision making.

- Work with local communities to develop policies and programs;
- Promote public participation in local governance;
- Build productive relationships between citizens and government;
- Monitor and evaluate government programs;
- Advance cooperation between Kazakhstani NGOs;
- Foster volunteer movements and projects.

Theme 2: Protection of human rights.



UNITED STATES DIPLOMATIC MISSION TO
KAZAKHSTAN

- Raise public awareness about human rights;
- Monitor and evaluate implementation of human rights' treaties.

Theme 3: Promotion of diversity and tolerance.

- Advance public education and awareness of the importance of diversity and tolerance;
- Work in the field of conflict resolution;
- Promote integration, multiculturalism, and intercultural dialogue;
- Develop networks for increasing tolerance and respect.

For all themes, priority will be given to projects that:

- **Yield concrete results; projects consisting solely of conferences or roundtable discussions will not be funded.**
- **Target vulnerable populations, such as economically or socially disadvantaged youth.**

Grant funding can be used to support:

- Campaigns to engage the public in socially valuable activities;
- Advocacy for solving societal issues;
- Monitoring of current legislation and

(Continued on page 16)

(Continued from page 15)

- state programs' implementation;
- Development of proposals for legislative changes;
- Project-related salaries and honoraria including applicable taxes;
- In-country travel expenses directly related to the project;
- Supplies or equipment necessary for project implementation;
- Contracted services directly related to the project (For example: translation, design, assessments, web-design etc.)
- Printing, publishing and promotional materials.

Grant funding **cannot be used for salaries, rent, or other general support of an organization, unless these expenses are directly tied to the project.**

The maximum funding for each project is \$30,000.

APPLICATION PROCESS

The Small Grants Program application process will include two stages. During the first stage, potential applicants will submit a brief 2 pages concept paper, outlining the societal problem to be addressed, project goals and objectives, experience and sustainability of the organization, target audience, and estimated budget. After reviewing the concept papers, the SGP Committee will invite selected organizations to proceed to the second stage of the application process and submit a complete, detailed grant application.

Applications will be accepted in three languages: either in English or Russian or Kazakh.

1st stage of the application process – The

Concept Paper

Concept Paper Guidelines can be found [here](#).

The deadline for submission of Concept Papers is midnight, March 25, 2016.

Successful concept papers will:

- Provide a clear, concise, and well-supported statement of the problem to be addressed;
 - Include specific, measurable, attainable and time-framed project goals and objectives;
 - Present a clear implementation plan to address the issue;
 - Provide a compelling argument that the planned activities are realistic and achievable within suggested activity timelines.
 - Describe the prospective organization's capacity to perform the proposed project;
 - Define the target audience; and
 - Provide a workable budget estimate.
- Funds are limited and not all proposals will be funded.

For submission and specific questions about the Small Grants Program, please send your inquiries to SGP-Kazakhstan@state.gov, or contact a program coordinator Dina Amrisheva at +7 /7172/ 70 22 17 in Astana.

Download: [Concept Paper Guidelines](#)

The original announcement of the grant scheme can be found [here](#).

BG'S MASTER'S DEGREE SCHOLARSHIP FOR NU STAFF

BG provides a great opportunity to do a Master's degree in a leading university of the UK.

Within the agreement between "Nazarbayev University Research and Innovation System" private entity and BG International Limited, **2 (two)** employees of Nazarbayev University and its subsidiaries will have the opportunity to study at a Master degree program in a UK university in 2016-2017 academic year.

The scholarships are given to the following research areas:

- Renewable energy, energy efficiency and energy conservation, clean technologies in energy, electro energetics - 1 place.

- Multidisciplinary specialties: technologies (including IT), engineering, mathematics, fundamental sciences - 1 place.

Only applicants, who have worked in AEO "Nazarbayev University" and its subdivisions for at least one year are eligible to apply for the grant.

Applicants should send their applications together with the documents by March 15, 2016 to: mramazanova@nu.edu.kz

For more information, please contact Madina Mukhanova at mrma-zanova@nu.edu.kz and tel. [87172709291](tel:87172709291).



BG Scholarship ²⁰¹⁶ **APPLY BEFORE MARCH 15**
BG International Limited, in partnership with «NURIS» PI

BG GIVES YOU A GREAT OPPORTUNITY TO DO YOUR MASTER'S DEGREE IN THE LEADING UNIVERSITIES OF THE UNITED KINGDOM! DO NOT MISS OUT YOUR CHANCE AT 2016!

Wanna be the next "Einstein"?
Wanna boost your career up?
Get your BG Scholarship now!

THE SCHOLARSHIP COVERS:

- 1 academic year tuition fee
- Monthly stipend
- Return ticket to/from UK
- Visa cost

HOW TO APPLY:

- 1) You have a work experience at least 1 year at NU and its organizations
- 2) You love science, research and innovation
- 3) Your IELTS results are over 6.5

RENEWABLE ENERGY **ELECTRO ENERGETICS** **ENGINEERING** **IT**
CLEAN TECHNOLOGIES IN ENERGY
ENERGY EFFICIENCY AND ENERGY CONSERVATION
MULTIDISCIPLINARY SPECIALTIES **MATHEMATICS**
TECHNIQUE AND TECHNOLOGIES **FUNDAMENTAL SCIENCES**

To download a list of the documents required for submission, please [click here](#).

GO GREEN IN THE CITY 2016

Competition for students

In teams of two, students from all over the world are invited to enter the competition and share their innovative solutions to real world business challenges within energy management.

Who is eligible to compete?

- Business and engineering students pursuing their bachelor's (at least 2nd year), master's, or MBA degree are eligible to compete.
- Go Green in the City 2016 is open to two-member teams with at least one female member (note: both members must comply with the degree requirements stated above).
- Both of the team members must study in the same country for the duration of the competition. They are not, however, required to be from the same university, nor are they required to study the same subject or be in the same year, as long as they are not in their first year of their undergraduate education.
- English language competency is required.
- Teams from all over the world are welcome to compete.

No exceptions can be made regarding the terms of the eligibility requirements.



Idea submission deadline: April 15, 2016

To find out more, please [click here](#).

COMPETITION FOR THE BEST NU GREEN CAMPUS CONCEPT

Call for Applications. Deadline: 01/04/2016

Nazarbayev University is announcing competition for the **best Nazarbayev University Green Campus concept.**

Nazarbayev University management shares the concerns of other world universities about the unprecedented scale and speed of environmental pollution and degradation, and the depletion of natural resources. Environmental changes are caused by inequitable and unsustainable production and consumption patterns that aggravate poverty in many regions of the world.

Urgent actions are needed to address these fundamental problems, improve the situation and adopt policies and practices in the University for creating an equitable and sustainable future for humankind to coexist in harmony with nature.

Nazarbayev University Green Campus concept should present a conceptual idea for introducing, implementing and achieving a sustainable university campus.



Students and employees of all structural units of Nazarbayev University are welcome to participate in this Competition.

In order to participate in the Competition you need to send your Nazarbayev University Green Campus project to green.campus@nu.edu.kz between January 22nd and April 1st, 2016.

Know more – [guidance for contestants](#)

NEW FUNDING OPPORTUNITIES

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

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



USEFUL INFORMATION

NEW PUBLICATIONS OF NAZARBAYEV UNIVERSITY

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 February 3, 2015 – March 1, 2016*) on the published papers by our colleagues so you can keep track on NU research successes.

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



DEVELOPMENT PROGRAM OF A RESEARCH UNIVERSITY OF THE AEO “NAZARBAYEV UNIVERSITY” 2016-2020

In the previous issue of the Newsletter, we congratulated the Nazarbayev University on receiving status of Research University. In this month’s issue, we would like to share the Development Program of the Research University of the AEO “Nazarbayev University” for 2016-2020.



Development Program of the Research University of the AEO “Nazarbayev University” for 2016-2020

Программа развития исследовательского университета автономной организации образования «Назарбаев Университет» на 2016 – 2020 годы

On December 24, 2015 Prime Minister Karim Massimov signed a Governmental resolution on assigning a Research University status to the Autonomous Educational Organization "Nazarbayev University" and on approval of its development program called "Development Program of the Research University of the AEO "Nazarbayev University" for 2016-2020".

This program is now being currently incorporated into the Research Strategy of Nazarbayev University and its Extended Operational Plan for the coming years.

Research Council renewed its Research Allocation Committee, which has a responsibility to allocate current and future resources of Nazarbayev University to fulfil its mission as a Research University, reach the targeted indicators in the Programs and become a research model for the rest of Kazakhstani Universities.

You can find the Russian and English versions of the decree and Program on the following links:

INTERNATIONAL SCIENCE & TECHNOLOGY CENTER (ISTC)

Please find useful information below about the International Science and Technology Center's mission, goals, and activities.

The International Science & Technology Center (ISTC) is an intergovernmental organization with diplomatic status in Kazakhstan and other regional ex-Soviet countries, where they are active.

The Center's primary activity to date has been focused on supporting cooperative research opportunities for regional scientists and their institutions and to facilitate their integration into the global science community. A further explicit goal of ISTC is to support global nonproliferation and facilitate the peaceful use of science in solving civilian technical challenges.

The principle activity through which ISTC meets these objectives is through the management of science R&D projects. Institutes throughout Armenia, Georgia, Kazakhstan, Kyrgyzstan and Tajikistan coordinate project proposals with the ISTC Secretariat for review and funding.

Project participants and institutes receiving ISTC funding benefit from the Center's supporting programs such as travel grants, workshops, seminars, international conferences, and commercialization support.

Unlike most funding bodies, ISTC does not have definite deadline for proposal submission or for proposal approval. The proposals can be submitted any time to



ISTC, which, in turn, will share them with the sponsor countries (USA, Canada, EU, Japan), and try to get funding from them, if they find the project interesting.

ISTC is located in Block 39, Nazarbayev University.

If you wish to know more about the funding opportunities provided via ISTC, please contact David Cleave (cleave@istc.int), Executive Director of the International Science & Technology Center.

The ISTC's annual report for 2014 can be found [here](#).

For more information, please visit the [ISTC's official website](#).

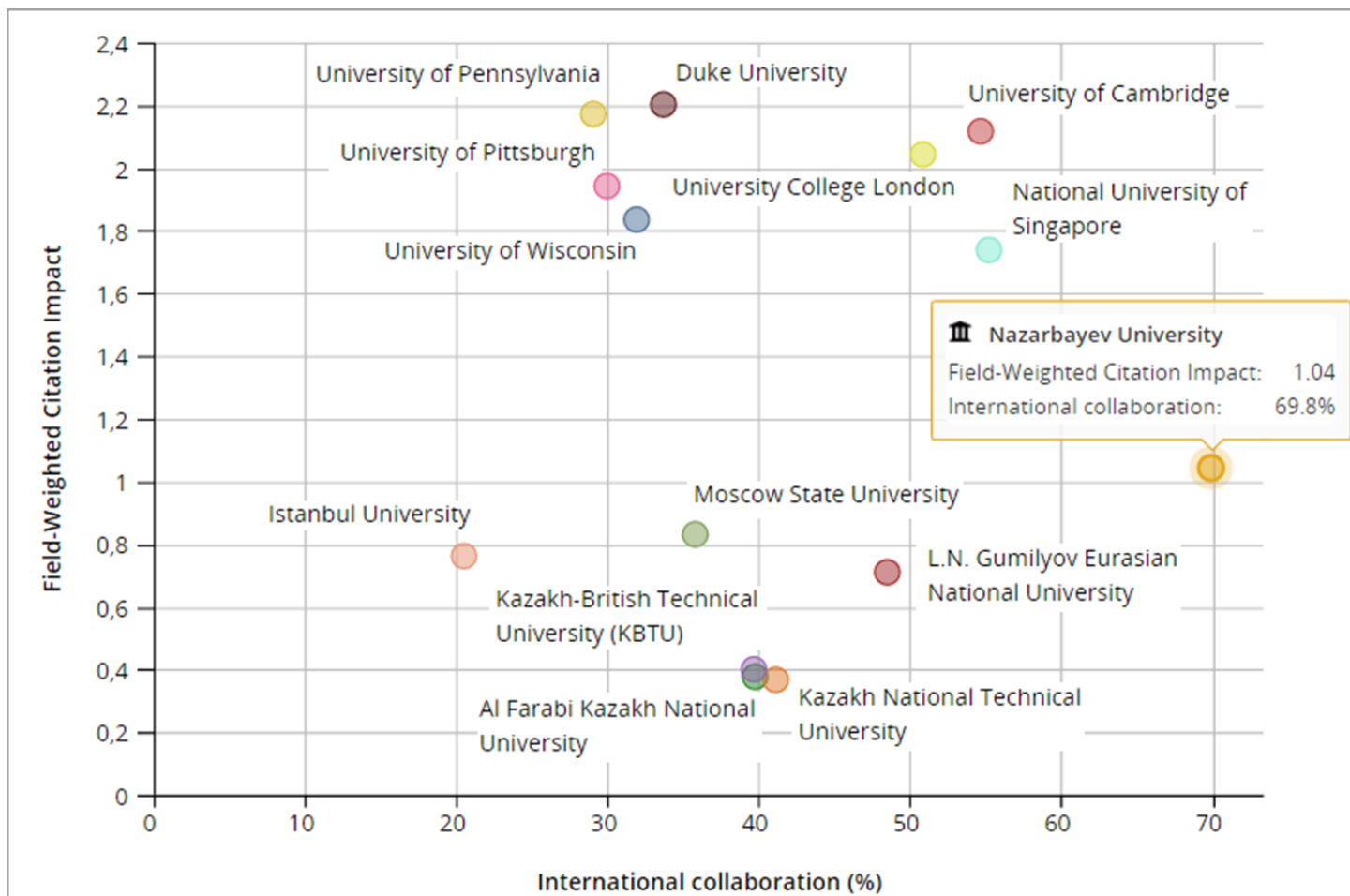
NU'S RESEARCH PERFORMANCE EVALUATION USING SCIVAL

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.

Nazarbayev University has a steady increasing trend of publications released by NU researchers. In 2013 there were 108 articles, in 2014 — 197, in 2015 — 205 articles released with an NU affiliation. Since the beginning of 2016, our researchers have published 26 articles in international peer-reviewed journals indexed by Scopus.

In order to provide you with comprehensive information on the NU's research performance, we prepared [a presentation using the SciVal research solution](#).

If you have any questions regarding the provided information, please contact **A i m a n T e m i r o v a** (aiman.temirova@nu.edu.kz), Manager for Research Monitoring and Assessment, Research Services Office.



CONGRATULATIONS!

TO THE BRITISH COUNCIL GRANT RECIPIENTS!

On behalf of Nazarbayev University, we are pleased to congratulate our colleagues on winning the British Council grants.



In the end of February, several of NU researchers received letters confirming that their applications for travel, workshop and post-doctoral mobility grants under the Newton-Al-Farabi Researcher Links Program have been successful and accepted for funding.

In order to be considered for funding, all proposals must have clearly articulated a plausible pathway along which their research and innovation work may lead to positive impact on poor and vulnerable populations in Kazakhstan within a

short-to medium-term timeframe (3-15 years). Proposals, submitted by the NU researchers had relevance to one or more of the following challenge areas:

- Energy
- Health and wellbeing
- Agri-technology
- Resilience and natural disasters
- Ecology and the environment
- Food and water

As the grant agreements have not yet been signed, we will be able to list the names of the grants recipients in the next issue of the Research Newsletter.

TO NURBEK TAZHIMBETOV, SST STUDENT!

We are delighted to congratulate Nurbek Tazhimbetov, a 4th-year SST student, on being admitted to a PhD program at the Institute of Computational and Mathematical Engineering (ICME), Stanford University.

Prior to applying for a PhD, Nurbek executed successfully several projects in Computational Fluid Dynamics, Numerical Methods for Practical Differential Equa-

tions, as well as in Computational Astrophysics at Nazarbayev University.

The PhD program at the ICME, Stanford, starts in September, 2016. It allows its students to decide on their future PhD thesis topic and a supervisor by the end of the first year.

Well done, Nurbek! We wish you all the best in your future beginnings!

UPCOMING EVENTS

1. DISCOVERY DAYS: THERMO FISHER SCIENTIFIC 2-3 MARCH, 2016



On March 2 and 3, **ThermoFisher Scientific**, a strategic partner for equipping academic and research laboratories of Nazarbayev University, will hold a series of presentations about a wide variety of academic and scientific equipment and consumables.

During the Discovery Days, the ThermoFisher Scientific representatives will give several presentations on different science topics.

The NU community will also have an opportunity to see five displays installed between Blocks 4 and 5, where the ThermoFisher Scientific representatives will be gladly answer your questions regarding their products.

For more information, please contact Yerzhan Bayarlin, Deputy Director of the Department of Procurement and Logistics, NURIS, at ybayarlin@nu.edu.kz

To see the Agenda of the event, please [click here](#).

2. WORKSHOP ON RESILIENT STRUCTURE AND INFRASTRUCTURE

14-17 MARCH, 2016

The School of Engineering invites you to participate in a Workshop on “Resilient Structures and Infrastructure” that will be held from 14-17 March 2016 in Nazarbayev University. The workshop will focus on the state-of-the-art for the understanding, design and development of civil engineering structures to withstand extreme hazards.

The workshop will:

- * promote research links between leading, established and early-stage researchers from the UK and Kazakhstan
- * serve as platform for promoting the science-policy-practice interface, where professionals will exchange ideas and best practices, present the state-of-the-art and debate on key scientific & practical issues.

The workshop will be organized in parallel with another Workshop on “Water Management and Environmental Impact Assessment in the Oil and Gas Industry”.

The subsistence allowance (travel and accommodation) is covered for 18 Kazakhstani participants.

To apply, please fill out the [Application Form](#) and send it to Dr. Dichuan Zhang



(dichuan.zhang@nu.edu.kz).

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

WORKSHOP ON WATER MANAGEMENT AND ENVIRONMENTAL IMPACT ASSESSMENT IN THE OIL AND GAS INDUSTRY

14-17 MARCH, 2016

The School of Engineering is glad to invite you to participate in the 'Workshop on Water Management and Environmental Impact Assessment in the Oil and Gas Industry' that will be held from 14-17 March 2016 in Nazarbayev University. The Conference will focus on sustainable water resources management for application in the oil and gas industry.

The workshop will:

- * promote the participation of Young Water Professional and senior-young interaction
- * serve as platform for promoting the science-policy-practice interface, where water professionals will exchange ideas and best practices, present the state-of-the-art and debate on key scientific & practical issues.

The workshop will be organized in parallel with another Workshop on "Resilient Structures and Infrastructure".

The subsistence allowance (travel and accommodation) is covered for 18 Kazakhstani participants.

To apply, please fill out the [Application Form](#) and send it to Dr. Vassilis J. Inglezakis (vasileios.inglezakis@nu.edu.kz).



UPDATES ON THE WORKSHOP

The number of participants is expected to be high, with 34 coming from UK and 53 from KZ, in total 87. Participants are coming from 25 Universities and 14 Companies from UK and KZ.

UK Universities: Brunel University London Coventry University, Teesside University, University College London, Cranfield University, Cardiff University, Coventry University, University of Southampton, Durham University, Loughborough University, University of Cambridge, Queen's University Belfast, University of Cambridge, City University London, University of Liverpool, Heriot-Watt University, University College London;

UK Companies: British Geological Survey (Edinburgh), Environmental Sustainability Associates Limited, HR Wallingford, ALP Synergy Limited, MMI Engineering Ltd

(Continued on page 28)

(Continued from page 27)

KZ Universities: Nazarbayev University, Kazakh National Research Technical University, L.N. Gumilyov Eurasian National University, Al-Farabi Kazakh National University, Kazakh-British Technical University, Atyrau Institute of Oil and Gas, Kazakh National Agrarian University, Pavlodar State University, Institute of Seismology (Almaty)

KZ Companies: Tengizchevroil , Kara-

chaganak Petroleum Operating B.V., Pavlodar Oil Chemistry Refinery LLP, NC "KazMunayGas" JSC, LLP KazCatTechDamu, Astana EXPO-2017, NC, JSC, "Internews Network" international organization (Kyrgyzstan), The Union Of Architects Of Kazakhstan, JSC Kazakh scientific: research institute of construction and architecture.

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

FIELD TRIP TO SOLID WASTE TREATMENT PLANT

Have you ever thought where the huge amount of daily waste is gone?
Can you imagine that many useful things you utilize every day are made of waste?
Don't trust? Let us convince you!

NU AICHe SC is glad to announce the upcoming **field trip** to **Astana Solid Waste Treatment Plant** of "Altyn-TET LLP". Do not miss the great opportunity to observe how waste is sorted and transformed into goods such as plastic bottles, polyethylene granules, films, packages and wadding. The recently built plant is an excellent example of the innovative future of the country since it operates using latest technologies in the waste processing.

The bus will be provided. The exact date and time will be announced later after final confirmation.

If you are interested, please, [register here](#) by mentioning your full name, major and year of study.



21st INTERNATIONAL SYMPOSIUM ON HEAVY ION FUSION

18-22 July, 2016

We are pleased to invite you to participate in the 21st International Symposium on Heavy Ion Inertial Fusion (HIF2016), to be held in Astana, Kazakhstan on 18-22 July, 2016, organized by a research team of the National Laboratory Astana at Nazarbayev University.

This symposium continues the series of workshops and symposia that began in Berkeley in 1976. The most recent symposia occurred in Lanzhou, China (2014), Berkeley, USA (2012), Darmstadt, Germany (2010), Tokyo, Japan (2008), Saint-Malo, France (2006), and Princeton, New Jersey, USA (2004).

TOPICS OF HIF2016 WILL COVER:

- Heavy-Ion Inertial Fusion and other ICF programs
- Properties of Warm Dense Matter: Theory, experiments, and advanced diagnostic techniques
- Ion sources and high power accelerators
- Fusion target physics, Hydrodynamic instabilities
- Beam-plasma interactions, Atomic processes in plasma + laser plasma interactions
- Pulsed Power (pulsed energy), Applications of ICF
- TOKAMAK, Nuclear Science (related to



the Kazakhstan activities)

- Dark Energy and Dark Matter research

IMPORTANT DATES AND DEADLINES

Second Announcement – March 2016

Abstract submission deadline – May 20, 2016

Registration fee due (early registration rate) – June 1, 2016

Manuscript submission – July 22, 2016

Papers from the symposium will be assembled into a single journal issue and published.

The symposium's email address is hif2016astana@gmail.com, please feel free to contact us if needed.

To see the full announcement, please see [the HIF2016 website](#).

We look forward to seeing you in Astana!

Dieter Hoffmann, Kanat Baigarin, Joe Kwan, Alexander Tikhonov
Chairman, Local Chair and Co-Chairs

NEWSLETTER'S PREVIOUS ISSUES

Take a look back through the previous issues of our Newsletter!

NAZARBAYEV UNIVERSITY
Office of the Provost - Research
September Newsletter
Issue 1, 09-09-2015

Inside this issue:

- Dear colleagues and students,
- 20 research articles
- 5 new research grants
- 10 new research grants
- 10 new research grants

Special Prizes of International:

- 1st Research Institute
- 1st Research Institute
- 1st Research Institute
- 1st Research Institute
- 1st Research Institute
- 1st Research Institute
- 1st Research Institute
- 1st Research Institute
- 1st Research Institute
- 1st Research Institute

NU Research Evaluation: A Brief Overview

Almas Tashirova, Manager for Research Monitoring and Assessment, presented an overview of Nazarbayev University research performance of the Research Council of August 4, 2015.

The presentation drew attention to the fact that, since its inception, Nazarbayev University has steadily increased both the quantity and quality of its research output. Overall, 500 NU faculty members and researchers have produced 313 internationally refereed publications between 2010 and 2014, 143 of which are ranked among the world's top 100 most highly-cited papers. It has also worth noting that 66.4% of these have been co-authored with international collaborators.

Scholarly Output

Year	Number of Publications
2010	100
2011	150
2012	200
2013	250
2014	313

Issue #1

NAZARBAYEV UNIVERSITY
Office of the Provost - Research
September Newsletter
Issue 2, 28-09-2015

Inside this issue:

- Dear colleagues and students,
- 20 research articles
- 5 new research grants
- 10 new research grants
- 10 new research grants

Special Prizes of International:

- 1st Research Institute
- 1st Research Institute
- 1st Research Institute
- 1st Research Institute
- 1st Research Institute
- 1st Research Institute
- 1st Research Institute
- 1st Research Institute
- 1st Research Institute
- 1st Research Institute

Arslan Nurymbayeva
Senior Manager for Research Operations
arlan@nu.edu.kz

Almas Tashirova
Manager for Research Monitoring and Assessment
almas@nu.edu.kz

Issue #2

Office of the Provost (Research)
Newsletter, Issue #3

Dear colleagues and students,

We have launched yet a new initiative - to share not only research-related information from our office, but also to discuss research and scientific-related information from you, our faculty members and researchers.

This issue includes an interview of Zasharyy Orlan, Assistant Professor in School of Economics and Social Sciences, who is part of the team that has awarded a new species of the genus *Hesperia* from the Dzhambul Chamber. Congratulations to Orlan! This is truly inspiring news. Our office would like to share the pride for our University and inspire our Faculty members and researchers to highlight their results through the medium.

We also wish to share with you the presentation for a workshop that we have conducted for the School of Medicine on Social and School Funding (SAFE and SHED). This presentation draws attention to the field of the software, which can help increase the research productivity of the School.

We have expanded the list of funding opportunities for Schools and Research Centers and organized it by discipline for your convenience. Moreover, there is additional information on the services 2020 program, and much more.

Our team also would like to thank Shigeyuki Furokawa, Vice-President for Research who has been a truly supporting leader to our team. Prof. Furokawa, through administrative considerations, defined the University's main Research Strategy for 2014-2020 and Implementation plan. He also launched numerous initiatives and research-related events over the past few years. It has been a remarkable time for University. We wish him all the best for his future!

With wishes to all,
Office of the Provost (Research Team)

Issue #3

RESEARCH
Nazarbayev University Office of the Provost Newsletter
Issue 4, November 2, 2015

NAZARBAYEV UNIVERSITY

Issue #4

RESEARCH
Nazarbayev University Office of the Provost Newsletter
Issue 5, November 30, 2015

NAZARBAYEV UNIVERSITY

Issue #5

RESEARCH
Research Services Office Newsletter
Issue 6, December 24, 2015

NAZARBAYEV UNIVERSITY

Issue #6

RESEARCH
Research Services Office Newsletter
Issue 7, February 2, 2016

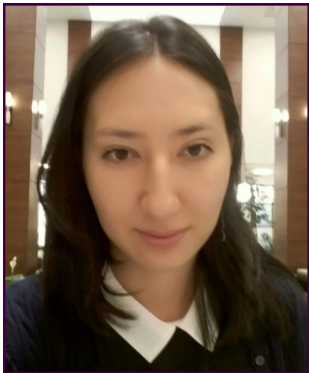
NAZARBAYEV UNIVERSITY

Issue #7

YOUR FEEDBACK IS VALUABLE TO US

Your comments and feedback are welcome and necessary in order to ensure that this newsletter serves you in the best possible way. We also encourage you to share this newsletter with your colleagues and contacts who may be interested in this information.

If you have any questions, please do not hesitate to contact us:



Assel Narymbetova

Senior Manager for Research Operations

assel.narymbetova@nu.edu.kz



Aiman Temirova

Manager for Research Monitoring and Assessment

aiman.temirova@nu.edu.kz



Research Services Office
Kabanbay batyr, 53
Astana 010000, Kazakhstan