

**2nd Eurasian International Conference on
Antimicrobial and Biosensing Nanotechnologies
13th - 15th May 2022**

CONFERENCE PROGRAM



Organized and hosted as a hybrid event

**Nazarbayev University
Nursultan, Kazakhstan**

Scope

The 2nd Eurasian International Conference on Antimicrobial and Biomedical Nanotechnologies will gather internationally recognized speakers from US, British, European, Asian, Middle Eastern and Kazakhstani universities aiming to discuss outline and in person novel approaches for biomedical applications of nanotechnology, including nano-pharmaceutical platforms, biosensing and targeting of antimicrobial resistance and biofilms with nanotechnology.

The conference attendance is free and open to students and researchers (subject to prior registration). All talks will also be broadcasted on zoom. The number of online participants is limited to 200. All participants attending in person must be fully vaccinated against Covid-19 to get access to NU campus.

The presentations will focus non-exclusively on the following topics:

- Nanotechnology for drug delivery and therapies
- Novel antimicrobial nanoparticles and coatings
- Targeting antimicrobial resistance and biofilms with nanotechnology
- Advanced biosensing strategies
- Biomedical nanotechnologies

Attendance and Registration

The conference attendance is **free** and **open** to students and researchers interested in antimicrobial formulations and testing (subject to prior registration).

Regular updates from:

<https://ssh.nu.edu.kz/departments/chemistry/events/abn2022/>

ABN 2022 conference zoom link: **To be sent by email to all registered participants**



The ABN 2022 conference will take place in a hybrid format on NU campus (Orange Hall) and in parallel on the Zoom platform, hosted online at Nazarbayev University, Kazakhstan. This 3-days conference will be organized in 5 sessions on 13, 14 and 15 May 2022, respectively. The time zone of the program is Nursultan time. Please, note that due to the summertime, the time difference with the UK is GMT+5. Please check the times for your own country. The timing of the sessions is selected to accommodate some of the time differences across the continents.

The registration for talks closes on May 3, 2022.

Organizing Committee

Dear colleagues and friends:

The emerging field of biomedical nanotechnologies is growing very fast and fascinating achievements have been reported over the last few years. We have decided to gather the community working in this and related fields to talk about their achievements in a virtual format. We are very thankful to the speakers that already agreed to participate. We hope you will join us at this exciting scientific event!

	
<p><u>Vesselin Paunov</u> Department of Chemistry, School of Sciences and Humanities, Nazarbayev University, Nursultan, KZ</p>	<p><u>Enrico Marsili</u> Department of Chemical Engineering, School of Engineering and Digital Sciences Nazarbayev University, Nursultan, KZ</p>

Chair: Vesselin Paunov, vesselin.paunov@nu.edu.kz

Co-Chair: Enrico Marsili, enrico.marsili@nu.edu.kz

Sessions

The conference is organized in the following consequent sessions:

Session 1: [Nanotechnology for drug delivery and therapies](#)

Session 2: [Targeting antimicrobial resistance and biofilms](#)

Session 3: [Advanced biosensing strategies](#)

Session 4: [Biomedical nanotechnologies](#)

Session 5: [Novel antimicrobial and biosensing nanoparticles and coatings](#)

Web page

Here is the link to the ABN 2022 conference webpage:

<https://ssh.nu.edu.kz/departments/chemistry/events/abn2022/>

Confirmed speakers

- [Srinivasa Raghavan](#), University of Maryland, MD, USA
- [Nicole Pamme](#), Stockholm University, Sweden
- [Amro Dyab](#), Minia University, Egypt
- [Peiyong Hong](#), KAUST, Saudi Arabia
- [Gleb Sukhorukov](#), Queen Mary University of London, UK
- [Polina Prokopovich](#), Cardiff University, UK
- [Theoni Georgiou](#), Imperial College London, UK
- [Ruchi Gupta](#), University of Birmingham, UK
- [Timothy Douglas](#), Lancaster University, UK
- [Oliver Jamieson](#), Newcastle University, UK
- [Mischa Zelzer](#), Nottingham University, UK
- [Vitaliy Khutoryanskiy](#), University of Reading, UK
- [Anheng Wang](#), University of Hull, UK
- [Jordi Esquena](#), Institute for Advanced Chemistry of Catalonia, Spain
- [Elena Delacassa](#), University of Genoa, Italy
- [Erhan Zor](#), Necmettin Erbakan University, Turkey
- [Mustafa Ersoz](#), Selcuk University, Turkey
- [Ahmed Halbus](#), Babylon University, Iraq
- [Mohammed Al-Awady](#), Al-Qasim Green University, Iraq
- [Rawil Fakhruллин](#), Kazan Federal University
- [Yong Liu](#), Wenzhou Institute, WIUCAS, PRC
- [Dmitriy Berillo](#), Kazakh National Medical University, Kazakhstan
- [Timur Atabaev](#), Nazarbayev University, KZ
- [Kayode Olaifa](#), Nazarbayev University, KZ
- [Gulsim Kulsharova](#), Nazarbayev University, KZ
- [Ellina Mun](#), Nazarbayev University, KZ
- [Obinna Ajunwa](#), Nazarbayev University, KZ
- [Qing Yong](#), Nazarbayev University, KZ
- [Akбота Mazhit](#), Nazarbayev University, KZ

ABN 2022 program (as of May 2, 2022)

Friday, May 13, 2022	
Session 1: Nanotechnology for drug delivery and therapies	
Chair person: Vesselin Paunov	
Nursultan time – 1pm in Nursultan: is 8am in UK, 9am in Italy/Spain/Egypt, 10am Iraq/Turkey	
12.00	LUNCH
13.00	Opening remarks from NU Provost Prof Ilesanmi Adesida
13.05	Welcome from the ABN 2022 Chairs Vesselin Paunov and Enrico Marsili
13.10	Invited lecture 1*: Gleb Sukhorukov , Queen Mary University of London, UK <i>Micro- and Nanosystems for addressed and remote-controlled delivery of therapeutics and its perspective and current medical applications</i>
13.50	Lecture 1*: Ellina Mun , Nazarbayev University, KZ <i>Toxicity profiles of organosilica nanoparticles for their potential biomedical application</i>
14.10	Keynote Lecture 1: Polina Prokopovich , Cardiff University, UK <i>Nanotechnology based antimicrobial drug delivery system for orthopedic application</i>
14.40	Keynote lecture 2: Theoni Georgiou , Imperial College London, UK <i>Tailoring polymeric biomaterials for drug delivery and tissue engineering</i>
15.10	COFFEE BREAK
Session 2: Targeting antimicrobial resistance and biofilms	
Chair person: Enrico Marsili	
16.00	Invited lecture 2: Peiyong Hong , KAUST, Saudi Arabia <i>Combining the power of UV-C and bacteriophage to clean fouled anaerobic membranes</i>
16.40	Keynote lecture 3: Yong Liu , Wenzhou Institute, University of Chinese Academy of Sciences, PRC <i>Self-adaptive polymeric nanocarriers for biofilm-associated infection control</i>
17.10	Lecture 2: Ahmed Halbus , Babylon University, Iraq <i>Ultra-Enhanced Antibacterial Action of Copper Oxide Nanoparticles with Self-Grafting Surface Functionality</i>
17.30	COFFEE BREAK
17.50	Lecture 3*: Kayode Olaifa , Nazarbayev University, KZ <i>New use for old/existing drugs: repurposing antifungal drugs against bacterial biofilms</i>
18.10	Lecture 4: Elena Delacassa , University of Genoa, Italy <i>Green-based antibiofilm nanoformulations against surface contamination in hospital settings</i>
18.30	Lecture 5*: Qing Yong , Nazarbayev University, KZ <i>Physiological and electrochemical effects of a repurposed Zinc dithiocarbamate complex on <i>Acinetobacter baumannii</i> biofilms</i>
18.50	Lecture 6*: Obinna Ajunwa , Nazarbayev University, KZ <i>Physiological evaluation of electroactivity in a microbial consortium and metabolic engineering of <i>Pseudomonas aeruginosa</i> for enhanced bioelectricity generation</i>
19.10	Concluding remarks from Vesselin Paunov and Enrico Marsili

* In person presentations.

ABN 2022 program - continuation

Saturday, May 14, 2022	
Session 3: Advanced biosensing strategies	
Chair person: Enrico Marsili	
Nursultan time – 1pm in Nursultan is: 8am in UK, 9am in Italy/Spain/Egypt, 10am Iraq/Turkey	
12.00	LUNCH BREAK
13.00	Welcome to Session 3
13.00	Invited Lecture 3*: Nicole Pamme , Stockholm University, Sweden <i>Biosensing strategies for clinical and environmental analysis</i>
13.40	Keynote lecture 4: Erhan Zor , Necmettin Erbakan University, Turkey <i>Lateral flow assays as in-vitro diagnostics in biomedical nanotechnologies</i>
14.10	Keynote lecture 5: Ruchi Gupta , University of Birmingham, UK <i>Novel Optical Biosensors with Integrated Sample Manipulation</i>
14.40	Lecture 7: Oliver Jamieson , University of Nottingham, UK <i>Development of polymer-based sensors for antibiotics in aqueous samples</i>
15.00	COFFEE BREAK
Session 4: Biomedical nanotechnologies	
Chair person: Vesselin Paunov	
16.00	Invited lecture 4*: Rawil Fakhrullin , Kazan Federal University, Tatarstan <i>Hair Surface Engineering via Halloysite Clay Self-Assembly</i>
16.40	Keynote lecture 6: Timothy Douglas , Lancaster University, UK <i>Whey protein isolate: a versatile dairy-derived biomaterial</i>
17.00	Lecture 8: Jordi Esquena , Institute for Advanced Chemistry of Catalonia, Spain <i>New gastro-resistant capsules formed by ionic complexation for oral administration of proteins</i>
17.20	COFFEE BREAK
17.40	Keynote lecture 7: Vitaliy Khutoryanskiy , University of Reading, UK <i>Advances in polymers and nanomaterials for mucosal drug delivery</i>
18.10	Lecture 9: Timur Atabaev , Nazarbayev University, KZ <i>Ultrasmall metal-doped carbon dots as new CT contrast agents</i>
18.30	Keynote lecture 8: Srinivasa Raghavan , University of Maryland, MD, USA <i>Biomedical Applications of Polymers Enabled by Self-Assembly and Nanotechnology</i>
18.50	Concluding remarks from Vesselin Paunov and Enrico Marsili

* In person presentations.

ABN 2022 program – continuation

Sunday, May 15, 2022	
Session 5: Novel antimicrobial and biosensing nanoparticles and coatings Chair person: Enrico Marsili	
Nursultan time – 1pm in Nursultan is: 8am in UK, 9am in Italy/Spain/Egypt, 10am Iraq/Turkey	
08.30	Nursultan sightseeing (organized)
11.30	Return to NU campus
12.00	LUNCH BREAK
13.00	Welcome to Session 5
13.00	Invited lecture 5*: Amro Dyab , Minia University, Egypt <i>Sporopollenin Based Platforms for Drug Delivery: Therapeutic and Biomedical Applications</i>
13.40	Keynote Lecture 9: Mustafa Ersoz , Selcuk University, Turkey <i>Silver nanoparticles-anchored BP nanosheets for Combating Pathogenic Bacteria</i>
14.10	Keynote lecture 10: Mischa Zelzer , University of Nottingham, UK <i>Controlling and understanding biomimetic materials at interfaces</i>
14.40	Lecture 10: Mohammed Al-Awady , Al-Qasim Green University, Iraq <i>Novel Nanogel Encapsulated with Antibiotics as a Potential Antimicrobial Agent</i>
15.00	COFFEE BREAK
16.00	Lecture 11*: Gulsim Kulsharova , Nazarbayev University, KZ <i>Microfluidic platforms for organ-on-a-chip applications</i>
16.20	Lecture 12: Dmitriy Berillo , Kazakh National Medical University, Almaty, Kazakhstan <i>Green Synthesis of Silver Nanoparticles Using Paper Wasp's Hydrolysate with Antibacterial Activity</i>
16.40	Lecture 13*: Akbota Mazhit , Nazarbayev University, KZ <i>Ba (II)-doped mesoporous silica nanoparticles (SiO₂-Ba NPs) as a promising contrast agent for effective CT X-ray attenuation</i>
17.00	Lecture 14: Anheng Wang , University of Hull, UK <i>Fabrication of Angiogenic Sprouting Coculture of Cell Clusteroids Using an Aqueous Two-Phase Pickering Emulsion System</i>
17.20	Concluding remarks from Vesselin Paunov and Enrico Marsili

* In person presentations.