

**International Workshop**  
**on**  
**Advanced Materials for Biomedical & Biosensing Applications**

**AMBBA 2023**

**15<sup>th</sup> - 17<sup>th</sup> November 2023**

**WORKSHOP PROGRAM**



**Organized and hosted at**

**Nazarbayev University**  
**Astana, Kazakhstan**

## Scope

The NU workshop on Advanced Materials for Biomedical and Biosensing Applications will gather internationally recognized speakers from British, Turkish, Singaporean as well as local NU based researchers aiming to discuss novel approaches for in nanotechnology, novel pharmaceutical platforms, biosensing, bioimprinting and molecular signaling mechanisms. The workshop attendance is free and open to students and researchers.

## Venue

The AMBBA 2023 workshop will take place in a on NU campus (**Block C3 Room 1010**) at Nazarbayev University, Astana, Kazakhstan. The workshop will be organized in 3 sessions on 15, 16 and 17 November 2023, respectively.

**Session 1: Advanced materials for drug delivery and therapies**

**Session 2: Advanced sensing & biosensing strategies**

**Session 3: Novel materials and coatings for biomedical applications**

The presentations will be accompanied by NU research lab visits, discussions for collaboration with international partners and setting up new joint research projects.

**AS A PRECAUTIONARY MEASURE THE PROVOST HAS APPROVED THE WORKSHOP PARTICIPANTS IN ROOM 1010 WILL BE CAPPED TO A MAXIMUM OF 40 AT ANYTIME.**

## Confirmed speakers

- [Gleb Sukhorukov](#), Queen Mary University of London, UK
- [Simeon Stoyanov](#), Singapore Institute of Technology, Singapore
- [Vitaliy Khutoryanskiy](#), University of Reading, UK
- [Mustafa Ersoz](#), Selcuk University, Turkey
- [Amro Dyab](#), Minia University, Egypt & Nazarbayev University SSH, KZ
- [Ivan Vorobyev](#), Nazarbayev University SSH, KZ
- [Gonzalo Hortelano](#), Nazarbayev University SSH, KZ
- [Timur Atabaev](#), Nazarbayev University SSH, KZ
- [Tri Pham](#), Nazarbayev University, KZ
- [Yuliya Safarova](#), National Laboratory Astana, KZ
- [Ellina Mun](#), Nazarbayev University SSH, KZ
- [Mohamad Aljofan](#), Nazarbayev University SOM & NLA, KZ
- [Nikolai Barlev](#), Nazarbayev University SOM & NLA, KZ
- [Eugene Tulchinsky](#), Nazarbayev University SOM, KZ
- [Anastasiya Vetrova](#), Nazarbayev University SOM, KZ
- [Evans Asare](#), Nazarbayev University SSH, KZ

## AMBBA Workshop Chair



**Chair:** [Vesselin Paunov](#)  
**Department of Chemistry,**  
**School of Sciences and Humanities,**  
**Nazarbayev University, Astana, KZ**  
**Email:** [vesselin.paunov@nu.edu.kz](mailto:vesselin.paunov@nu.edu.kz)

Here are the links to the AMBBA 2023 workshop preliminary program & abstracts:

<https://ssh.nu.edu.kz/departments/chemistry/events/ambba2023>

[https://ssh.nu.edu.kz/departments/chemistry/events/ambba2023/ambba2023\\_abstracts.pdf](https://ssh.nu.edu.kz/departments/chemistry/events/ambba2023/ambba2023_abstracts.pdf)

# AMBBA 2023 workshop program

**Wednesday, 15 November 2023**

**Session 1: Advanced materials for drug delivery and therapies**

Session chairperson: [Vesselin Paunov](#)

13.00	Opening remarks from NU Provost & Acting President Prof Ilesanmi Adesida
13.05	Welcome from the AMBBA 2023 Chair Vesselin Paunov
13.10	Invited lecture 1: <a href="#">Gleb Sukhorukov</a> , Queen Mary University of London, UK <i>Trends in Biomedical materials. Where Physics can help</i>
14.00	Lecture 1: <a href="#">Amro Dyab</a> , Minia University, Egypt & Nazarbayev University SSH, KZ <i>Plant-Based Microcapsules for Biomedical Applications</i>
14.30	Lecture 2: <a href="#">Mohamad Aljofan</a> , Nazarbayev University SOM, KZ <i>Metformin: an old drug with new tricks</i>
15.00	Lecture 3: <a href="#">Ellina Mun</a> , Nazarbayev University SSH, KZ <i>The effect of PEGylation on nanoparticle functionality in biomedical applications</i>
15.30	<b>COFFEE BREAK</b>
16.00	Lecture 4: <a href="#">Eugene Tulchinsky</a> , Nazarbayev University SOM, KZ <i>TAM receptor tyrosine kinases in bladder cancer: insights into signaling and therapeutic implications</i>
16.30	Lecture 5: <a href="#">Anastassiya Vetrova</a> , Nazarbayev University SOM, KZ <i>Generation of tumor organoid cultures from bladder cancer tissues</i>
16.50	Lecture 6: <a href="#">Evans Asare</a> , Nazarbayev University SSH, KZ <i>Targeting bacterial biofilms with multi enzyme functionalized antibiotic-loaded nanogel particles</i>
17.10	Lecture 7: <a href="#">Gonzalo Hortelano</a> , Nazarbayev University SSH, KZ <i>Alginate microcapsules in gene therapy applications</i>
17.40	Concluding remarks from Vesselin Paunov

# AMBBA 2023 workshop program - continuation

**Thursday, 16 November 2023**

## **Session 2: Advanced sensing & biosensing strategies**

Session chairperson: [Simeon Stoyanov](#)

9.30	Tour of selected NU Research labs with invited guest speakers (C4, Block 7)
11.00	Discussion of collaborative projects with invited speakers
12.00	<b>LUNCH BREAK</b>
13.00	Welcome to Session 2
13.00	Invited Lecture 2*: <a href="#">Vitaliy Khutoryanskiy</a> , University of Reading, UK <i>Advances in the design of mucoadhesive polymers for drug delivery</i>
14.00	Lecture 8: <a href="#">Rostislav Bukasov</a> , Nazarbayev University SSH, KZ <i>Surface enhanced spectroscopies, SERS and SEF on Al foil and silicon: when more affordable substrates may be at least as efficient as noble metal substrates</i>
14.30	Lecture 9: <a href="#">Nikolai Barlev</a> , Nazarbayev University SOM, KZ <i>Nano-Molecularly Imprinted Polymers (nanoMIPs) as a novel approach for targeted drug delivery in nanomedicine</i>
15.00	<b>COFFEE BREAK</b>
15.30	Invited Lecture 4: <a href="#">Mustafa Ersoz</a> , Selcuk University, Turkey <i>Nanostructured Membranes and Process for Separation Technology</i>
16.30	Lecture 10: <a href="#">Timur Atabaev</a> , Nazarbayev University SSH, KZ <i>Carbon nanodots as fluorescent and radiological contrast agents</i>
17.00	Lecture 11: <a href="#">Ivan Vorobyev</a> , Nazarbayev University SSH, KZ <i>How does a cell regulate focal contacts?</i>
17.30	Closure of session 2

# AMBBA 2023 workshop program - continuation

**Friday, 17 November 2023**

## **Session 3: Novel materials and coatings for biomedical applications**

Session chairperson: [Vitaliy Khutoryanskiy](#)

08.30	Astana sightseeing (organized for invited guest speakers)
11.30	Return to NU campus
12.00	<b>LUNCH BREAK</b>
13.00	Welcome to Session 3
13.00	Invited lecture 4: <a href="#">Simeon Stoyanov</a> , Singapore Institute of Technology, Singapore <i>Soft dendritic microparticles with unusual adhesion and structuring properties - Designing material functionality beyond chemistry &amp; composition</i>
14.00	Lecture 12: <a href="#">Tri Pham</a> , Nazarbayev University SSH, KZ <i>Impact of nanoparticles on the biophysical properties of cell for biomedical applications</i>
14.30	Lecture 13: <a href="#">Yuliya Safarova</a> , Nazarbayev University, NLA, KZ <i>In Vitro Evaluation of Strontium and Copper-doped Tricalcium Phosphate Ceramic Granules for Bone Regeneration</i>
15.00	<b>COFFEE BREAK</b>
15.30	Pannel discussions – perspectives in the novel biomedical and biosensing technologies
16.00	Brainstorming collaborative projects
17.30	Concluding remarks from Vesselin Paunov