

**PROGRAM OF THE
INTERNATIONAL SCIENTIFIC
CONFERENCE
MODERN RESEARCH METHODS
OF BIONANOAGENTS
RMB-2021
24-26 NOVEMBER, BATUMI, GEORGIA**

CALL FOR PAPERS:

The international scientific conference "Modern Research Methods of Bionanoagents" is organized by Batumi Shota Rustaveli State University and Georgian Technical University.

The goal of the international conference is improve and popularize long-term innovation potential in Georgia. The conference will facilitate interdisciplinary collaboration (bio-medical and biophysics, physical research, information technology and systems), as well as exchange of research and innovative products, knowledge and ideas.

The scientific and innovative achievements presented during the conference will help to turn the creative ideas, methods and tools developed into innovative products.

The goal of the conference is to bring researchers' ideas closer and to strengthen collaborative activities in areas such as: optical spectroscopy, laser and molecular physics, information technologies and systems, as well as to promote the introduction of new biophysical and biomedical methods

The topic of the conference is to study the properties of nanoscale virus-like particles, to evaluate the basic concept and vibrational / oscillating properties, to develop a completely new method, to identify a unique "imprint" of pathogenic microorganisms, especially viruses.

The study of the characteristics and specific properties of virus-like particles has a greater potential for the development of new concepts of biomolecule detection and perception, observation of the macro / micro environment, medical diagnostics and treatments.

The ability to detect individual virus-like particles rapidly, directly, and selectively can have a significant impact on health, improve clinical decisions, and lead to better health outcomes.

CONTACT INFORMATION:

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TOPICS:

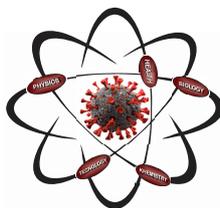
- Study of radiation and spectroscopy methods for research and treatment of bioagents;
- Study simple and effective ways to use sum-frequency generation and other infrared and Raman spectroscopic instruments to measure the physical properties of viruses and other bioparticles.
- Further development of modelling and simulation methods for measuring the effects of vibration in different viruses and other bioparticles.
- Creating a market for researchers and entrepreneurs to introduce new spectrometric methods in practical biomedical activities.
- Elaboration of modern modelling and experimental methods for determining the vesical and vibrational properties of pathogenic microorganisms.
- Elaboration of measuring and therapeutic methods and tools of vibrational parameters of virus-like particles using the developed method in biological laboratories and clinics.

INTERNATIONAL ADVISORY COMMITTEE MEMBERS:

- **Paata Kervalishvili** - Georgian Technical University, President of Georgian Academy of Natural Sciences, President of Euro Mediterranean Academy of Arts and Sciences
- **Christophe Humbert** - CNRS Research Director, Université Paris-Saclay
- **Waclaw Gudowski** - professor of Neutron and Reactor Physics at Kungliga Tekniska Högskolan (KTH) and director of the Nuclear Energy Technology Centre The Royal Institute of Technology in Stockholm, Sweden.
- **Jeremy Ramsden** - Chief editor of international scientific magazine Nanotechnology Perceptions, Professor of University of Buckingham
- **Pedro De Oliveira** – Professor of University Paris-Sud, Vice Director of Laboratory of Chemical Physics
- **Laszlo Sajti** - Professor and head of department of Austrian Institute of Technology.
- **Dimitris Tseles** – University of West Attica, Head of Administration of Euro Mediterranean Academy of Arts and Sciences
- **Stane Pejovnik** – Rector of University of Ljubljana, Presidium member of Euro Mediterranean Academy of Arts and Sciences

ORGANIZING COMMITTEE:

- **Nugzar Gomidze** – Professor of Batumi Shota Rustaveli State University
- **George Chakhunashvili** – Professor of Tbilisi State Medical University
- **Tamar Berberashvili** – Associated Professor of Georgian Technical University, Manager of International projects
- **Lasha Bazadze** – Director General of K.Eristavi National Center for Surgery
- **Anna Kekelidze** - Biosafety expert of Agriculture State Laboratory
- **Lela Turmanidze** - Professor, Dean of Faculty of Exact Science and Education of Batumi Shota Rustaveli State University
- **Izolda Jabnidze** – Associated Professor of Batumi State University
- **Lali Kalandadze** – Associated Professor of Batumi State University
- **Eldar Mskhaladze** – IT of Batumi State Maritime Academy
- **Miranda Khajishvili** – Dr, Batumi State University
- **Kakha Makharadze** – Dr, Batumi International Hospital



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WEDNESDAY, NOVEMBER 24th

14:00 – 15:00 **Registration**

**15:00 – 15:40 Opening Session (Assembly hall, central building of BSU, 35 Ninoshvili street)
Chair: prof. Nugzar Gomidze**

15:00 – 15:40 **Welcome Address:** International Advisor of the RMB-2021, Honorary Prof. of Batumi Shota Rustaveli State university, P.KervaliSvili
Welcome Address: Rector of the Batumi Shota Rustaveli State University, Prof. M. Khalvashi
Welcome Address: Minister of Education, Culture and Sport, Ms. M. Khajishvili
Welcome Address: Dr. Michael Cowgill, President of the American-Georgian Chamber of Commerce, President of the Georgian-American University
Welcome Address: Dr. Laszlo Sajti Head of Advanced Implant Solutions Biomedical Systems
Center for Health & Bioresources of AIT Austrian Institute of Technology
Welcome Address: Department of Strategic Development and International Relations

15:40 – 16:00 Coffee Break (Assembly hall, central building of BSU, 35 Ninoshvili street)

**16:00 – 16:30 Oral Session (Assembly hall, central building of BSU, 35 Ninoshvili street)
Chair: prof. Nugzar Gomidze**

16:00 – 16:30 **Vibrational properties of nanobio particles and concept of resonance therapy**
Paata Kervalishvili
Georgia Technical University, Tbilisi, Georgia

18:00 – 21:00 Welcome Informal Dinner (Banquet) Restorant Bern, 17 Rustaveli Street, Batumi

THURSDAY, NOVEMBER 25th

11:00 – 12:00 Oral Session (Assembly hall, central building of BSU, 35 Ninoshvili street. ZOOM link for online participants: <https://bsu-edu-ge.zoom.us/j/87264901214>)

Chair: Dr. Laszlo Sajti
11:00 – 11:20 **Experimental Methods of Investigation of Vibrational Properties of Nanobioobjects**
Tamar Berberashvili, Paata Kervalishvili
Georgia Technical University, Tbilisi, Georgia
11:20 – 11:40 **Using the fractal doctrine for understanding the structural features of nanobio ensembles like viruses and other pathogens**
Paata Kervalishvili, Afshin Bakhtiari, Tamar Berberashvili
Georgia Technical University, Tbilisi, Georgia
11:40 – 12:00 **Application of Resonance Scattering (RS) Method for Simulation Study of Bioagents**
Paata Kervalishvili, Tamar Bzhalava
Georgia Technical University, Tbilisi, Georgia

12:00 – 13:00 Coffee Break (Assembly hall, central building of BSU, 35 Ninoshvili street)

13:00 – 14:00 Oral Session (Assembly hall, central building of BSU, 35 Ninoshvili street. ZOOM link for online participants: <https://bsu-edu-ge.zoom.us/j/87264901214>)

Chair: Prof. Paata Kervalishvili
13:00 – 13:20 **Physical and chemical defense mechanisms in studies of pathogenic biosystems.**

Anna Kekelidze, Paata Kervalishvili
Georgia Technical University, Tbilisi, Georgia

13:20 – 13:40 **Determining the duration of the sensorimotor reaction**
Maia Gigineishvili, Manana Chikladze, Tengiz Khachidze, Teimur Mikeladze
Georgia Technical University, Tbilisi, Georgia

13:40 – 14:00 **Microcalorimetry for Diagnostics.**
Davit Khachidze, Nika Khachidze
Tbilisi state university, Richard Lugar Center for Public Health Research

14:00 – 15:00 Lunch Time (Assembly hall, central building of BSU, 35 Ninoshvili street)

15:00 – 16:40 Oral Session (Assembly hall, central building of BSU, 35 Ninoshvili street. ZOOM link for online participants: <https://bsu-edu-ge.zoom.us/j/87264901214>)

Chair: Prof. Paata Kervalishvili
15:00 – 15:20 **Ultrapure nanosystems for applied biomedicine**
Laszlo Sajti
Professor and head of department of Austrian Institute of Technology

15:20 – 15:40 **Validity of modified Maxwell-Garnett effective-medium Theory in Ferrofluids**
Lali Kalandadze, Omar Nakashidze, Nugzar Gomidze, Izolda Jabnidze
Batumi Shota Rustaveli State University

15:40 – 16:00 **3D fluorescence spectroscopy to study the distribution of bioparticles**
Nugzar Gomidze, Jaba Shainidze, Miranda Khajishvili, Izolda Jabnidze, Kakha Makharadze, Lali Kalandadze, Omar Nakashidze, Eldar Mskhaladze, Luka Gomidze
Batumi Shota Rustaveli State University, Batumi, Maritime Academy, Tbilisi State University

16:00 – 17:00 Coffee Break (Assembly hall, central building of BSU, 35 Ninoshvili street)

17:00 – 18:00 Online Session (Assembly hall, central building of BSU, 35 Ninoshvili street. ZOOM link for online participants: <https://bsu-edu-ge.zoom.us/j/87264901214>)

Chair: Prof. Paata Kervalishvili
17:00 – 17:20 **Nonlinear optical spectroscopy of biointerfaces**
Cristope Humbert
Université Paris-Saclay, CNRS, Institut de Chimie Physique

17:20 – 17:40 **3D Printing and 3D Scanning: Applications in the Cultural Heritage field**
Antreas Kantaros, Theodore Ganetsos, Dimitrios Tseles
Department of Industrial and Product Design Engineering, University of West Attica, Greece

17:40 – 18:00 **Prospects for obtaining and using bioactive compounds of some endemic plants in Guria-Adjara.**
Maia Vanidze, Ruslan Davitadze, Indira Japaridze, Inga Kartsivadze, Nona Surmanidze, Jeiran Putkaradze, Nona Abashidze, Givi Kalandia, Aleko Kalandia
Batumi Shota Rustaveli University

FRIDAY, NOVEMBER 26th

11:00 – 12:00 Close Session (Assembly hall, central building of BSU, 35 Ninoshvili street)

Chair: Prof. Paata Kervalishvili
Summarizing the results of the conference.
Future prospects and plans
Awards, diplomas

13:00 – 14:00 Lunch Time (Assembly hall, central building of BSU, 35 Ninoshvili street)

14:00 – 15:00 Photo Session



აჭარის ავტონომიური რესპუბლიკის
განათლების, კულტურისა და სპორტის სამინისტრო
MINISTRY OF EDUCATION, CULTURE AND SPORT
OF AJARA AUTONOMOUS REPUBLIC

