

CONFERENCE AGENDA

The Plenary Session Will Be Held On November 18, 2022, At 11 A.M. In The Hall Named After Nikoladze Of The Georgian Technical University

Registration: 10:00 a.m.

For Online Participation, Please Join The Link:

<https://us06web.zoom.us/j/3512874689?pwd=WkNZa2hhUVlZcVNzSjJlMlRVMnJ6QT09>

Zoom ID: 351 287 4689

Password: gtu2020

Opening Session of the conference - November 18, 11:00 a.m.

Welcome Speeches:

- Rector of Georgian Technical University, Professor Davit Gurgenidze
- Dean of the Faculty of Informatics and Control Systems, Professor Tamar Lominadze;
- Professor Mario Neugebauer of University of Applied Sciences Dresden (Germany);
- Professor Manjit Dosanjh, senior advisor for the medical applications at CERN and a visiting professor at the University of Oxford;
- Professor Janosz Stryk of the University of Debrecen (Hungary);
- Professor Richard Hugtenburg of Swansea University (UK);
- Professor Maca de Lamayor Catholic of the University of Leuven (KU Leuven) and University College of Vives (Belgium);
- Professor Mimosa Ristova of the the Saints Cyril and Methodius University in Skopje (North Macedonia);
- Invited Guests

COFFE BREAK

13:00 - 17:00 Sections' work

I - SECTION: INFORMATION AND COMMUNICATION TECHNOLOGIES

(Time Limit for Each Presentation – Max 10 Min, for Discussion 5 min.)

THE SECTION WILL WORK IN THE GREEN HALL OF THE CENTRAL LIBRARY OF GTU (ADMINISTRATIVE BUILDING)

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Section Chairman: Professor Gia Surguladze
Members: Professor Lili Petriashvili
Professor Taliko Zhvania
Professor Medea Tevdoradze
Professor Ioseb Kartvelishvili
Professor Mariam Chkhaidze
Asoc. Professor Rusudan Papiashvili

- **Kuprashvili H.** - Dialectics of Informatics and Social Sciences;
- **Namicheishvili O., Gogiashvili J.** - An Overview Of The Latest Trends In Deep Learning;
- **Surguladze G.** - Innovative Didactics Of Computer Science: 100 Books For The 100th Anniversary (History And Reality);
- **Khomeriki I., Nozadze N., Modebadze Z.** - Big Data Processing Stages And Analysis;
- **J'anos Sztrik** - Innovation in IT Education – Foundation of Innovation;
- **Kveselava K., Bochorishvili I., Jikidze L.** - Why Human-Computer Interaction?
- **Lominade T. Petriashvili L., Zhvania T.** - Automatic Clustering Of Nosql Database Using Artificial Intelligence Algorithm;
- **Fiore Mariantonietta, Otar Zumburidze, Nino Adamashvili** - Leveraging Blockchain Technology to Meet SDGs;
- **Gasitashvili Z., Kiknade M., Tsiklauri N.** - Analysis And Methodology Of Factors Affecting The Sustainable Development Of The Region;
- **Shonia O., Bezhanishvili L., Shonia L.** - On The Challenges Of Cyber Security;
- **Amilakhvari N.** - functional a systematic approach to verify software reliability;
- **Magrakvelidze D.** - Risk Management Problems In Software Development;
- **Sukhiashvili T.** - Business Process Modeling Tools For Building Management Systems;
- **Topuria N., Sichinava D., Khatiashvili T.** - Protection Of Information Security In The Digital Transformation Of The Organization;

COFFE BREAK 14:45 – 15:00

- **Tatishvili M., Samkharadze I., Palavandishvili A.** - Big Data in Dangerous Hydrometeorological Events;
- **Ibraim Didmanidze, Vladimir Zaslavski, Gregory Kakhiani, Anry Paghava** - Using The ANN Overlearning Mechanism For Classification And Training On Labeled Data;
- **Khutsishvili O., Khutsishvili T., Mdivnishvili T.** - The Dynamics Of The Change Of The GEL Exchange Rate In 2012-2021;
- **Shonia O., Maisuradze R., Jamatashvili I.** - Security Of Local Networks
- **Lominadze N., Barkava G., Papiashvili R.** - Problems Related To The Development And Distribution Of Security Protocols In Network Communications;
- **Ekaterine Papava** - Software Localization - The Indispensable Process for Increasing University Appeal in the Digital Era;
- **Tomashvili G., Kaishauri T.** - Sequeminators And Bioinformatic Analysis Of The Information Obtained From Them;
- **Mirianashvili A., Djanelidze G.** - Integrating And Analyzing Pandemic-Related Data;
- **Darchiashvili G., Darchiashvili N.** - Using Monads in Everyday Programing;
- **Irakli Chalagashvili, Mariam Chkhaidze** - Using artificial intelligence to beat the bookies on tennis matches
- **Konstantine P.** - Goals and problems of implementation of "Digital Humanities and Computational Linguistics" at Technical University of Georgia;

II - SECTION: PHYSICS AND MATHEMATICS - 13:00 - 17:00 Sections' work (Geo. Time)

MEETING LOCATION: ROOM N401, DEPARTMENT OF PHYSICS, BUILDING IV, GTU

Time Limit for Each Presentation – Max 10 Min, for Discussion 5 min

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Members: Professor Levan Chkhartishvili
Professor Zviad Gurtskaia
Asoc. Professor Mikheil Chikhradze
PhD Student Natia Beriashvili

- **Chkhartishvili L., Makatsaria S., Gogolidze N.** - Boron-Containing Fine-Dispersive Composites for Neutron-Therapy and Shielding;
- **Minashvili T., Iluridze G., Davitadze K.** - Gold nanoclusters on the InP(001) surface: preparation, characterization, surface localized plasmons;
- **Ristova M.** - Future Research Infrastructure and Particle Therapy Center for the Balkans – SEEIIST (Benefits for the region);
- **Mkrtchyan M.** - Interband Absorption In Asymmetric Biconvex Lens-shaped Quantum Dot;
- **Hugtenburg R.** - Medical Physics Teaching And Training In The UK;
- **Bleyan Y.,** - Oscillator Strength of Biexciton Excited States In Ellipsoidal Quantum Dot;
- **Pitskhelauri A., Gotsiridze I., Esvanjia R.** - Role of Radiological Measurements in Dental Practice;
- **Khachatryan K.** - Electronic properties of quasi-conical quantum dot

COFFE BREAK 14:45 – 15:00

- **Shamatava K., Kurashvili I., Sichinava A.** - Effect of Thermal Annealing on the Physical-Mechanical Properties of Monocrystalline n-Si and n-Si+2at.%Ge alloy
- **Tsiklauri M.** - Modern Advances in Quantum Biology
- **Adiguzel O.** - Crystallographic Aspects of Shape Memory Effect and Reversibility in Shape Memory Alloys
- **Tsirekidze M., Dekanosidze Sh.** - Theoretical Calculation of the Spectrum of Multiionized Atoms
- **Mazanashvili M.** - Mathematical Modeling of Physical Processes
- **Maspindzelashvili B., Takashvili V., buziashvili T.** - Drawing up the Equations of a Plane and a line that Divide any Vertical Angle Created by Two Intersecting Lines in Space by any Area;

III - SECTION: Engineering and Digital Technologies

Time Limit for Each Presentation – Max 10 Min, for Discussion 5 min

The section will work in the meeting hall of the laboratory named after Jiuli Shartava (IX building of GTU)

Section Chairman: Professor Nona Otkhзорia
Members: Professor Besarion Shanshiashvili
Professor Levan Imnaishvili
Professor Mzia Kiknadze
Professor Ketevan Kotrikadze
Professor Zaal Azmaiparashvili

- **Prangishvili A., Imnaishvili L., Bedineishvili M.**- Evaluation of the Effectiveness of a Remote Laboratory Experiment
- **Besarion Shanshiashvili** - Parameter Identification Of Nonlinear System Using Linear Model With Nonlinear Feedback;
- **Otkhзорia N., Khorava Sh.** - Selection of Mathematical Optimization Methods for Solving Problems in Engineering Practice;
- **Jaliabova N.** - Management of the negative state of the closed environment to reduce the risk of diseases caused by its impact on the human body;
- **Kotrikadze K.** - The method of root hodographs in control theory;
- **Kifiani G., Chorkhаuli N., Badzgaradze G.**- Calculation of of Having Cracks Camellar Structure on Sustainability, Algorithm and Program;
- **Grigalashvili J., Imnadze E., Chantadze V.** - Processing animatronic effector in a graphical programming environment;
- **Bajelidze I., Murjikneli G.** - Optimization of user terminal handover process in real network using adaptive algorithm;
- **Beridze B., Donadze M.** - On one approach to network attack detection based on behavioral method;

COFFE BREAK 14:45 – 15:00

- **Kemoklidze L., Zumburidze O.** - The fourth industrial revolution and 4IR ICT technologies for industry;
- **Khumarashvili T., Buachidze N., Eristavi D.** - Determining the water quality class of small rivers, the main tributary of the Mtkvari river in the territory of Tbilisi, taking into account the "European Union Water Framework Directive - 2000/60/EC;
- **Kilasonia T.** - Notification system for landslide prone areas Conclusion;
- **Stepnadze I., Azmaiparashvili Z., Kozashvili M** - Situational control using a controller with acoustic voice function;

- **Kozashvili M., Murjikneli G., Murjikneli G.** - Automatic temperature, regulation of humidity and ventilation of the storage room;
- **Kirtskalia G., Makasarashvili D., Acharadze G.** - Using of Communication Network Channels in 802.11ax Wireless Transmission;
- **Menabde T., Otkhozoria V., Sharashenidze N.** - Embedded systems of control, management and monitoring;

Second Day of the Conference - November 19, 11:00 am,

11:00 - 15:00 Sections' work

Meeting Location: Room 323d, Building VI, GTU

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- **Kochiashvili N., Kartvelishvili J.** - Building a data center architectur and security;
- **Bzhinava E.** - Analysis of multiservice network user traffic;
- **Kurdadze M., Murjikneli G., Murjikneli G.** - Formulation of the main criteria for the functioning and assessment of the physical structure in telecommunication networks;
- **Abuladze I, Maglakelidze N.** - The role of artificial intelligence for the effectiveness of the educational process;
- **Irakli Rodonaia, Gulbaat Nareshelashvili, Vakhtang Rodonaia** - Application of Partially Observable;
- **Bejanishvili L., Nachkebia M., Beridze Z.** - Software project management processes simulation using precedent-based adaptation mechanisms;
- **Tevdoradze M., Giashvili I., Asatiani T.** - Current State and Future Trends of BI-Systems;
- **Gvinepadze G. Jojua N. Buzaladze A.** - On the issue of teaching the subject "Fundamentals of Creative Thinking;
- **Donadze M., Didmanidze I.** - Methods of Determining the Intensity and Probability of Threats in Information Systems;
- **Labadze A.** - Using Deep Learning systems in healthcare applying the example of Diabetic Retinopathy Diagnostics;
- **Iremadze I., Naskidashvili T.** - Methodology of teaching computer graphic design in higher and professional education of general aspects;
- **Khatiashvili K.** - Agile Testing of Organizational Management Information Systems;
- **Giashvili I., Bidzinashvili M.** - Optimization of business processes as the basis for the efficiency of the organization's functioning;
- **Gergauli A., Tevdoradze M., Rukhadze T.** - Using methods of Artificial Intelligence in organizational activities;

- **Shonia O., Bichnigauri A., Kaishauri T.** - Detection of suspicious domain names using CTL technologies for cyber security purposes;
- **Gachechiladze L., Margvelashvili A.** - Optimization Of Relational Database Management Systems By Modification Of The Binary Search Algorithm And Its Practical Use;
- **Tabatadze V.** - Movie box office profitability prediction using artificial intelligence;
- **Shonia O., Malania M. Shonia L.** - Security of cloud spaces;

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Asoc. Professor Mikheil Chikhradze
PhD Student Natia Beriashvili

- **Dosanjh M.** - Catalysing Access to Radiotherapy in Challenging Environments;
- **Chikhradze M., Beriashvili N.** - Performance evaluation of the 3T MR/BrainPET Insert With Pure and non-pure positron emitters;
- **Mikheil Kitaevich** - Telehealth: Current State Analysis, and its Evaluation in Georgia;
- **Akhvlediani I.** - Parameters of Shock Wave Generated During Blasting in Tunnels and Methods of Assessing Human Impact;
- **Darchiashvili L., Tsulukidze M., Chachkhiani Z.** - Magnetic Properties of UFe₂ Compound;
- **Beshidze T.** - Evaluation of Physical Properties of Biodegradable and Biocompatible Block Copolymer Poly (L-lactide-co-ε-caprolactone) After Implantation Until its Complete Absorption;
- **Meskhia M.** - Airflow Paths in Healthcare Facilities;

- **Kakubava R., Salia N., Giorgadze V.** - New Methods in Mathematical Models of Stochastic Systems;
- **Ebelashvili N., Uturashvili E., Kekelidze I.** - Biologically Active Substances in Juices Produced From Red Grape Varieties Via Innovative Technology of Enrichment in Phenolic Substances;

III - Section: Engineering and Digital Technologies

The section will work in the meeting hall of the laboratory named after Jiuli Shartava (IX building of GTU)

Section Chairman: Professor Nona Otkhozoria
Members: Professor Besarion Shanshiashvili
Professor Levan Imnaishvili
Professor Mzia Kiknadze
Professor Ketevan Kotrikadze
Professor Zaal Azmaiparashvili

- **Darchashvili M., Kartvelishvili J., Okhanashvili M.** - Advantages of using a virtual private network (VPN), description of different protocols and their classification;
- **Khutsishvili S., Gasitashvili Z., Khartishvili M.** - Analysis and modelling of managing tasks solved on the stages of innovative process;
- **Benashvili A., Gvaramia E., Bochoridze E.** - Modification of the computer architecture based on the GALS interface;
- **Kozashvili T.** - Development of the PN parameter calculation algorithm and working formulas for the device for determining the concentration of nitrate ions in food products;
- **Otkhozoria N., Mdzeleri K., Mosashvili I.** - Blockchain IoT Applications: Challenges and Future Directions;
- **Mchedlishvili N., Narimanashvili N., Tchintcharauli N.** - Computer Modeling of Control Objects with Distributed Parameters;
- **Julakidze L., Kochladze Z., Kaishauri T.** - Ability to build a new symmetric Tweakable block cipher;
Otkhozoria V., Akhlouri E., Mdzeleri K. - Assessment of performance indicators of modern sensor networks;
- **Imnaishvili L., Tevdoradze M., Saltkhutsishvili M.** - Development of Business Processes of Educational Program PDCA Cycle;

- **Burdiashvili O., Gordiashvili I** - Computer modeling of the Georgian Electric power system;
- **Gabashvili N., Gabashvili T., Kenchoshvili L.** - Smart Contract;
- **Mikeladze M., Radzievski D., Pagava K.** - Development of an intelligent system for diagnosing rare diseases based on cause-and-effect semantic networks;
- **Malakmadze M., Jikia A., Kurdadze M.** - Optimization model of sub-services management in the field of transport using information technology;
- **Khutsishvili O., Khutsishvili T., Tsikhelashvili B.** - New capabilities of Excel;
- **Kapanadze D., Todua T., Zhizhilashvili S.** - Factors influencing the success of e-governmen

Closing Ceremony of the Conference - 16:00

The closing ceremony of the conference will take place - in the meeting hall of the laboratory named after Juli Shartava (IX building of GTU)