PROGRAM

2021
IEEE XXVIth International Seminar/Workshop
DIRECT AND INVERSE PROBLEMS OF ELECTROMAGNETIC AND ACOUSTIC WAVE THEORY (DIPED)

Tbilisi, Georgia
September 8-10, 2021

DIPED-2021 ORGANIZING COMMITTEE WELCOME

The International Seminar/Workshop on Direct and Inverse Problems of Electromagnetic and Acoustic Wave Theory (DIPED) celebrates XXVIth anniversary. This event was established at 1982 based on scientific cooperation between the Radio Engineering and Electronics Institute, Academy of Sciences of USSR (Moscow), Tbilisi State University, Tbilisi, Georgia, and Institute for Applied Problems of Mechanics and Mathematics, Lviv, Ukraine started long time ago. The decision to establish such forum regularly was made at the non-formal forum of the scientists from the above mentioned Institutions in the hotel "Sakartvelo", Tbilisi, Georgia, on November 1981. The initiator and permanent leader of the DIPED Seminar/Workshop during many years was Prof. B. Z. Katsenelenbaum.

Until 1990, DIPED was held annually in Lviv and in Tbilisi alternately. Participants were scientists and engineers from various cities of FSU (Moscow, Tbilisi, Lviv, Kharkiv, Chelyabinsk, Novosibirsk, Saint Petersburg, etc.). The meetings were focused on the exchange of new scientific results, interaction and friendly relationships between the experienced and less experienced scientists. The novel ideas were discussed and checked by the joint cooperation; the young scientists freely communicated with more experienced older colleagues and felt themselves comfortable together. The humor and good relationships prevailed during the meetings.

At the beginnings of 90-s the work of the DIPED was temporary interrupted due to non-scientific reasons. Thanks to the technical and financial support of the IEEE, the Seminar was renewed in 1995 as the annual joint Seminar/Workshop of both the IEEE MTT/ED/AP/CPMT/SSC West Ukraine and IEEE MTT/ED/AP/EMC Georgian Chapters. The DIPED scientific topics expanded and the structure of participants become international. The peculiarities of the DIPED Seminars are the following:

The topics of discussions are defined by a composition of participants, in the basis of which stable group lies. The time allocated for the free lobby discussions is comparable to the time of the section discussion.

The first books in form of short abstracts were published in 1995 and 1997; they contained articles in English, Russian and Ukrainian. Since 1998, DIPED Proceedings were prepared and published only in English. Starting this year the DIPED Proceedings are included in the IEEE Xplore Digital Library.

This year, the DIPED Seminar/Workshop is held in Tbilisi State University again. As in the previous year, it will be held in the online format only because of limitations caused by the Covid-19. We hope that this inconvenience does not hinder the fruitful work of DIPED-2021, and its participants could free contact online and share the knowledge, new results and ideas as usually at the face-to-face contacts.

Prof. Revaz S. Zaridze, *Organizing Committee Chairman*

Dr. Tamar Nozadze, *Organizing Committee Secretary*

GEORGIA AND ITS CAPITAL TBILISI

Georgia's location, situated between the Black Sea, Russia, Armenia, Azerbaijan, and Turkey, gives it strategic importance far beyond its size. It is developing as the gateway from the Black Sea to the Caucasus and the larger Caspian region, but also serves as a buffer between Russia and Turkey.

Georgia's capital Tbilisi lies in the centre of eastern Georgia, in the foothills of the Trialeti mountain range. According to Georgian legends it was founded in the 5th century by King Vakhtang Gorgasali who while hunting shot a pheasant which fell into a warm spring and was either boiled or healed, depending on which version you hear. Either way, the king was inspired to found a city on the site, and the name of the city derives from the Georgian word "tbili" meaning warm. Although the city has been destroyed and rebuilt some 29 times, the layout of the Old Town is largely intact with narrow alleys and big crooked houses built around courtyards.

In times past, two mighty fortresses – Narikala Citadel (4th century) and the Metekhi Castle (5th century) – guarded the entrance to the city. Together with the Metekhi Temple and the other historic buildings in the old city center, they comprise a 90-hectare architectural protection zone.

Tbilisi's favorable trade location, however, did not necessarily bode well for its survival. Located strategically in the heart of the Caucasus between Europe and Asia, Tbilisi became an object of rivalry among the region's various powers such as the Roman Empire, Parthia, Sassanid Persia, Arabs, the Byzantine Empire, and the Seljuk Turks. The cultural development of the city was somewhat dependent on who ruled the city at various times, although Tbilisi was fairly cosmopolitan. From 570–580, the Persians ruled the city until 627, when Tbilisi was sacked by the Byzantine/Khazar armies and later, in 736–738, Arab armies entered the town under Marwan II. After this point, the Arabs established an emirate centered in Tbilisi. In 764, Tbilisi – still under Arab control – was once again sacked by the Khazars. In 853, the armies of Arab leader Bugha Al-Turki invaded Tbilisi in order to enforce its return to Abbasid allegiance. The Arab domination of Tbilisi continued until about 1050. In 1068, the city was once again sacked, only this time by the Seljuk Turks under Sultan Alp Arslan.

In 1121, after heavy fighting with the Seljuks, the troops of the King of Georgia David IV of Georgia besieged Tbilisi, which ended in 1122 and as a result David moved his residence from Kutaisi to Tbilisi, making it the capital of a unified Georgian State and thus inaugurating the Georgian Golden Age. From 12–13th centuries, Tbilisi became a

regional power with a thriving economy and astonishing cultural output. By the end of the 12th century, the population of Tbilisi had reached 100,000. The city also became an important literary and a cultural center not only for Georgia but for the Eastern Orthodox world of the time. During Queen Tamar's reign, Shota Rustaveli worked in Tbilisi while writing his legendary epic poem, *The Knight in the Panther's Skin*. This period is often referred to as "Georgia's Golden Age" or the Georgian Renaissance.

Georgia is the land of wine and cognac, of overwhelming hospitality and the quaintest toasts in the world.

Each year on the last weekend in October the largest of the many Georgian festivals takes place. “Tbilisoba” is a very special city festival, which unites the celebration of the wine harvest and carnival.

Tbilisi nowadays is a quite large city. Its old city centre or Maidan, however, still retains much of its charm. Centered on Gorgasalis Moedani, or Gorgasalis Square, you can find an Armenian church, a synagogue, a mosque, and the hot baths. But apart from these, and other, sights, the main draw of the Maidan or old city streets of Tbilisi is just observing, marveling at houses with a typical architecture, people going about their daily routines, discovering small, deserted squares with sometimes great views over Narikala fortress, the statue of Kartlis Deda, and arriving at the banks of Mtkvari river.

Shota Rustaveli Tbilisi International Airport is Tbilisi's only airport, located about 17 kilometres (11 miles) southeast of the city center. Handling 1.85 million passengers in 2015, it is the busiest airport in Georgia and the twenty-fifth-busiest airport in the former Soviet Union. The airport has experienced rapid growth, having more than doubled passenger numbers from roughly 822,000 in 2010 to approximately 1,847,000 in 2015. Tbilisi International Airport in 2016 started to utilize solar energy and became the first "green airport" in the Caucasus region in 2008.

Also famous are the warm spas of Tbilisi with there mineral water springs, sulphuric baths, and balneological treatment facilities.

At the very latest, one comes to love this old city after an evening of good food and music with Georgian friends.

But one should also not miss the opportunity to let the grandiose nature of the Caucasus perform its magic.

We truly hope that you will take off to stay an extra day or two and take advantage of the unique attractions and feature, with its breathtaking sites and historical traditions that Tbilisi has to offer, to make your stay memorable and certainly enjoyable.

ORGANIZED AND SPONSORED BY

IEEE MTT/ED/AP/EMC Georgian Chapter

IEEE Ukraine Section (West) MTT/ED/AP/EP/SSC Societies Joint Chapter

in Cooperation with

Ivane Javakhishvili Tbilisi State University, Tbilisi, Georgia

Pidstryhach Institute for Applied Problems of Mechanics and Mathematics, NASU, Lviv, Ukraine

in Technical Co-Sponsorship with

IEEE Antennas and Propagation Society, Electron Devices Society, Microwave Theory and Techniques Society

in Cooperation with

IEEE Solid State Circuits Society, IEEE Ukraine Section

INFORMATION FOR PARTICIPANTS

LANGUAGE

Official language of the Seminar/Workshop DIPED-2021 is English.

PRESENTATION

The DIPED-2021 presentations will be given online using the Zoom platform.

PROCEEDINGS

The papers accepted until the deadline will be published in the online Seminar/Workshop Proceedings before the event and will be available for the participants in the Google Disk. The link will be posted for the participants before the event. The electronic version of Proceedings will be sent to the IEEE Xplore Digital Library as usually.

REGISRATION

The registration of the participants will be held online on September 8, 2021, 20 min. before star of the Opening and Plenary Session.

The Registration fees details

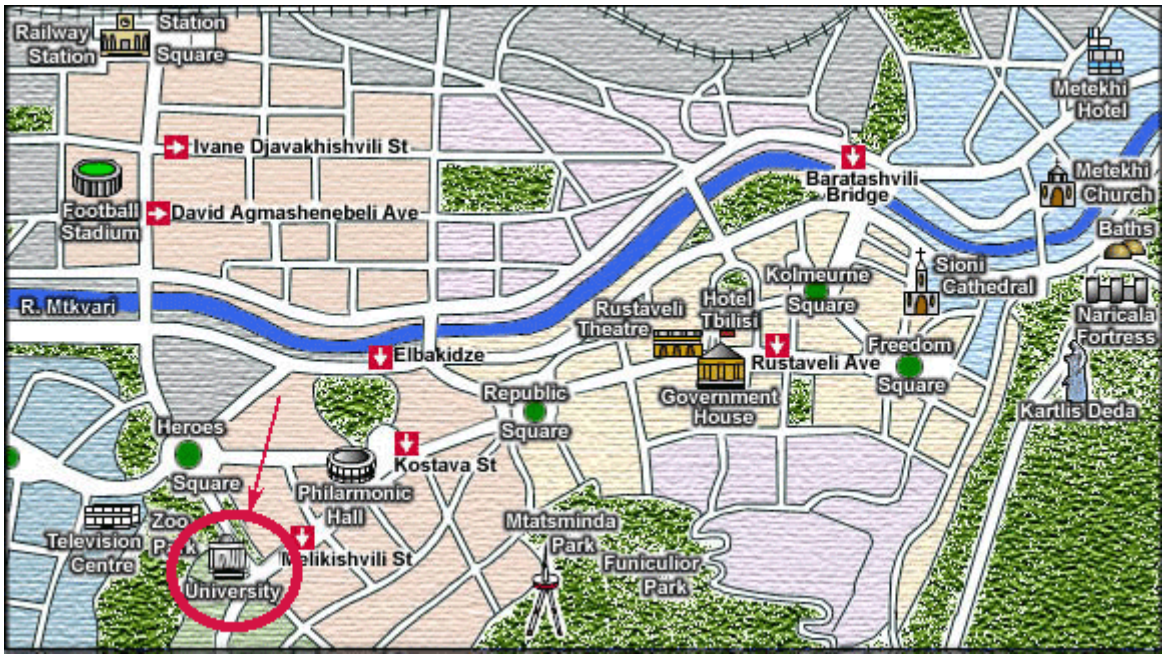
The DIPED-2021 Organizing Committee decided to waive the registration fees for all the participants. 

SEMINAR/WORKSHOP SCHEDULE

	Morning	Afternoon	Evening
Wednesday, September 8	Registration, Opening, Plenary Session	Technical Sessions	Technical Sessions
Thursday, September 9	Technical Session	Technical Session	Technical Session
Friday, September 10	Technical Sessions	Technical Sessions	Closing Session

VENUE

The Online Office of the DIPED-2021 Seminar/Workshop will be placed in the 1st building, room #115 of Ivane Javakhishvili Tbilisi State University (TSU) in Tbilisi, Georgia (*Address: 1, Tchavtchavadze Avenue, 0179 Tbilisi, Georgia*).



By the necessity, please contact Dr. Tamar Nozadze, DIPED-2021 Seminar/Workshop Organizing Committee Secretary (tamar.nozadze@tsu.ge).

TECHNICAL PROGRAM

Wednesday, September 8th

9^{40}-10^{00}: ***Registration***

10^{00}-10^{20}: ***Opening and Welcome***

10^{20}-10^{30}: ***Break***

10^{30}-13^{00}: ***Plenary Session***

- Formulation and Investigation of a Mathematical Model for Resonance Radiation on Media with Compactly Supported Nonlinearities *L. Angermann*, Klausthal, Germany
- Multiple Scattering by an Impenetrable Cluster: Energy Transfer Process of the Scattered Sound *A. Kalogeropoulos*, *N. L. Tsitsas*, Athens, Greece
- Analytical Properties of Wave Fields in the Problem of Optimal Antenna Synthesis *I. Darsavelidze*, *J. Manjgaladze*, *M. Prishvin*, *R. Zaridze*, Tbilisi, Georgia

11^{50}-12^{00}: ***Break***

- Comparison of Computational Efficiencies of MoM Solutions for EFIE/CFIE Problems on Triangulated and Quadrilateral Geometries *F. Bogdanov*, *L. Svanidze*, *I. Chochia*, *R. Jobava*, Tbilisi, Georgia
- 3D Radiating and Focusing Antenna System, *M. Andriychuk*, *V. Tkachuk*, Lviv, Ukraine

13^{00}-14^{00}: ***Lunch***

14^{00}-15^{15}: ***Diffraction and Scattering***

- About Using the Method of Poynting *B. Levin*, Holon, Israel
- Propagation of Electromagnetic Waves in a Waveguide with Space-Time Multiperiodically Modulated Magnetodielectric Filling *E. Gevorkyan*, Moscow, Russia
- Electromagnetically Coupled Au Nanoparticles *L. Illyashenko-Raguin*, Kharkiv, Ukraine
- Analysis of Biological Liquids by Metal Enhanced Fluorescence from Gold Nanoparticles *L. Illyashenko-Raguin*, Kharkiv, Ukraine
- Investigation of Radiation Properties of Nanoparticles by Analytical-Numerical Approach *M. I. Andriychuk*, *I. Bolesta*, *A. Demchuk*, Lviv, Ukraine

15^{15}-15^{30}: ***Break***

15^{30}-17^{15}: ***Propagation in Complex Media***

- Modeling Wave Scattering by GC-Liked Periodic Structures *V. D. Dushkin*, *O. V. Kostenko*, *S. V. Zhuchenko*, Kharkiv, Ukraine
- Analysis of the Use of Different Modes for Determining the Parameters of Dielectrics by Biconical Resonator *M. V. Andreev*, *O. O. Drobakhin*, *D. Yu. Saltykov*, Dnipro, Ukraine
- Fast Asymptotic Method for Calculating the RCS of Artificial Dielectric Toroidal Vortices in the EHF Band *O. Sukharevsky*, *V. Misailov*, *V. Vasilets*, *G. Zalevsky*, Kharkiv, Ukraine
- Irradiation of Medium by Plane Disk with Uniform Distribution of Transient Current *D. Havrylenko*, *O. Dumin*, *V. Plakhtii*, Kharkiv, Ukraine
- Integral Boundary Conditions in Studying a 2-D Propagation Problem of Monochromatic Waves Using the Finite Difference Method *O. Rybin*, *S. Shulga*, *O. Bagatska,* Kharkiv, Ukraine
- Non-Specular Reflection of Light Controlled by Light *S. Prosvirnin*, *K. Domina*, *V. Khardikov*, *V. Yachin*, Kharkiv, Ukraine
- Bistable Non-reciprocal Transmission of an Ultrathin Metal-Dielectric Metasurface with a Nonlinear Element in Wood's Anomalies *L. Kochetova*, *S. Prosvirnin*, *V. Khardikov*, *V. Yachin*, Kharkiv, Ukraine

Thursday, September 9th

10^{00}-10^{45}: ***Theoretical Aspects of Electrodynamics***

- Development of MoM-based Approach for Solution of Radiation and Scattering Problems Using CMA-based Hyper Basis Functions *F. Bogdanov*, *L. Svanidze*, *I. Chochia*, *R. Jobava*, Tbilisi, Georgia
- Features of Resonant Interaction of Light with All-Dielectric Metasurface Formed by Chiral Particles *V. Khardikov*, *V. Yachin*, *S. Prosvirnin*, Kharkiv, Ukraine
- Theory of Systems with Thin Impedance Dipoles and Narrow Slots *M. Nesterenko*, *V. Katrich*, *S. Berdnik*, *S. Pshenichnaya*, Kharkiv, Ukraine

10^{45}-11^{00}: ***Break***

11^{00}-12^{30}: ***Acoustics***

- Dynamic Stresses near Cracks in Anisotropic Bodies at Longitudinal Shear *O. Maksymovych*, *T. Solyar*, Lviv, Ukraine
- Propagation of Blushtein-Gulyaev Waves in a Piezoelectric Medium with a Thin Metal Layer *R. V. Rabosh*, *Ya. I. Kunets*, *V. V. Matus*, *Yu. I. Maksymiv*, Lviv, Ukraine
- Displacement Wave Field Caused by an Axial Shear Crack *V. Z. Stankevych*, *I. Ya. Zhbadynskyi*, *I. S. Kuz'*, Lviv, Ukraine
- Investigation of the Acoustic Emission Field in a Half-Space from the System of Coplanar Cracks *O. M. Stankevych*, *M. O. Babyak*, *N. V. Stankevych*, Lviv, Ukraine

- Mathematical Modeling of the Dynamic Interaction of Thin Piezoceramic Inclusion with Elastic Medium under Axisymmetric Torsion *R. M. Andriychuk*, *Ya. I. Kunets*, Lviv, Ukraine
- Methods for Forecasting the Noise Level of Rail Vehicles *M. Orynchak*, *M. Melnyk*, *V. Havran*, Lviv, Ukraine

12^{30}-13^{30}: *Lunch*

13^{30}-15^{45}: *Antenna Synthesis and Design*

- About the New Folded antenna *B. Levin*, Holon, Israel
- Complex Geometry Adaptive Antenna *V. Barbakadze*, *V. Tabatadze*, *R. Zaridze*, Tbilisi, Georgia
- The Optimal Antenna Synthesis Problem for Adaptive Phased Array *I. Darsavelidze*, *J. Manjgaladze*, *M. Prishvin*, *R. Zaridze*, Tbilisi, Georgia
- Energy Characteristics of an Antenna Array of Transverse Slots for Various Combinations of Filling the Waveguide with a Multilayer Dielectric *N. Blinova*, *A. Selutin*, Kharkiv, Ukraine

14^{45}-15^{00}: *Break*

- Directivity of Planar Arrays of Arbitrarily Oriented Dipoles Located above Perfectly Conducting Plane *N. Yeliseyeva*, *S. Berdnik*, *V. Katrich*, Kharkiv, Ukraine
- Directivity of Linear Arrays of Arbitrarily Oriented Dipoles Located above Perfectly Conducting Plane *N. Yeliseyeva*, Kharkiv, Ukraine
- Phase Optimization in the Synthesis Problem of Plane Equidistant Arrays *M. Andriychuk*, *Y. Kuleshnyk*, *V. Senyk*, Lviv, Ukraine

Friday, September 10^{th}

10^{00}-11^{45}: *Testing and Measurements*

- A Simple Approach to Determine the Buried Object under the Ground *V. Tabatadze*, *R. Zaridze*, Tbilisi, Georgia, *K. Karaçuha*, *E. Karaçuha*, Istanbul, Turkey
- Kirchhoff Migration Method for Tube Detection with UWB GPR *V. Plakhtii*, *O. Dumin*, *O. Pryshchenko*, Kharkiv, Ukraine
- Collective Artificial Intellegence Approach for the Problem of Object Classification With UWB GPR *O. Pryshchenko*, *O. Dumin*, *V. Plakhtii*, *D. Shyrokorad*, *G. Pochanin*, Kharkiv, Ukraine
- Alternating Magnetic Field Coils Optimization for Magnetic Nanoparticles Hyperthermia *A. Nour*, *F. Shubitidze*, USA
- Frequency Properties of Signals of Contactless Ultrasonic Testing *V. Borulko*, *V. Gritsenko*, Dnipro, Ukraine

- NMR Spin Echo Study of Domain Wall Pinning in Lithium Ferrite in Combination with an Additional Magnetic Video-Pulse *T. Gavasheli*, *G. Mamniashvili*, *T. Gegechkori*, *G. Ghvedashvili*, Tbilisi, Georgia
- Concept, Design and Electronics for Control and Measurement of an Ecological Nephelometer *L. Gheonjian*, *G. Korkotadze*, *A. Kvirikadze*, *A. Mamniashvili*, *N. Otarashvili*, Tbilisi, Georgia

11^{45}-12^{00}: ***Break***

12^{00}-13^{00}: ***Analytical and Numerical Techniques***

- Segmented Approach for the Prony's Method Numerical Realization *O. Drobakhin*, *O. Olevskyi*, Dnipro, Ukraine
- Advanced Method for Solving the Non-linear Multiparameter Spectral Problems *P. Savenko*, Lviv, Ukraine
- Systems of Transcendental Equations with Polynomial Representation of Solutions in the Synthesis Problem of Linear Antenna *O. O. Bulatsyk*, *Y. P. Topolyuk*, Lviv, Ukraine
- Numerical Solution of Initial Boundary-Value Problem for Homogeneous Wave Equation with Dynamic Boundary Conditions using Laguerre Transform on Time Variable and Boundary Element Method *A. Hlova*, *S. Litynskyy*, *Y. Muzychuk*, *A. Muzychuk*, Lviv,Ukraine

13^{00}-14^{00}: ***Lunch***

14^{00}-15^{45}: ***Applied Electroelectromagnetism***

- Applying the Electrodynamic Approach to Modeling Wireless Power Transmission Systems *V. Alieksieiev*, *D. Gretskih*, *A. Luchaninov*, *V. Lykhograi*, *A. Shcherbina*, Kharkiv, Ukraine
- Synthesis of Transmission Line Dual-Mode Resonator and Filter with Increased Stopband and Reduced Dimensions *S. Litvintsev*, *S. Rozenko*, Kyiv, Ukraine
- Synthesis of Dual-band Filter with Improved Functionality Based on Dual-mode Resonator *S. Litvintsev*, *S. Rozenko*, Kyiv, Ukraine
- Preliminary Results of Two Wire Loop EM System Study *R. Kereselidze*, *D. Kakulia*, *G. Ghvedashvili*, *M. Prishvin*, *G. Sapharishvili*, Tbilisi, Georgia
- Gaussian and Rational Approximation of Raman Gain Profile in TiO_2 Doped Silica Fiber *G. S. Felinskyi*, *V. I. Grygoruk*, *I. V. Serdeha*, Kyiv, Ukraine, *O. O. Drobakhin*, *M. V. Andreev*, Dnipro, Ukraine
- Reflection Characteristics Study of the Foam Medium Samples *L. Filins'kyy*, *M. Potapov*, Dnipro, Ukraine

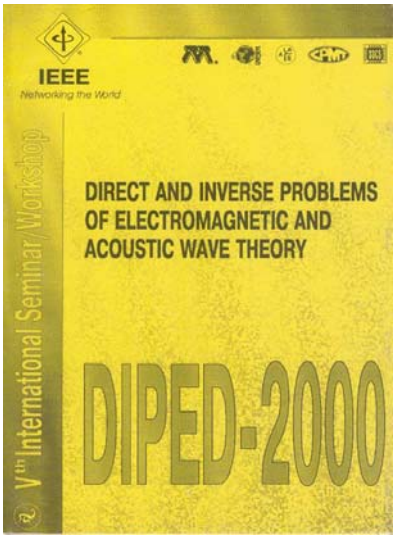
15^{45}-16^{00}: ***Break***

16^{00}-16^{30}: ***Closing Session***

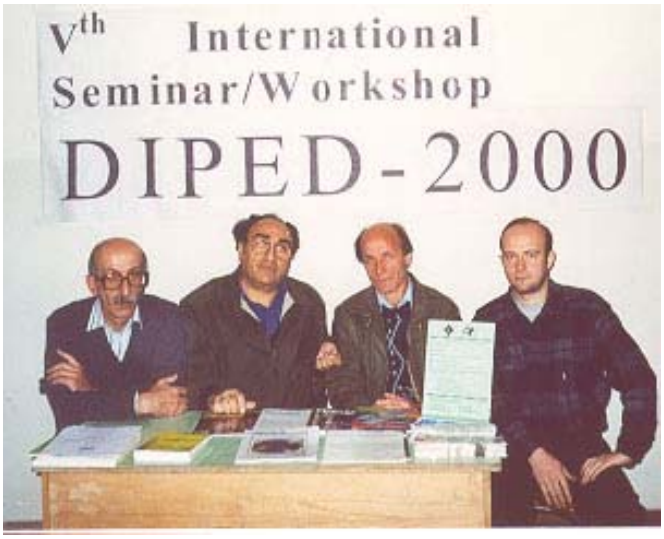
THE PREVIOUS DIPED SEMINAR/WORKSHOP MINUTES

2000: Vth DIPED.
October 10-13, 2002, Tbilisi State University, Tbilisi, Georgia.

26 papers from **5 countries**: **Georgia, Russia, Taiwan, USA, and Ukraine** were presented at the Seminar/Workshop.



The cover page of DIPED-2000 Proceedings.



The organizers of DIPED-2000 Seminar/Workshop.

2002: VIIth DIPED.
October 10-13, 2002, Tbilisi State University, Tbilisi, Georgia.

33 papers from **7 countries**: **Georgia, Germany, Poland, Russia, Taiwan, USA, and Ukraine** were presented at the Seminar/Workshop.

The best young speakers: **Giorgi Ghvedashvili**, TSU, Tbilisi, Georgia (Experimental and Numerical Investigation of Pear-shaped Antenna),

- **David Kakulia**, TSU, Tbilisi, Georgia (Investigation of the resonance characteristics of the car-case),
- **Oleg Kusyi**, Pidstryhach Institute of APMM, NASU, Lviv, Ukraine (Bicriterion optimization problems for power transmitting line).

The DIPED-2002 Best Young Speaker Award recipients (Oleg, Giorgi, and David: l-r).

2003: VIIIth DIPED.

48 papers of participants from **8 countries: Georgia, Germany, China, Lebanon, Poland, Russia, UK, and Ukrain**e were presented in the 6 oral sessions.

The best young speakers:

- Dr. Kakhaber Tavzarashvili (Tbilisi State University, Tbilisi, Georgia) for "Investigation of the Field Distribution Inside Rooms Located Near the Basic Antenna Stations".
- Ms. Eugeniya Yakovenko (National University "Lviv Polytechnic") for "The Verification of the Mathematical Model of Electromagnetic Field Distribution in the Human Head Phantom from External Sources".

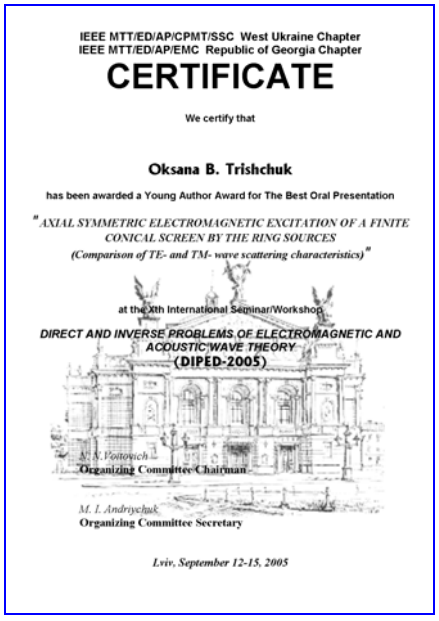
The group of DIPED-2003 participants at the IAPMM building on background.

2005: X[th] DIPED.
Lviv, IAPMM NASU, September 12-15, 2005.

50 papers of participants from **13 countries: Algeria, China, France, Georgia, Germany, India, Israel, Poland, Russia, Switzerland, UK, USA, and Ukraine** were presented in the 8 oral sessions.

The Best Young Speaker Awards

- Oksana Trishchuk (PMI, NASU, Lviv) for "Axial Symmetric Electromagnetic Excitation of a Finite Conical Screen by the Ring Sources".
- Kostyantyn Sirenko (IRE, NASU, Kharkiv) for"Time-Domain Methods in Problems of Model Synthesis of Microwave Power Compressors".
- Alexandr Dumin (Kharkiv National University, Ukraine) for"Dielectric Heating with Electromagnetic Field".



IEEE MTT/ED/AP/CPMT/SSC West Ukraine Chapter
IEEE MTT/ED/AP/EMC Republic of Georgia Chapter

CERTIFICATE

We certify that

Oksana B. Trishchuk

has been awarded a Young Author Award for The Best Oral Presentation

"AXIAL SYMMETRIC ELECTROMAGNETIC EXCITATION OF A FINITE CONICAL SCREEN BY THE RING SOURCES (Comparison of TE- and TM- wave scattering characteristics)"

at the Xth International Seminar/Workshop

DIRECT AND INVERSE PROBLEMS OF ELECTROMAGNETIC AND ACOUSTIC WAVE THEORY
(DIPED-2005)

M. N. Voitovich
Organizing Committee Chairman

M. I. Andriychuk
Organizing Committee Secretary

Lviv, September 12-15, 2005

The first DIPED Best Young Speaker Certificate.

2008: XIIIth DIPED
Tbilisi State University, Tbilisi, Georgia, September 22-25, 2008.

The DIPED-08 technical program included 35 papers with 4 invited talks.

Prof. Nikolai N. Voitovich introduced the participants with the Prof. B. Katsenelenbaum's Skype presentation.

Prof. Revaz S. Zaridze makes some comments to paper of Prof. B. Z. Katsenelenbaum.

2009: IXth DIPED

September 21-24, 2009, the Institute of Applied Problems of Mechanics and Mathematics.
DIPED-2009 Seminar/Workshop was dedicated to 90th anniversary of Prof. Boris Z. Katsenelenbaum.

The DIPED-09 technical program consisted of **60 papers** including 4 invited talks. **The scientists from 9 countries: China, Georgia, India, Israel, Poland, Russia, Turkey, USA, and Ukraine** presented their papers.

Two first Skype presentations:

Prof. Boris Z. Katsenelenbaum (Naharia, Israel),

Prof. Mikhail I. Petelin (Institute of Applied Physics, RAS, Nizhny Novgorod, Russia).

Prof. B. Z. Katsenelenbaum at work, Naharia, Israel, 2005.

2010: XV[th] DIPED
Tbilisi State University, Tbilisi, Georgia, September 27-30.

The DIPED-2010 technical program consisted of **42 papers**, including 4 invited talks.
Scientists from **11 countries: Bulgaria, China, Georgia, Germany, India, Israel, Japan, Poland, Russia, USA and Ukraine** brought forward their papers.

	
Prof. G. Kevanishvili discussing on the correct electrodynamic theory of horn antennas.	Active discussion after the presentation of Prof. G. Georgiev (left) and Prof. D. Karkashadze (right).

2011: XVI[th] DIPED

September 25-29, 2011, IPPMM NASU
The DIPED-2011 technical program consisted of including 4 invited talks.
The scientists from **9 countries: Bulgaria, China, Georgia, Israel, Korea, Poland, Russia, USA, and Ukraine** presented **46** papers.
Prof. Magdalena Salazar-Palma, 2011 IEEE Antennas & Propagation Society President, was honorary guest of the event.

	
Mr. V. Yashchenko (r) receiving the DIPED-2011 Young Speaker Award from Prof. Magdalena Salazar-Palma.	Dr. Son Soo Oh – South Korea (r) receiving the grant for the most distant trip to participate at the DIPED-2011.

2014: XIXth DIPED

Tbilisi State University, Tbilisi, Georgia, September 22-25.

The DIPED-2014 technical program consisted of 44 papers, including 5 invited talks. Scientists from **9 countries: Georgia, Germany, Israel, Pakistan, Poland, Russia, South Korea, USA and Ukraine** presented their papers.

The best young speakers:

- Ms. Veriko Jeladze (TSU, Tbilisi. Georgia)
- Dr. Olena Bulatsyk (IAPMM, NASU, Lviv, Ukraine)
- Mr. Victor Lysechko (PMI, NASU, Lviv, Ukraine)
- Mr. Giga Gabriadze (TSU, Tbilisi. Georgia)
- Mr. Giorgi Jambazishvili (TSU, Tbilisi. Georgia)
- Mr. Kaka Lomia (TSU, Tbilisi. Georgia)

The DIPED-2014 Young Speaker Award recipients: V. Lysechko, K. Lomia, G. Gabriadze, G. Jambazishvili, V. Jeladze, and O. Bulatsyk (from l to r).

2015: XXth DIPED

IAPMM, NASU, Lviv, Ukraine, September 21-24.

The DIPED-2015 technical program consisted of **39 papers**, including 4 invited talks. Scientists from **7 countries: China, Georgia, Germany, Israel, Pakistan, Pakistan, and Ukrain**e sent their papers.

The DIPED-2015 was dedicated to memory of Prof. Boris Z. Katsenelenbaum who passed away on April 26, 2015.

Mrs. Nino Kvavadze (TSU, Georgia) with DIPED-2015 Best Young Speaker Award Plaque.

The memory photo at the DIPED-2015 Closing Ceremony.

2016: XXI st DIPED

Tbilisi State University, Tbilisi, Georgia, September 26-29.

The DIPED-2016 technical program consisted of **38 papers**, including 6 invited talks. Scientists from **11 countries: Canada, China, Georgia, Germany, Israel, Iran, Poland, Russia, Tunisia, USA, and Ukraine** presented their papers.

The best young speakers:

- Ms. Tamar Nozadze (TSU, Tbilisi. Georgia);
- Mr. Giga Gabriadze (TSU, Tbilisi. Georgia);
- Mr. Giorgi Afridonidze (TSU, Tbilisi. Georgia);
- Mr. Nikolaoz Vadachkoria (TSU, Tbilisi. Georgia).

A group of DIPED-2016 participants with the TSU building at the background

2017: XXIInd DIPED

Oles Honchar Dnipro National University (DNU), Dnipro, Ukraine, September 25-28.

The DIPED-2017 technical program consisted of **57 papers**, including 5 invited talks. Scientists from **8 countries: Georgia, Germany, Greece, Israel, Russia, South Africa, Turkey, and Ukraine** presented their works.

The best young speakers:

- Mr. Giorgi Kapanadze (TSU, Tbilisi, Georgia);
- Mr. Vyacheslav Gorev (Oles Honchar DNU, Dnipro, Ukraine);
- Mr. Pavle Tsotskolauri (TSU, Tbilisi, Georgia);
- Mr. Mykola Medvedev (V. N. Karazin KNU, Kharkiv, Ukraine);
- Mr. Evhen Shulga (O. Ya. Usikov IRE, NASU, Kharkiv, Ukraine)

Prof. Oleg O. Drobakhin, presenting the historical overview about the ACS Department at the Oles Honchar DNU

2018: XXIII[rd] DIPED

Tbilisi State University, Tbilisi, Georgia, September 24-27.

DIPED-2018 was dedicated to 100[th] anniversary of TSU and 80[th] anniversary of Prof. Revaz S. Zaridze, one of founders of the DIPED Seminar/Workshop.

The DIPED-2018 technical program consisted of 50 papers, including 7 invited talks. Scientists from Georgia, Germany, Greece, Israel, Japan, Philippines, Poland, Russia, Tunisia, Turkey, USA, and Ukraine submitted their papers.

The DIPED-2016 participants at the starting the Plenary Session

2019: XXIV[th] DIPED

Pidstryhach IAPMM, NASU, Lviv, Ukraine, September 12-14.

DIPED-2019 was dedicated to 100[th] anniversary of Prof. Boris Z. Katsenelenbaum, mastermind, organizer, and contributor to the DIPED Seminar/Workshop.

The best young speakers:

- Mr. Olexiy Breslavets, (O.Ya. Usikov IRE, NASU, Kharkiv, Ukraine);
- Mr. Ilya Persanov, (V. N. Karazin, KNU, Kharkiv, Ukraine);
- Mr. Vadym Plakhtii, (V. N. Karazin, KNU, Kharkiv, Ukraine);
- Mr. Olexandr Prishchenko, (V. N. Karazin, KNU, Kharkiv, Ukraine);
- Mr. Illia Vodorez, (O.Ya. Usikov IRE, NASU, Kharkiv, Ukraine).

The DIPED-2019 Best Young Speaker Award recipients

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