

Serbia and Montenegro IEEE MTT-S Chapter Key Activities in 2025

The Serbia and Montenegro IEEE Microwave Theory and Technology Society (MTT-S) Chapter, founded in 1989 (originally as the Yugoslav Chapter) and renamed in 2005, continues to serve as a regional hub for microwave theory, technology and applications in the Balkan region (www.mtt-serbia.org.rs). The membership is multi-institutional: three university centres in Serbia (University of Belgrade, University of Niš, University of Novi Sad) and one in Montenegro (University of Podgorica).

In 2025 the Chapter's mission remains centred on: Promoting professional standing of its members and the quality of life through microwave technologies; Organizing technical lectures, workshops, conferences and student activities; and Engaging with academia and industry.

Notably, the Chapter was featured in July 2025 as the "Microwave Hub in Balkans" in the IEEE MTT-S's magazine column, highlighting its significance in Region 8. It was the MGA (Member & Geographic Activities) column of IEEE Microwave Magazine (July issue). The July 2025 feature noted that among ~40 members there is one IEEE Fellow, one Life Senior Member and nine Senior Members. Exactly 40% of the Chapter members are female members. This feature helps promote the Chapter globally.

The Chapter is actively engaged in a variety of activities:

1. Invited Talk and Technical Lectures

In celebration of IEEE Day 2025, the Faculty of Electronic Engineering, University of Niš and the Chapter hosted a special lecture titled "*MHz to THz Technologies and Our Place in Universe*". The invited speaker was Goutam Chattopadhyay from NASA Jet Propulsion Laboratory, USA and 2025 IEEE MTT-S President. This event underscores the Chapter's ability to bring high-profile international experts to the region, thereby providing exposure to cutting-edge research (terahertz instrumentation, radar, etc.) for local members, students and academia.

In general, the Chapter hosts technical lectures to help members stay updated with the latest advancements, trends, and best practices in microwave theory, design, and applications. Each year, the Chapter carefully selects distinguished microwave lecturers (DMLs) and Speakers Bureau (SB) lecturers to present talks to the Chapter members on site or online. In 2025, Prof. Vadim Issakov from Braunschweig University of Technology, Germany, was selected as a DML speaker to deliver an on-line lecture on "*mmWave System and Circuit Design for Highly-Integrated Radar Transceivers*", and as SB speaker Prof. Francesco Ferranti from Luleå University of Technology, Sweden to deliver an in-person lecture titled "*Advanced Modeling Techniques for Microwave and Photonic Design and Fault Identification*".

2. Conferences, Workshops and Panel Sessions

This year, the Chapter was co-sponsor of the TELSIKS Conference and supported the ETRAN/IcETLAN and ICEST conferences. These conferences provide platforms for microwave/RF/antenna/systems engineering in the region, and strengthen the Chapter's visibility.



The Chapter members supported organization of the 69th national Conference for ETRAN 2025 and 12th International Conference on Electrical, Electronic and Computing Engineering – IcETLAN 2025, which were held on June 9-12, 2025, in Čačak, Serbia (<http://etran.etf.rs/>). The chapter members participated in the session API "Antennas and Propagation" with 4 papers, in the MT/MTI "Microwave Technique, Technologies and

Systems” session with 5 papers, and in the EK/EKI “Electrical Circuits and Systems and Signal Processing” session with 3 papers.

Society for Electronics, Telecommunications, Computers, Automatics and Nuclear Engineering (ETRAN Society) awards *the best paper* and *the best paper submitted by a young researcher* in each section for both ETRAN and IcETRAN conferences. *The best paper submitted by a young researcher* in AP session is given to Ilija Kuzman and Branko Kolundžija for the paper entitled “*The Influence of the Proximity Effect on the Accuracy of Modeling of Wire Antennas Based on Thin-Wire Approximation*”, as well as in EKI session to Mihajlo Tatović and Predrag B. Petrović for the paper entitled “*Electronic Devices for Connecting, Controlling and Monitoring Vending Machines, Car Washes, Coffee Machines via PC and POS Terminal*”. *The best paper award* in API session is given to Branislav Ninković and Miodrag Tasić, the authors of the paper entitled “*On the Quadrilateral Meshing of the Fractured Human Femur Bone in Electromagnetic Simulations*”. Award for the best paper in EK session is given to Nikola Petrović and Dušan Grujić for the paper “*System for Receiving Data from the FMCW Radar Sensor via the LVDS Interface*”. Award “Aleksandar Marinčić” for the best paper presented in the MTI session is given to Paolo Esposito, Gianluca Barile, Leonardo Pantoli, Vincenzo Stornelli and Giuseppe Ferri for the paper “*A 3D-Printed Structure Approaching Low-Pass Filters for High-Frequency Applications*”.



The Chapter members supported organization of the jubilee 60th ICEST Conference - International Scientific Conference on Information, Communication and Energy Systems and Technologies, which was held in Ohrid, North Macedonia, known as the "Balkan Jerusalem", on June 26-28, 2025 (www.icestconf.org). Organized by the Faculty of Technical Sciences in Bitola, North Macedonia in collaboration with the Faculty of Electronic Engineering in Niš, Serbia and the Faculty of Telecommunications at the Technical University of Sofia, Bulgaria, and co-sponsored by the IEEE Sections of North Macedonia, Bulgaria and Serbia and Montenegro, ICEST 2025 has served as a platform for sharing innovative research and advancements. As participants or serving as section chair, the Chapter members participated in several sessions. The chapter members participated in the session “Radio Communications, Microwaves and Antennas” with 5 papers.



Furthermore, the main activity of the Chapter in 2025 was organization of the 17th International Conference on Advanced Technologies, Systems and Services in Telecommunications TELSIS 2025, scheduled for October 22 to 24, 2025.



| Time | Title | Presenter |
|-------|--|---|
| 16:00 | Registration of participants | |
| 16:30 | Introduction to Custom-FlexMADE project | Jugoslav JOKOVIĆ, Faculty of Electronic Engineering, University of Niš, Serbia |
| 16:40 | Wearable Antenna Solutions | Zlatoljub MILOSAVLJEVIĆ, Huawei Technologies, Helsinki, Finland |
| 17:00 | Flexible Circularly Polarized mmW arrays | Dejan FILIPOVIĆ, Electrical, Computer & Energy Engineering, University of Colorado, USA |
| 17:20 | Numerical Electromagnetics and High-Performance Computing | Dragan OLCAN, School of Electrical Engineering, University of Belgrade, Serbia |
| 17:40 | Coffee break | |
| 18:00 | Modelling Arbitrary Deformations of Wearable Antennas | Ana VUKOVIĆ, George Green Institute for Electromagnetics Research, Faculty of Engineering, University of Nottingham, UK |
| 18:20 | Development of an Anatomically Realistic Volume Conductor Model of the Human Upper Arm for Optimizing Electrocutaneous Warning | Jannik SANDER, Institute of Biomedical Engineering and Informatics, Technische Universität Ilmenau, Germany |
| 18:40 | Cylindrical world of the TLM | Tijana DIMITRIJEVIĆ, Faculty of Electronic Engineering, University of Niš, Serbia |
| 19:00 | Discussion | |

The conference is organized by the Faculty of Electronic Engineering, Niš and the national Society for Microwave Technique, Technologies and Systems, under auspices of the Ministry of Science, Technological Development and Innovation of the Republic of Serbia, in cooperation with the Serbia and Montenegro IEEE Women in Engineering (WiE) Affinity Group, Academy of Engineering Sciences of Serbia, and Society for ETRAN. The conference was technically cosponsored by the IEEE AP-S, IEEE MTT-S, IEEE Region 8, Serbia and Montenegro IEEE Section, and Serbia and Montenegro IEEE MTT-S Chapter. The chapter members, being the members of the executive and organizing committee and also participating in the TPC, have done all activities related to the organization of the conference. The TELSIS 2025 conference achievements are shown in the form of the report in this journal issue.

During the TELSIKS 2025 conference, workshop *Antenna Modelling and Design for Wearable Applications - State of the Art and Challenges* was organized within the project: *Customized Model for Flexible Antenna Design – CustomFlex-MADE*, Serbian Scientific Cooperation Program with the Diaspora.

Panel *Trends and Challenges in Integrated Circuit Design for Communications and Sensing* was organized by Science Fund of the Republic of Serbia Aim2Wave Project and Serbia and Montenegro IEEE MTT-S Chapter.



Panel session *Waves of Change: Women Shaping the Digital Future* was organized by Serbia and Montenegro IEEE MTT-S Chapter; Serbia and Montenegro IEEE WiE Affinity Group and MTT-S Women in Microwaves (WiM). It took place on Wednesday, October 22, 2025 in the evening followed by networking event designed to bring people together and to create space for attendees, speakers, and organizers to meet, talk, and build connections in a more informal setting.



3. Student & Early-Career Engagement

Traditionally, the Chapter actively supports student-oriented conferences such as IEEEESTEC Student Projects Conference and similar student project events. Student involvement ensures nurturing of future engineers and better alignment with academia-industry links.

Namely, the MTT-S Chapter actively participates in organization of student-oriented conference such as *IEEEESTEC Student Project Conference* at the Faculty of Electronic Engineering, University of Niš. The conference is traditionally held during the week of Faculty Day, the last week in November. This year, the 18th edition of the conference was on Thursday, November 27, 2025 (<http://ieee.elfak.ni.ac.rs>). The conference was organized by the student branch of IEEE Student Branch Niš, IEEEESTEC LC Niš, and the Faculty of Electronic Engineering in Niš, in cooperation with Serbia and Montenegro (S&M) IEEE Section, S&M IEEE ED/SSC Chapter, S&M IEEE MTT-S Chapter, S&M IEEE WiE Affinity Group and

S&M IEEE Computational Intelligence (CIS) Chapter, with the support of the Serbian Academy of Sciences and Arts (SASA) Branch Niš, as well as the Ministry of Science, Technological Development and Innovation of the Republic of Serbia. The best papers presented at the IEEEESTEC Conference will be sent to the IEEE Region 8 student paper competition. This year, the MTT-S Chapter awarded the paper “*Parallel Acquisition, Processing and Real-Time Visualization of the Spectrum of Wi-Fi Networks*” authored by Mihajlo Marković and Bojana Paunović, students of the Faculty of Technical Sciences, University of Novi Sad.



Certificates given to MTT-S Chapter awardees

4. Publishing Activities



The thirty first volume of the *Microwave Review* journal, a publication of MTT-S Chapter of Serbia and Montenegro IEEE Section and national Society for Microwave Technique, Technologies and Systems was published in 2025. The first issue was published in July 2025 and the second one in December 2025. The journal is included into IET INSPEC, Scopus and EBSCO host databases.

Microwave Review is available in electronic version on the web site https://www.mtt-serbia.org.rs/microwave_review.

5. Challenges and Opportunities

As with many regional chapters, challenges include sustaining high membership engagement, balancing academic and industry interests, and securing sponsorship/funding for technical events. Ensuring that student and early-career members are integrated and retain involvement beyond their studies remains an ongoing effort. Broadening industry linkages and translation of academic microwave research into practice in the region remains a potential gap.

On the other hand, opportunities are seen as: Leverage the Chapter's featured status to build further collaborations, attract new members and partner with industry; Strengthen regional visibility by hosting more frequent technical workshops in the Balkans tied to global microwave trends (terahertz, 5G/6G mmWave, radar, sensors); Expand student and young-researcher programs (mentoring, travel grants, tutorials) to build the next generation; Forge stronger industry-academia linkages (startups, research-commercialization) within microwave/RF fields in the Balkans.

In summary, the Serbia and Montenegro IEEE MTT-S Chapter continues to perform strongly in 2025: hosting technical lectures, organizing and supporting major regional conferences, engaging students, and achieving international visibility. The July 2025 feature in the *Microwave Magazine* marks a milestone in recognition of the Chapter's achievements.

Many thanks to everyone who contributed in any way to this success!

Prof. Biljana P. Stošić
Faculty of Electronic Engineering
University of Niš, Serbia
S&M IEEE MTT-S Chapter Chair