

# North Macedonia LMAG Activities

**Goce L. Arsov LSM, North Macedonia LMAG CHAIR**

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### Section Location



**Population about 2.0 millions**

**Area 25,713 sq. km**

**Capital - Skopje (600,000 inhab.)**

## LMAG (LM80077) APPROVED – November 2021

**In December 2023 the election was held (term 24-25)**

**Chair – Goce Arsov**

**Vice Chair – Georgi Dimirovski**

**Treasurer – Pero Latkoski**

**In 2022 Georgi Dimirovski was awarded with LM Individual Service Award**

**In 2023 the IEEE Milestone Proposal – “*First control of a physical object (a robot) using signals emanating from a human head*” was approved by IEEE (Unveiling of the plaque IEEE Milestone was done on Oct.10 2023)**

**In 2024 we were awarded with the R8 LMAG Achievement Award**

In 2026 we will have 11 LMs (LF-2, LSM-7, LM-2)

**Since its establishment, LMAG had organized, sponsored, or co-sponsored many activities within the IEEE North Macedonia Section.**

**The LMAG had established very good cooperation with all other entities in the section, especially with the Student Branch and Student Branch Chapters, as well as with Serbia and Montenegro LMAG.**

**Most of the activities are mutually organized (sponsored) with other Section entities.**

**Excellent cooperation with EDS/IMS/SSCS, CAS/CIS/CS and SPS/EMBS Joint Chapters**

**In 2024 we have organized or sponsored 43 meetings (reported in vTools)**

**In 2025 (up to now) we have organized or sponsored several meetings (some of them – 14 – are already reported on vTools).**

**(Some are not yet reported - someone else should report them first.)**

**Only 4 will be presented in the following slides.**

**The elections for 24/25 were conducted using vTools and we have started the election process for 26/27**

**1. April 28 2025**

**Andreas Spanias, IEEE Life Fellow, Arizona State University**

**Transform Coders for Speech and Audio Signals - Classical and Quantum Realizations**



**Andreas Spanias**



**Social gathering after the lecture**

### 1. May 12 –14 2025 **The 5<sup>th</sup> edition RoboMac Junior**

The goal of this competition is to promote STEM fields such as robotics and artificial intelligence **between students and the youth** in North Macedonia and neighboring regions, while initializing and supporting the function of many other projects related to robotics. 54 students divided in 18 teams from high schools throughout Macedonia participated competing in two categories:

#### **AUTONOMOUS MOBILE ROBOTICS**

#### **SMART ELECTRONICS FOR AUTONOMOUS VEHICLES**

The top 3 teams in each event were awarded medals.

The students attended lectures on Mobile Electronics, Robotics & AI.

### From the opening session



The Dean of FEEIT addresses the Participants

### 3. May 12 – 17 2025 **RoboMac 2025**

The 13<sup>th</sup> international competition in Robotics and AI held annually at the Faculty of Electrical Engineering and Information Technologies in Skopje, North Macedonia is organized by the Ss Cyril&Methodius University in Skopje, SSCS&EDS Student Branch Chapters, and sponsored by all other Section Entities including LMAG.

Over 70 students from Universities in North Macedonia participated in 5-events along with participating in some lectures.

### 3. May 12 – 17 2025 **RoboMac 2025 – 5 Categories**

**Detect the Intruder** – Hardware-software co-design for detecting a misaligned element.

**AI Football** – Program intelligent agents to find and eliminate opponents in a dynamic environment.

**Robotic Arm Challenge** – Combine robotics and machine vision to accurately sort objects.

**The VoiceBot Challenge** – Command your VoiceBot to victory in this speech-driven robotics competition.

**Self-Racing Cars** – Program and unleash NVIDIA JetBots in a self-driving car showdown.

### RoboMac 2025

	Monday 12.5.2025	Tuesday 13.5.2025	Wednesday 14.5.2025	Thursday 15.5.2025	Friday 16.5.2025	Saturday 17.5.2025
08:30-09:00		Workshop	Workshop	Workshop	Workshop	Preparation for the Finals
09:00-10:00						
10:00-11:00	Registration					
11:00-12:00			L4: Pagliara, University of Cagliari: AI-Enabled Assistive Technologies	L6: Ilijoski, FINKI: Robots and applications as mediators in autism		
12:00-13:00	Opening (AMFI)	L3: Kartalov, FEEIT: Robot Vision - From Light To Numbers	L5: Gerazov, FEEIT: On-device Speech Synthesis	L7: Gjoreski, FEEIT: How can smart glasses recognize facial gestures		
13:00-14:00	Break for lunch	Break for lunch	Break for lunch	Break for lunch	Break for lunch	Break for lunch
14:00-15:00						
15:00-16:00	L1: Donchevski, Glushica, FEEIT: Optimization Challenges in AI and Speech Recognition	Workshop	Workshop	Workshop	Workshop	Preparation for the Finals
16:00-17:00	L2: Kamilovski, Hristov, Zlatinov, FEEIT: Line Tracing, Robotics and Autonomous					
17:00-18:00						
18:00-19:00	Workshop					Finals
19:00-20:00						

### The Agenda



From the Opening Session – The Rector of SS Cyril and Methodius University addressing the participants

### 4. September 11

Prof. Dragica Vasileska, IEEE Fellow ASU,

*Trends in low-power and high-power electronics, computational electronics and online education*



***Thank you for your attention***