



Matej Medla

Date of birth: 07/10/1995 | **Nationality:** Slovak | **Gender:** Male | **Phone number:**

(+421) 944166512 (Mobile) | **Email address:** matej.medla@savba.sk | **Website:**

<https://orcid.org/my-orcid?orcid=0009-0004-8752-8808> |

Whatsapp Messenger: +421944166512 |

Address: Hanulova, 1, 84101, Bratislava, Slovakia (Home)

WORK EXPERIENCE

POSTDOCTORAL RESEARCHER – INSTITUTE OF ZOOLOGY, SLOVAK ACADEMY OF SCIENCES – 01/09/2023 – Current – BRATISLAVA, SLOVAKIA

Studying the neurobiology of tick brains, with a focus on how neuronal and neuroendocrine mechanisms regulate behavior and physiology. Specifically investigating neuropeptide signaling pathways using RNA interference and in vivo bioassays in hard ticks (Ixodidae).

HOSTING RESEARCHER – CENTER FOR MIND/BRAIN SCIENCES - CIMEC – 25/01/2025 – 30/06/2025 – ROVERETO (TN), ITALY

After completing the EMBO Scientific Exchange Grant internship at CIMEC, I continued for six months remotely as a hosting researcher, focusing on experimental design, protocol optimization, and data pre-processing with ROI-based time-series analysis of calcium imaging in MATLAB, contributing to the development of novel bioassays and functional studies of the tick nervous and olfactory systems.

NETWORKS AND MEMBERSHIPS

01/05/2024 – CURRENT Slovak Academy of Sciences, Bratislava, Slovakia

Committee member | Young Scientist of SAS

Organize an annual workshop for 40-50 young researchers (PhD students and early postdocs) as part of applicants' responsibilities as a committee member, promoting networking, research presentation skills, and career development. Select and perform first edits of short articles for the *Quark Journal*, "Young and Science" (in Slovak language: "Mladí a Veda") section (monthly), enhancing science communication and outreach.

EDUCATION AND TRAINING

01/09/2019 – CURRENT Bratislava, Slovakia

PHD IN MOLECULAR BIOLOGY Comenius University, Faculty of Natural Sciences, Institute of Zoology, Slovak Academy of Sciences

Thesis Identification and functional characterization of selected neuropeptides and its receptors in the tick *Ixodes ricinus*.

01/09/2017 – 30/06/2019 Bratislava, Slovakia

MSC IN MOLECULAR BIOLOGY Comenius University, Faculty of Natural Sciences, Department of Molecular Biology

Thesis Metagenomic analysis of samples of biological origin using nanopore sequencing.

01/09/2014 – 30/06/2017 Bratislava, Slovakia

BACHELOR IN BIOLOGY Comenius University, Faculty of Natural Sciences, Department of Molecular Biology

Thesis Bacterial typing in the whole-genome sequencing era.

01/09/2006 – 30/06/2014 Bratislava, Slovakia
HIGH SCHOOL Gymnasium, Ul. Ladislava Sáru n. 1

01/09/2002 – 30/06/2006 Bratislava, Slovakia
PRIMARY SCHOOL Primary School of J.A. Komenský (later: Primary School of Alexander Dubček)

01/09/2001 – 30/06/2013 Bratislava, Slovakia
ART SCHOOL | PAINTING Art School of Jozef Kresánek

● PUBLICATIONS

2025
[TickMotion](#)

Medla M, Žitňan D (2025) TickMotion: A user-friendly tool to measure and visualize muscle contractions and movements in insect and other arthropod tissues. bioRxiv (preprint)

2023
[Identification and expression of short neuropeptide F and its receptors in the tick Ixodes ricinus](#)

Medla M, Daubnerová I, Koči J, Roller L, Slovák M, Žitňan D (2023) Identification and expression of short neuropeptide F and its receptors in the tick Ixodes ricinus. Journal of Insect Physiology, 147:104524.

● CONFERENCES AND SEMINARS

15/06/2025 – 21/06/2025 Copenhagen, Denmark
The 7th International Insect Hormone Workshop (IIHW)

poster

14/02/2024 – 14/02/2024 Bratislava, Slovakia
Seminar for PhD students and young researchers 2024

Organized by the Institute of Zoology, Slovak Academy of Sciences
presentation, 1st place overall

05/09/2023 – 07/09/2023 Horná Ves, Slovakia
The 12th Drobnica's memorial 2023

presentation, 2nd place overall, 1st place Public Award

18/06/2023 – 24/06/2023 Riverside, California, USA
The 6th International Insect Hormone Workshop (IIHW) 2023

presentation

01/12/2022 – 01/12/2022 Bratislava, Slovakia
Seminar for PhD students and young researchers 2022

Organized by the Institute of Zoology, Slovak Academy of Sciences
presentation, 1st place overall

09/07/2022 – 14/07/2022 Lisbon, Portugal
The 46th FEBS Congress

poster

15/06/2022 Bratislava, Slovakia
The 11th Days of young biologists 2022

presentation, 2nd place overall

02/06/2022 – 03/06/2022 Bratislava, Slovakia

Conference of 30 years of the Department of Molecular Biology and 50 years of recombinant DNA technology

poster

04/04/2022 – 06/04/2022 Smolenice, Slovakia

VI. Labuda's days

presentation

02/09/2021 – 04/09/2021 Trenčín, Slovakia

The 11th Drobnica's memorial 2021

presentation, 3rd place overall

03/07/2021 – 08/07/2021 online

The 45th FEBS Congress

poster

30/06/2021 – 03/07/2021 online

The 20th FEBS Young Scientists' Forum

poster

17/12/2020 – 23/02/2022 online

1st - 15th Worldwide Insect Neuropeptide Collective (WINC) meeting

04/02/2020 – 06/02/2020 Martin, Slovakia

The 96th Physiological days

● PROJECTS

01/01/2026 – 31/12/2027

Štefan SCHWARTZ Support Fund; 2025/OV2/018

Project title: Development of novel advanced bioassays for neuropeptide characterization in ticks. This project aims to elucidate the role of neuropeptide signaling in the tick *Ixodes ricinus* in blood-feeding, reproduction, and pathogen transmission by combining molecular, functional, and imaging approaches to establish novel tick-adapted bioassays and deliver the first comprehensive functional framework for tick neurophysiology and vector control research.

28/07/2024 – 24/01/2025

EMBO; Scientific Exchange Grant 11031

Project title: *Pioneering calcium imaging study of neuropeptide functions in the hard tick Ixodes ricinus*. This project was aimed at learning neurophysiology and calcium imaging (optimization of signal detection and data analysis) in ticks and other insects.

01/01/2021 – 31/12/2021

Doktograf APP0227

Project title: *Characterization of short neuropeptide F (sNPF) receptors in the tick Ixodes ricinus*. The major objective of this project was to identify specific receptors for sNPF, to quantify their expression level in different tick tissues, and to measure their ligand sensitivity and specificity using the aequorin-based receptor assay.

● SKILLS

Undergraduate studies

Molecular Cloning | Gel electrophoresis | Bacterial Transformation | Polymerase chain reaction (PCR) | Microsoft Office | Microsoft Word | Microsoft Excel | Microsoft PowerPoint | Microsoft Teams | Zoom

Master’s Studies

cDNA Library Preparation | DNA and RNA extraction and purification | Capillary Electrophoresis | Quantification of nucleic acids in Nanodrop | Illumina Sequencing | DNA/RNA Quantification | EPI2ME | Oxford Nanopore Sequencing minION | Fluorometric Measurements | Basic Bioinformatics Skills | Ribosomal Database Project (RDP)

PhD/Postdoc

Adobe Photoshop | GraphPad Prism | Immunohistochemical Staining | In situ hybridization | dsRNA synthesis | Drummond Nanoinjector | RNA interference | Confocal Microscopy | Aequorin-based calcium Mobilization Assay | CHO-K1 Cell Culture | cDNA Synthesis | qRT-PCR | Rapid Amplification of cDNA ends (RACE) | Fiji/ImageJ (Intermediate) | ChromasPro Visualization and analysis of Sanger sequencing data | SnapGene | BLAST search | Basics in Biostatistics | Calcium Imaging (in training) | Programming: Python and MatLab (in training) | Two-photon Microscopy (in training)

LANGUAGE SKILLS

Mother tongue(s): **SLOVAK**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C1	C1	C1	C1	C1
FRENCH	A2	A2	A2	A2	A2
ITALIAN	A1	A1	A1	A1	A1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

DRIVING LICENCE

Driving Licence: AM	29/01/2014 – 29/01/2029
Driving Licence: B1	29/01/2014 – 29/01/2029
Driving Licence: B	29/01/2014 – 29/01/2029

HOBBIES AND INTERESTS

Cycling, hiking, swimming, running, traveling

SOFT SKILLS

teamworking, responsibility, creativity, flexibility, critical thinking, time management

SUPERVISION AND MENTORING

01/09/2019 – 30/06/2023

Mentoring

During my PhD (4 years), I delivered ~21 hours per semester of laboratory-based teaching in the course *Basic Exercises in Molecular Biology* at the Department of Molecular Biology, Faculty of Natural Sciences, Comenius University, Bratislava, Slovakia.

01/09/2019 – CURRENT

Supervision

Mentored three BSc students during my PhD studies and will supervise three additional BSc students in the 2025/2026 academic year at the Department of Molecular Biology, Faculty of Natural Sciences, Comenius University, Bratislava, Slovakia.

List of mentored BSc theses:

- The impact of microbiota composition on insect metabolism and behavior (defended in 2022)
- The human skin microbiome and its impact on the immune system during infection (defended in 2022)
- Identification and functional analysis of signaling pathways in disease-transmitting vectors (defended in 2023)

- From genes to scent: molecular biology of olfactory neurons in ticks *Ixodes ricinus* (expected defense in 2026)
- The role of bioactive molecules in the reproduction of ticks *Ixodes ricinus* (expected defense in 2026)
- Molecular mechanisms of pathogen-induced behavioral changes in infectious vectors (expected defense in 2026)