

# Bulgaria and EMBO in numbers

- 1** EMBO Member<sup>a</sup>
  - 2** EMBO Young Investigators<sup>a</sup>
  - 2** EMBO Postdoctoral Fellows<sup>a</sup>
  - 1** EMBO-funded course or workshop in Bulgaria<sup>b</sup>
- 75** researchers from Bulgarian institutions attended events abroad

<sup>a</sup> Bulgarian citizens  
<sup>b</sup> 2020-25

## EMBC Delegates

**Mikaela Stancheva**  
Ministry of Education and Science

**Stoyno Stonov**  
Institute of Molecular Biology, Sofia

The EMBO Programmes are funded by the European Molecular Biology Conference (EMBC), an inter-governmental organization that comprises 32 member states.

Bulgaria has been an EMBC Member since 2025.

# Facts and figures

Bulgaria is a parliamentary republic in the northeastern part of the Balkan Peninsula with a coastline on the Black Sea and extensive mountainous terrain. It is a member of the European Union and of the North Atlantic Treaty Organization.<sup>1</sup>

There are 51 higher education institutions in Bulgaria with 180,000 students in total.<sup>2</sup> Around 39% of Bulgarian adults attain a tertiary education.<sup>3</sup> Bulgaria has an active research and innovation ecosystem with more than 24,350 researchers in 2022. Gross expenditure on research and development (GERD) increased by 46% between 2019 and 2023 to reach 1.47 billion Bulgarian lev or 0.79% of Gross Domestic Product. The main sectors financing GERD in 2022 were inward investment providing 40%, the business enterprise sector with 35% and government with 25%.<sup>4</sup>

## Key figures

**Population: 6.44 million<sup>8</sup>**

**R&D spending: 0.79% of GDP<sup>4</sup>**

**People employed in R&D: 24,350<sup>4</sup>**

**Patents: 22<sup>5</sup>**

**Higher education institutions: 51<sup>2</sup>**

**Horizon Europe funding:<sup>7</sup>**

**684 organizations including 191 SMEs involved in Horizon Europe activities**

**73 Marie Skłodowska-Curie Actions funded researchers**

The European Patent Office granted 22 patents to residents of Bulgaria in 2024.<sup>5</sup> Life scientists in Bulgaria have access to funding from the National Science Fund<sup>6</sup> and through Horizon Europe and Marie Skłodowska-Curie Actions<sup>7</sup> as well as EMBO.

### References

1. Ministry of Tourism, Visit Bulgaria, About Bulgaria
2. Ministry of Education and Science, Register of Higher Education Institutions
3. Eurostat, Population by educational attainment level, sex and age
4. OECD Data Base, Main Science and Technology Indicators
5. European Patent Office, Patent Index 2024
6. Ministry of Education and Science
7. European Commission, Horizon Europe country profile
8. National Statistical Institute

# EMBO opportunities in Bulgaria

## EMBO Postdoctoral Fellowships

fund internationally mobile researchers for a period of up to two years. Applications open all year around.

## EMBO Scientific Exchange Grants

fund research exchanges of up to three months. The grants facilitate collaborations with research groups with expertise, techniques or infrastructure that is unavailable in the applicant's laboratory. Applications open all year around.

## The EMBO Young Investigator Programme

supports group leaders in the early stages of setting up their independent laboratories for a period of four years. Networking is a key aspect. Application deadline: 1 April.



Find more EMBO schemes at [embo.org/funding](https://embo.org/funding)

## Maria Leptin | EMBO Science Journalism Fellowships

support science journalists and life scientists entering careers as science journalists covering life science research. Applications open all year around.

## EMBO Courses & Workshops

stimulate exchanges of the latest scientific knowledge and provide training in experimental techniques. Application deadlines: 1 March and 1 July.

## EMBO Press

publishes five journals that serve the global life science community: The EMBO Journal, EMBO Reports, EMBO Molecular Medicine, Molecular Systems Biology and Life Science Alliance, which is published in partnership with Rockefeller University Press and Cold Spring Harbor Laboratory Press.



Find the most recent version of this brochure and also more foci on other EMBC Member States and EMBO/EMBC global partners at [embo.org/the-embo-communities/embo-communities-by-country](https://embo.org/the-embo-communities/embo-communities-by-country)

[embo.org](https://embo.org)  
Information as of November 2025  
Contact: [communications@embo.org](mailto:communications@embo.org)  
Cover: Original image courtesy of EMBO Installation Grantee Jelena Godrijan

# Focus on Bulgaria



# Perspectives from Stoyno Stonov

Scientific advisor to EMBC for Bulgaria and deputy director of the Institute of Molecular Biology in Sofia



Bulgaria has become the 32nd member state of EMBC, the intergovernmental organization that funds the major EMBO Programmes and activities. We spoke to Stoyno Stonov on this occasion.

## You have worked in Bulgaria for most of your career. How did that come about?

I began my journey as a biochemist at the Institute of Molecular Biology in Sofia, Bulgaria, at a rather turbulent time. It was 1994, five years after the fall of the communist regime. With the borders now open, almost all (~100) scientists of the institute left Bulgaria to pursue careers across Europe and the US. This coincided with economic hardships due to the restructuring of the national economy, which impacted scientific funding. As a result, conducting advanced research was difficult for several years.

Scientists who had completed their PhD Degrees immediately went abroad, and I did the same. In 2002 I won a fellowship of the Humboldt Foundation, which supports a visit to Germany for a year, and I joined the laboratory of EMBO Member Francis Stewart at the Biotechnology Center in Dresden. After a very productive stay, I came back to the Institute of Molecular Biology and established my own group, which I led together with my colleague Marina Nedelcheva-Veleva, studying genomic stability. Despite being able to attract only undergraduate students at the time, we demonstrated that the uncoupling of DNA synthesis from unwinding is the trigger of the replication stress checkpoint.

In 2011-2012, I spent a year as a visiting scientist in the group of EMBO Member Stephan Grill at the Max Planck Institute of Molecular Cell Biology and Genetics (MPI-CBG) in Dresden, Germany. While my initial goal was to

do some “hardcore” biochemistry, it was there that I realized the potential of advanced microscopy techniques to measure the sequence of DNA repair processes with high temporal resolution in live cells. Over the following ten years, our group obtained considerable funding and attracted young scientists from Bulgaria as well as abroad to adopt and employ advanced microscopy for the study of genomic stability.

## Can you tell us about your involvement in pan-European initiatives, such as Euro-BioImaging?

The initial investment in advanced microscopy systems enabled us to apply with success and establish a node within the Euro-BioImaging ERIC consortium. Membership in such a network, which brings together hundreds of experts from the various domains of imaging techniques and analysis, provides invaluable support and knowledge exchange. Together with the inclusion of our microscopy centre in the National Roadmap for Scientific Infrastructure, the Euro-BioImaging membership fostered the development of the node. It now offers a broad range of advanced techniques to researchers from Bulgaria as well as other European countries.

## What is your latest research focused on?

We strive to understand the mechanisms involved in the maintenance of genomic stability in the context of cancer and neurodegenerative disease. We approach this by measuring and modelling the dynamics of processes, such as DNA repair, replication fork stalling and mitosis. Furthermore, we characterize the precise effects that therapeutic agents have on these dynamics to provide insight into their mechanisms of actions.

## What new opportunities do you see for researchers in Bulgaria through the EMBC Membership?

Despite the constantly increasing national research funding and the establishment of scientific infrastructures, Bulgarian researchers remain relatively isolated from the European and global life sciences communities. The membership of Bulgaria in EMBC will dramatically foster the cooperation between Bulgarian scientists and their European colleagues as well as the adoption of state-of-the-art methods.

## What are current trends in the life sciences in the country?

There is an increasing interest in chromatin structure and function, plant biology and neurobiology. International collaboration also increases. For example, our institute has an ongoing collaboration with the MPI-CBG and the Institut Curie in France to build a centre for the study of rare diseases and cancer.

## What are the challenges?

The major challenge is creating a research environment that will attract talented young scientists to establish their own group and perform independent, cutting-edge research, with the ultimate goal of making meaningful contributions that will benefit society.

## What advice do you have for early-career scientists starting in Bulgaria?

I would urge them not to be afraid of pursuing new topics and developing new methodologies. While this may be risky in the short-term, it can have long-term benefit for their careers.

# Meet scientists from the EMBO communities

## Danny Nedialkova A journey from Sofia to Munich

Professor at Technische Universität München and group leader at Max Planck Institute of Biochemistry | EMBO Young Investigator and former EMBO Postdoctoral Fellow



Danny Nedialkova is hopeful that Bulgaria’s membership of the EMBC and EMBO will provide opportunities for her and other Bulgarian researchers to reconnect with their home research environment. “Many of us have a desire to reconnect, but we lacked the mechanisms to do so,” she says. “Personally, I have benefited from EMBO tremendously. It has been absolutely a game changer for my career.”

Nedialkova attended one of Bulgaria’s language high schools and started her undergraduate degree in Biotechnology in Sofia before a PhD in the Netherlands. She moved to Germany during the Global Financial Crisis where her supervisor in Münster encouraged her to apply for the EMBO Postdoctoral Fellowship. “The Fellowship requirement to switch fields from the PhD to the postdoc is very often discouraged but in my case it was absolutely transformative,” she says. “The Fellowship is a stamp that you are working on an important and exciting project.”

After six years in Münster, Nedialkova moved to Martinsreid and also applied for the EMBO Young Investigator Programme. “Being a member of the EMBO postdoctoral community had been transformative,” she says. “In a crowded research environment like Munich the Young Investigator Programme is very important to be able to attract the best trainees as the programme gives you visibility.”

Nedialkova says joining the Young Investigator Programme has also helped her trainees through attendance at the EMBO PhD course and funding to attend conferences.

Nedialkova is studying how translation is regulated differently in different cell types and states. “We very often think of translation as a house-keeping process that works much the same way in every cell, but obviously every cell has a completely different proteome and during development and differentiation you have very different global translation rates,” she says. “We know very little about how all of this is regulated.”

She is excited by the potential therapeutic benefits arising from her research field. “There are people designing tRNAs to suppress premature stop codons that account for 10% of monogenic diseases. If you can trick the ribosome into reading through it could have a tremendous therapeutic benefit,” she says. “I am trying to understand what makes a tRNA a well-functioning tRNA. This is absolutely essential if you want to design a tRNA and so my work is very complementary to these focused approaches.”