

New research division to combine AI and biomedicine in Dresden

Boehringer Ingelheim Foundation, Max Planck Society, TU Dresden and the Free State of Saxony agree on joint financing of EUR 40 million.

Dresden (November 27, 2024) – In the presence of Minister President Michael Kretschmer and Minister of Science Sebastian Gemkow, representatives of the Boehringer Ingelheim Foundation, the Max Planck Society, and TUD Dresden University of Technology gathered at the Saxon State Chancellery to sign a contract for the establishment of the innovative research program Biomedical Artificial Intelligence (AI) – BioAI Dresden.

The non-profit Boehringer Ingelheim Foundation is supporting the project with EUR 20 million over a period of ten years, thereby providing half of the EUR 40 million total. The Max Planck Society, TU Dresden and the Free State of Saxony are financing the other half of the project, which aims to facilitate research in the field of biological and biomedical AI. To this end, a new division with two research groups is being established at the Center for Systems Biology Dresden (CSBD), an inter-institutional center jointly run by the Max Planck Institute of Molecular Cell Biology and Genetics (MPI-CBG), the Max Planck Institute for the Physics of Complex Systems (MPIPKS) and TUD Dresden University of Technology.

The new research division will also work in close partnership with the AITHYRA Institute in Vienna, which was established in September 2024 and is also funded by the Boehringer Ingelheim Foundation. DeepMind Professor Michael Bronstein has been recruited as Founding Director for this unique European Institute devoted to artificial intelligence in the field of biomedicine.

BioAI Dresden combines innovative AI methods with knowledge from biochemistry and physics across the entire spectrum of biology, with the aim of making a decisive contribution to a new scientific understanding of our health. The selection and appointment of directors and research group leaders will follow the excellence criteria and procedures of the Max Planck Society.

The combination of biomedicine and artificial intelligence holds enormous potential – potential that can only be realized through comprehensive and interdisciplinary collaboration. This is why BioAI Dresden and the AITHYRA Institute are seeking out partnerships with outstanding research institutions such as the European Molecular Biology Laboratory (EMBL) with its six sites in Europe, EPFL – Swiss Federal Institute of Technology in Lausanne, the University of Oxford, and the Broad Institute in the USA. The new research project will enable Dresden to fully use and develop its potential.

**Michael Kretschmer,
Minister President of the Free State of Saxony**

“When it comes to medical and biotechnology, Saxony is a world-renowned hub of expertise. In recent years, significant progress has been made in this area thanks to research and development, enabling diseases to be identified and treated more effectively. With this new research program, we are setting the course for the future. Artificial intelligence will increasingly become an integral part of our daily lives in the years to come. We also want to exploit these opportunities for biomedicine. I would like to thank the non-profit Boehringer Ingelheim Foundation, the Max Planck Society and TU Dresden for their tremendous dedication, and I wish the researchers every success.”

**Sebastian Gemkow,
Minister of Science of the Free State of Saxony**

“With BioAI Dresden, another unique and outstanding field of research is emerging in the science hub of Saxony. The Max Planck Society and TU Dresden are joining forces with the Boehringer Ingelheim Foundation to combine their expertise in biomedicine and artificial intelligence, thus breaking into a new field of research. This has the potential to yield completely new approaches for biological systems across different levels, to explain the underlying principles of how biological systems function, and to predict their response to disruption. As a result, it paves the way for new forms of treatment in medicine and pharmaceuticals. I am convinced that this new research division will very quickly gain an international reputation as an institute for cutting-edge research and be perpetuated as a university alliance.”

**Christoph Boehringer,
Chairman of the Boehringer Ingelheim Foundation**

“The recent Nobel Prize awards have emphasized the huge potential of AI and biomedicine for human health. The non-profit Boehringer Ingelheim Foundation is committed to creating the best possible conditions for independent research in this field in Europe. Our commitment is also intended to inspire the European ideas of scientific freedom and international collaboration. An outstanding collaboration that serves the well-being of all people in Europe and beyond.”

**Dr. Stephan Formella,
Managing Director at the Boehringer Ingelheim Foundation**

“If we are to establish a relevant European focus from a global perspective in the field of AI and biomedicine, we need strong collaboration between different stakeholders. As a non-profit, independent foundation, we see it as our mission to build bridges between these groups. This means that every site we support can act as an individual pillar in the future, with the resulting bridges creating an even greater impact. In addition to our support in Vienna, we have now also laid the foundations for this in Dresden.”

**Prof. Patrick Cramer,
President of the Max Planck Society**

“The MPG has long been a European driving force in the field of AI. The journal NATURE lists us in 7th place among the top 10 “Rising Institutions in Artificial Intelligence”. In collaboration with the Austrian Academy of Sciences and with the support of the Boehringer Ingelheim Foundation, we now want to join forces further in this area of research. After all, there are many good reasons not to leave this field to the big tech companies alone. Basic research can and will address questions that profit-driven companies do not take up, but which can be of great benefit to the general public.”

**Prof. Ursula Staudinger,
Rector of TUD Dresden University of Technology**

“By signing this agreement today, we are building another bridge between disciplines, stakeholders and locations. Thanks to the support from the Boehringer Ingelheim Foundation, the Max Planck Society, and the Free State of Saxony, two new research groups can now be established and an inaugural director appointed at the Center for Systems Biology at TUD, with the aim of developing an innovative branch of research at the interface between AI and biomedicine. This project strengthens the ties between TUD and the Max Planck Institute of Molecular Cell Biology and Genetics, which are jointly conducting research in the CSBD – including in the team of Ivo Sbalzarini, who is also a Professor and Dean at TUD's Faculty of Computer Science. What's more, this project is a good complement to our core research areas in the field of digital sciences. As one of nine national high-performance computing centers and with lighthouses such as CIDS and SCADS.AI, TUD offers excellent infrastructure and paves the way to additional cooperation opportunities.”

**Prof. Stephan Grill,
Director of the Max Planck Institute of Molecular Cell Biology and Genetics**

“Living systems are incredibly complex. AI will be key to unraveling this complexity and understanding how living systems work. This exciting joint project will allow us to develop a new generation of physics-informed biomedical AI algorithms for identifying the principles and mechanisms that make up living systems. We are therefore ideally positioned here to drive the next revolution in the life sciences.”

Boehringer Ingelheim Foundation

The Boehringer Ingelheim Foundation is an independent, non-profit organization committed to the promotion of the medical, biological, chemical, and pharmaceutical sciences. It was founded in 1977 by Hubertus Liebrecht, a member of the Boehringer family, co-owners of Boehringer Ingelheim. With its “Plus 3,” “Exploration Grants” and “Rise up!” funding programs, it supports excellent researchers in crucial phases of their careers. It also funds the international Heinrich Wieland Prize and awards for emerging scientific talent, and supports projects at various institutions such as the Institute of Molecular Biology (IMB) in Mainz, the European Molecular Biology Laboratory (EMBL) in Heidelberg, and the AITHYRA Institute in Vienna. <https://boehringer-ingelheim-stiftung.de/en/index.html>

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TUD Dresden University of Technology

As a University of Excellence, TUD Dresden University of Technology is one of the leading and most dynamic research institutions in Germany. With around 8,300 staff and 29,000 students in 17 faculties, it is one of the largest technically-oriented universities in Europe. Founded in 1828, today it is a globally oriented, regionally anchored top university that develops innovative solutions to the world's most pressing issues. In research and teaching, the university unites the natural and engineering sciences with the humanities, social sciences and medicine. This wide range of disciplines is an outstanding feature that facilitates interdisciplinarity and the transfer of science to society.

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MPI-CBG

The Max Planck Institute of Molecular Cell Biology and Genetics (MPI-CBG), located in Dresden, is one of more than 80 institutes of the Max Planck Society, an independent, non-profit organization in Germany. 550 curiosity-driven scientists from over 50 countries ask: How do cells form tissues? The basic research programs of the MPI-CBG span multiple scales of magnitude, from molecular assemblies to organelles, cells, tissues, organs, and organisms. The MPI-CBG invests extensively in Services and Facilities to allow research scientists shared access to sophisticated technologies.

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