



**Institute of Experimental Botany
of the Czech Academy of Sciences**

The Director's Monthly

January 2026

Foreword



Dear colleagues,

I wish you all the best, good health, and happiness in the new year. One might have doubts when looking around, but maybe it will work out (my wife sometimes reproaches me for being an incorrigible optimist). The end of last year was not bad. We received nine GA ĀR grants, two-thirds more than in 2024. We also received five NAZV grants, whereas a year earlier we did not receive any new ones. These two-thirds more GA ĀR grants and all NAZV grants represent a nominal increase of CZK 26,128,000 for science this year compared to what we received from these two agencies for projects starting in January 2025.

The Academy's management is also trying to make this year more enjoyable for us. The institute's budget has not increased (now we are on a provisional budget, but I do not expect an increase), but it has prepared, for example, the "Academy of the Future" program – see News from the IEB.

As I have already written, we were evaluated by an international evaluation committee. Just before Christmas, the IEB Board made an evaluation of the laboratories. The long-term goal of the institute's management is to have only "outstanding" and "excellent" laboratories in terms of the the international evaluation and category A laboratories in terms of the internal evaluation. How did it turn out?

From a slightly different perspective: 85% of the institute's researchers work in outstanding and excellent laboratories, and 74% work in laboratories rated A (calculated on a full-time basis). As I wrote earlier, that's not bad at all. And striving for progress among 15% or 26% of researchers – note that this does not refer to specific colleagues, but to their laboratories – does not seem like a superhuman task.

What awaits us in 2026? I will mention five planned things. In the first quarter, we will advertise for the establishment of a new laboratory. The reading room and its foyer in building B1 in Lysolaje will be renovated, and we will renovate the accommodation capacity in Olomouc (I am not sure if this gets completed this year, but at least the project will be finished). We will develop a "Guide to Using the Institute." We are also planning a major change in the wage regulations (which does not automatically mean a higher total annual income, but at least the guarantee of a higher income).

And some of you may be looking forward to the youth retreat or poster party.

Have a wonderful time,

Jan Martinec, your director

CONGRATULATIONS and ACKNOWLEDGEMENTS

Congratulations to everyone who was successful in the National Agency for Agricultural Research grant competition. In their respective projects, **Jan Bartoš** will work on molecular approaches to poppy breeding, **Lenka Burketová** on the use of viruses to protect tomatoes against bacterial diseases, and **Radek Černý** on the application of artificial intelligence in apple breeding.

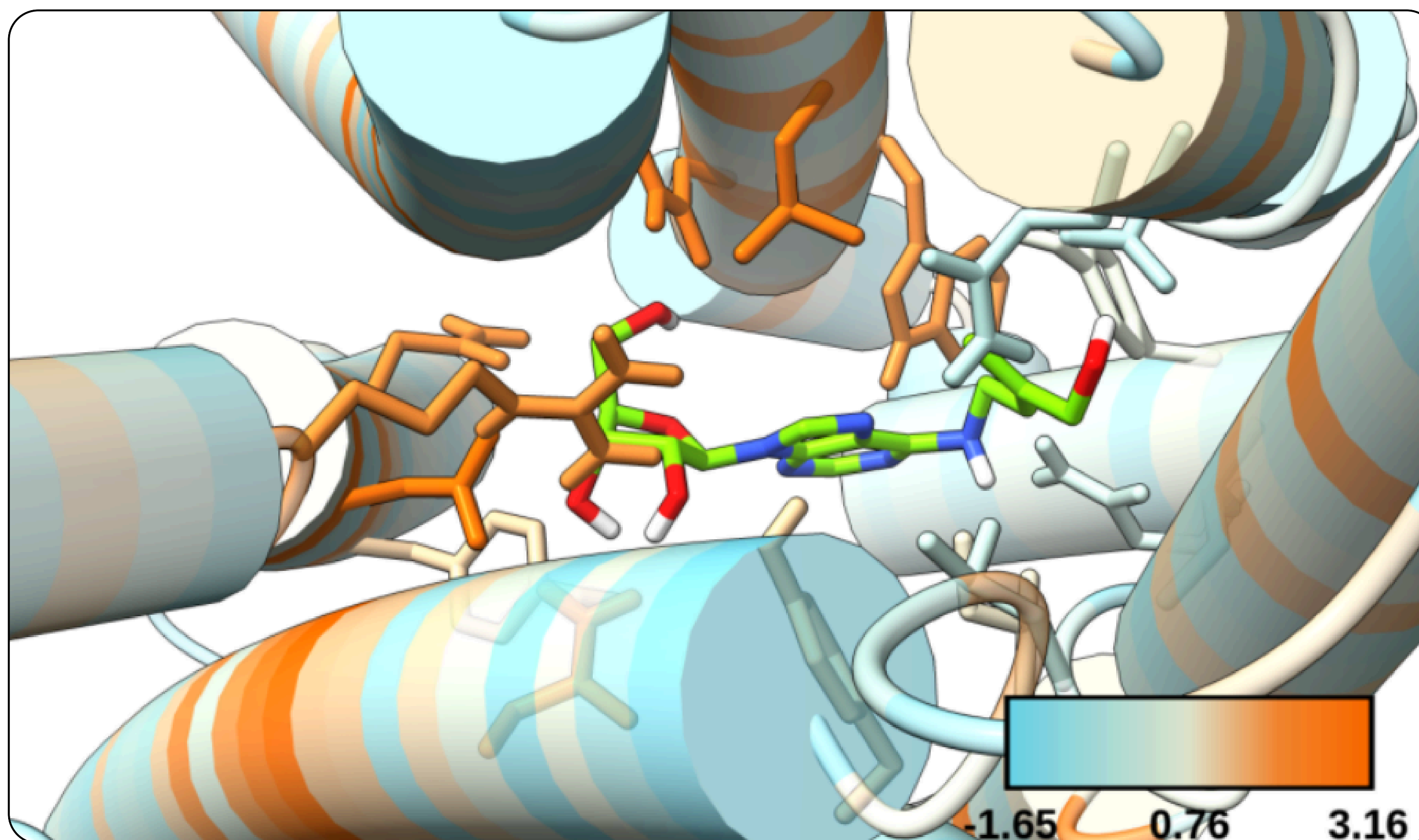
Miroslav Valárik will be a co-investigator on two projects. The first one will focus on using the genetic diversity of European varieties to increase wheat resistance to stress. The second project concerns gluten; it is titled "Friendly gluten – wheat with reduced immunogenic load."

I would also like to congratulate others who successfully applied for grants with significant practical impacts. **Eva Hřibová** will work on a project from the Technology Agency of the Czech Republic, whose topic is the forensic analysis of cannabis.

Professor **Ondřej Novák** will participate in a comprehensive analysis of metabolites, lipids, and proteins in samples from patients with inflammatory bowel disease. The research, funded by the Czech Health Research Agency, aims to improve the diagnosis of these diseases and better understand their pathology.

Notable Publications

Scientists from the Laboratory of Hormonal Regulations in Plants and the Laboratory of Growth Regulators, together with colleagues from other institutions, investigated the transport of cytokinin hormones from plant roots to the above-ground parts. They characterized the properties of the transport protein ENT3 in detail and found that it is probably involved in the transport of cytokinins over both short and long distances. The results were published in the *Journal of Experimental Botany*. Most authors of the paper are from the IEB: **Daniel Nedvěd** and **Martin Hudeček** (co-first authors), **Petr Klíma**, **Jozef Lacek**, **Karel Müller**, **Anna Kuchařová**, **Petr Hošek**, **Václav Motyka**, **Ondřej Plíhal**, and **Klára Hoyerová** (two corresponding authors). ([Membrane transport of root-borne trans-zeatin riboside maintains the cytokinin homeostasis in shoots](#))



Model of the cytokinin binding site in the ENT3 protein molecule. Source: authors of the article, CC BY 4.0 license.

Notable Publications

In addition to normal chromosomes, maize also has **B chromosomes**, which are not necessary for plant life but can influence certain biological processes. A team from the Centre of Plant Structural and Functional Genomics **mapped the activity of genes** located on B chromosomes. They also found that these chromosomes influence the activity of genes that do not reside on them. The results will help to understand the functioning of B chromosomes and assess their potential use in genetic engineering.

Lucie Hloušková (first author), **Zuzana Tulpová**, **Radim Svačina**, **Kateřina Holuřová**, **Petr Cápál**, **Pavla Navrátilová**, **Miroslava Karafiátová**, and **Jan Bartoš** (corresponding author) contributed to the paper published in the *Journal of Experimental Botany*.

[\(The maize B chromosome shapes the transcriptome throughout the entire plant life cycle\)](#)

Scientists from our institute and the Charles University have discovered an **interesting genetic mechanism** that allows some tobacco cell cultures to divide even without the addition of the hormone auxin to the nutrient solution. This is a great example of "evolution in a test tube."

The results were published in *New Phytologist*. IEB authors were **Karel Müller** (shared first and corresponding author), **Milada Čovanová**, **Petre I. Dobrev**, **Roberta Vaculíková**, **Zuzana Vondráková**, **Lenka Helusová**, **Anita Bírošíková**, and **Jan Petrášek**.

[\(A novel mechanism of auxin habituation: upregulation of auxin receptor TRANSPORT INHIBITOR RESPONSE 1 allows cell proliferation independent of external auxin\)](#)

And thirdly, an article in the *Journal of Experimental Botany*. This time it is a review in which Czech and Swedish researchers focus on the **sorting of cell organelles** using fluorescent labeling. They discuss technical aspects of the method and its use in plant biology. The first author is **Vladimír Skalický** and the shared corresponding author is Professor **Ondřej Novák**, both from the Laboratory of Growth Regulators.

[\(Illuminating the subcellular maze: fluorescence-activated organelle sorting in plant sciences\)](#)

News from the IEB

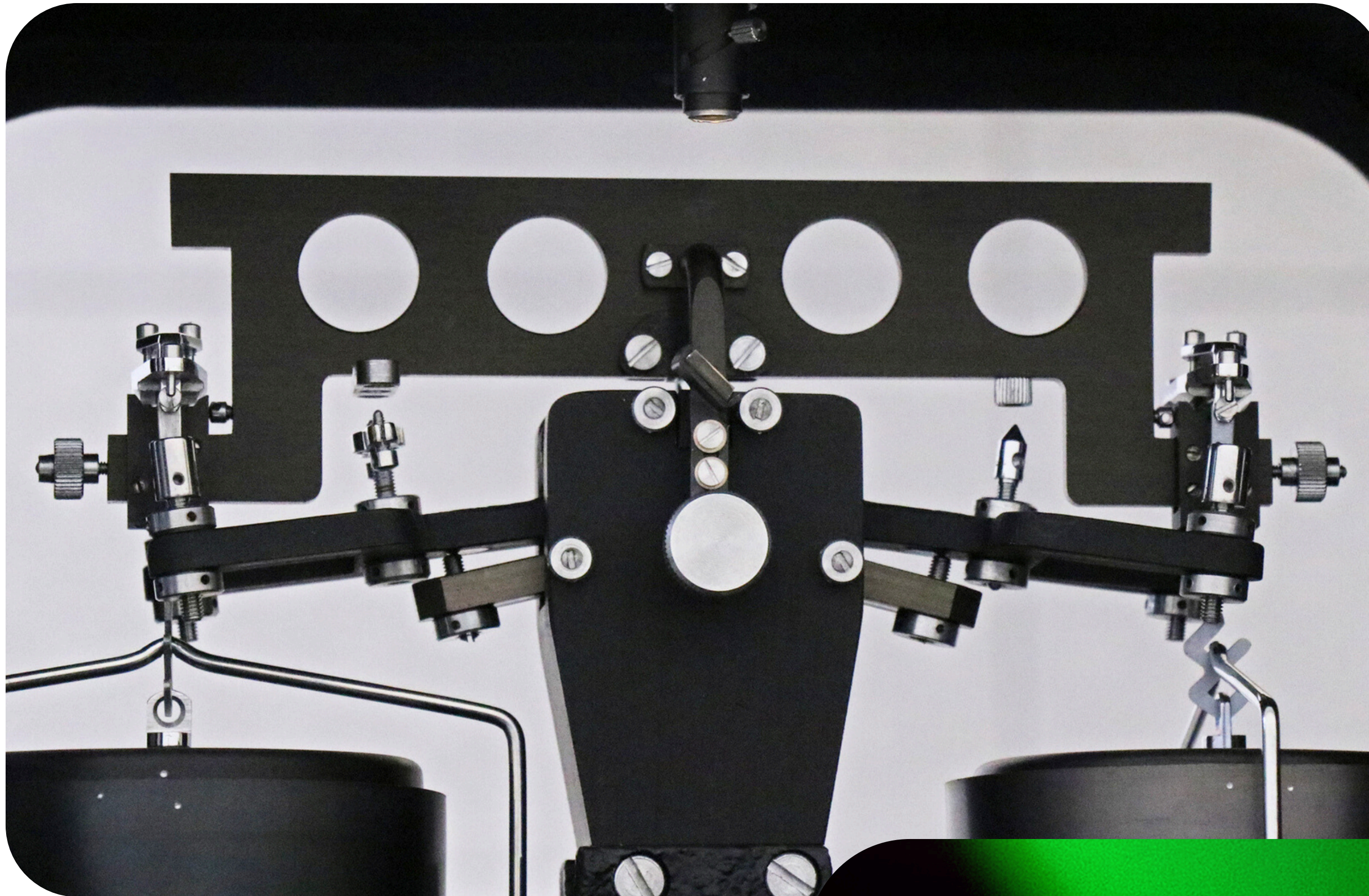
An **IEB Board meeting** took place on 12 December. The Board evaluated research laboratories and classified them into categories according to their performance. It also evaluated the work of core facilities. It discussed the results of the international evaluation of the IEB for 2020-2024, in which the institute was rated "Excellent Plus" overall. Among other things, it approved a change in the bonus calculation for review articles. Details, including the reports of individual laboratories for internal evaluation, can be found in the minutes of the meeting [on the intranet](#) (*in Czech*).

The Czech Academy of Sciences is launching the **Academy of the Future** program. The institute will receive approximately CZK 1.4 million from it this year. The funds may be used for activities in four subprograms: Internship support for researchers at the beginning of their independent scientific careers, Internship support for researchers, Support for the dissemination of good practice in the institutional support for excellence, and Support for the return of researchers from career breaks.

The director appointed Karel Müller as the **institute's coordinator for artificial intelligence**. Karel will be the link between everyone interested in using AI in their work and will also be a source of information on this topic. If you have anything related to AI, do not hesitate to contact Karel (muller@ueb.cas.cz).

On 16 December, 35 experts from across the country gathered at the genomic center in Olomouc to discuss **kinetochores and centromeres**. The aim of the two-day meeting was to exchange the latest findings on these structures, which are important for cell division. This may lead to joint projects and long-term cooperation.

If you have any **interesting laboratory equipment** that is outdated and you want to dispose of it, please contact Jan Kolář (kolar@ueb.cas.cz) first. Some historical pieces may be suitable for science outreach activities or museum collections. In recent years, the institute has already donated a number of instruments and smaller equipment to the National Technical Museum in this way.



*Detail of mechanical scales.
Historical instruments are often beautiful, too.*

New Colleagues

Ms. Adéla Leblová (leblova.adela@ueb.cas.cz) is our new **HR manager**.

Ing. Ekaterina Gubanova (gubanova.ekaterina@ueb.cas.cz) has joined us as a **payroll accountant**.

The Institute is establishing GAVI – the IEB Grant Agency for Science and Innovation. It will award internal return grants to scientists who come back from parental leave (more information in the "Grant Opportunities" section). The **GAVI administrator** will be Ms. Vladislava Nádeníčková (nadenickova.vladislava@ueb.cas.cz).

We wish all of them every success in their work and hope they enjoy their time with us.

AI News

Our institutional retreat in November 2025 included a **section dedicated to AI**, with the insightful goal of “catching the train” that is clearly accelerating faster and faster.

Just two months later, that train is already far ahead, racing through an incredibly new world. Following the English **webinars by Dr. Liegertová** may offer you a kind of magical hook to jump back on board – somewhat reminiscent of the *Dune 2* scene where Paul rides the sandworm. I can fully recommend these webinars to everyone.

I would like to thank our colleague Věrka Forejtová from the apple breeding station for sharing the links.

Webinar 1: [recording](#) [slides](#)

Webinar 2: [recording](#) [slides](#)

Webinar 3: [recording](#) [slides](#)

Webinar 4: [recording](#) [slides](#)

Webinar 5: [recording](#) [slides](#)

Karel Müller, institute's coordinator for AI

Do you have a question or idea related to AI, have you read an inspiring article, or do you know about an interesting lecture or application?

Then don't hesitate to contact our coordinator (muller@ueb.cas.cz).

Continuous A call for proposals for [LA GRANTS – GA ČR as a partner organization](#) projects with a duration of 2 or 3 years is open. The cooperating agencies are the Austrian Science Fund (**Austria**) and the German Research Foundation (**Germany**).

1 Mar 2026 The first call of the **IEB Grant Agency for Science and Innovation (GAVI)** to award internal return grants (NG) based on the OP JAK Back-2Science project, with which the institute succeeded in the Returns call, will be announced.

The deadline for submitting applications is **15 April 2026**. As a part of the call, four NG grants will be awarded for 30 months, with the projects starting on 1 July 2026. Another two NG grants with a duration of 24 months will be awarded in 2027.

The contact person is the GAVI Administrator **Vladislava Nádeníčková** (nadenickova.vladislava@ueb.cas.cz). The establishment of GAVI will be discussed at IEB Board meeting on 29 January 2026.

Eligibility requirements for applicants:

- Parental leave (RD) ended at the date of application. The applicant is on parental leave, which must be ended at the date of application. Parental leave must have lasted at least 180 days, during which time the applicant either did not work, or worked at the institute on average 0.3 FTE per month, without exceeding 0.5 FTE in any month.

or

- Return from parental leave in the last 12 months. As of the date of application, no more than 12 months have elapsed since the applicant's return from parental leave. In this case, the extent of employment during these 12 months is not decisive.

Grant Opportunities

- 4 Mar 2026** **Deadline for submitting proposals** for [the third public competition of the Environment for Life 2 program](#). The maximal amount of support varies depending on the research topic. One entity (one Company Registration Number) may only participate in one project within one topic and in a maximum of ten projects in total (each in a different topic). M. Valárik and K. Eliášová are currently expected to participate from our institute. If you are **interested in further participation**, please contact the Project Department first. In case of more applicants for the same topic, the decision will be made by the IEB Board.
- 28 Apr 2026** Deadline for submitting proposals for LA projects in cooperation with the [Luxembourg agency](#) FNR, where GA ČR acts as a partner, with an expected start date in 2027.
- 2026** This year, IEB plans to participate in **calls** from the **European Commission** (Horizon Europe – [Twinning](#) and [Excellence Hubs](#)) and from the **Ministry of Education, Youth and Sports** ([Excellence](#) and OP JAK [Open Science III](#)). You will be informed in advance about the opportunities for labs to participate in individual calls.

For more information, contact Zuzana Hroncová
(B2/223, hroncova@ueb.cas.cz, phone 225 106 802).

Project annotations for Executive Board approval should be sent in advance to the Board secretary Barbora Jindřichová (jjindrichova@ueb.cas.cz).

IEB in the Media

On 8 December, Professor Jaroslav Doležel from the genomic center was a guest on the television program *Studio ČT24*, which focused on the new European Union rules for the use of **genetically modified plants** (from 18:28 [in the recording](#)).

On the same day, another scientist from the Olomouc genomic center also appeared on television. Jan Šafář was one of the respondents in a CNN Prima News report on how **plants react to unusually warm days**.

Kateřina Malínská, head of the Imaging Facility, spoke on the radio about the [state-of-the-art microscope](#) recently acquired by our institute. Her statement was broadcast on 18 December by Radiožurnál and several other Czech Radio stations. **The news about the microscope** was also reported on the web of the trade magazine [Chemagazín](#).

In early January, *Vesmír* magazine reported on research into plant **endocytosis** on [its website](#) and in [its print edition](#). The first phase of this important process, which enables cells to absorb substances from their surroundings, was described by an international team including Roman Pleskot and Michaela Neubergerová from the IEB.

Scientists from our institute and Charles University discovered a remarkable genetic trick that allows some **plant cell cultures** to grow without being supplemented with the hormone auxin. The report was published by the science and technology website [Sciencemag.cz](#).

Several times during the Christmas holidays, listeners of the Czech Radio PLUS station could hear a **short well-wishing message** by Professor Jaroslav Doležel (for example, on 25 December at 10:59:48 [in the recording](#)).



*Kateřina Malínská with the new
Mirava Polyscope microscope*

Do you have an **article** coming out in a prestigious journal, did you get a major **grant project**, or are you organizing a **scientific event**?

Please inform the Communications Office (komunikace@ueb.cas.cz) and discuss the possibilities for publicity.

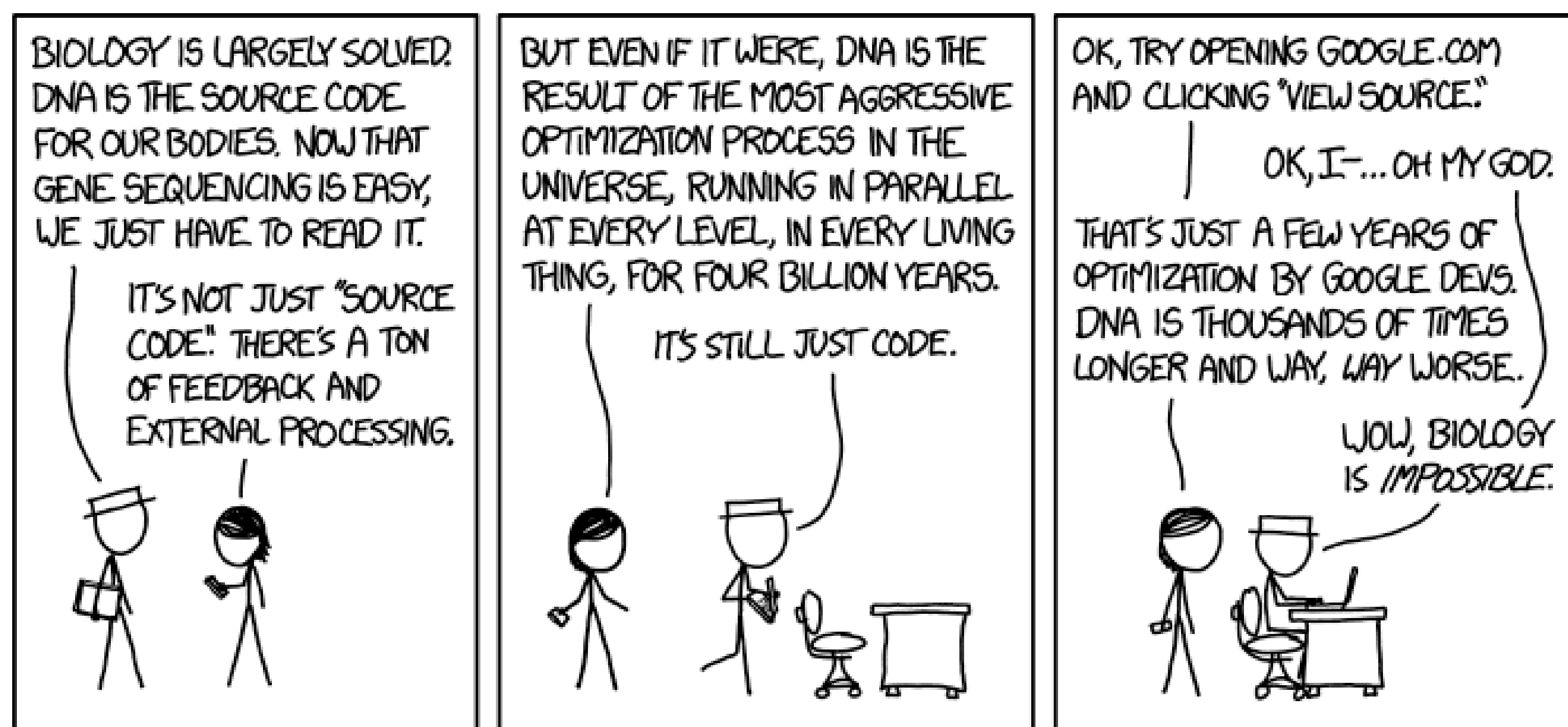
Science Outreach Events

For many years, **workshops for schools** – from elementary to university level – have been held at our Prague facility. If you know of a school that might be interested, please inform the Communications Office (komunikace@ueb.cas.cz).

You can also send a link to [the list of all workshop topics](#) offered by our institute (*in Czech*) to your children's school. The nearest available dates are in April.

For more information about IEB's outreach events, please contact the Communications Office (komunikace@ueb.cas.cz).

Scientific Humor



Author Randall Munroe, xkcd.com, license CC BY-NC 2.5.

Please send suggestions for other scientific comics (publishable under a Creative Commons license) to the newsletter editor Jan Kolář at kolar@ueb.cas.cz.