



SCITopic

What would not have been without NiCR...

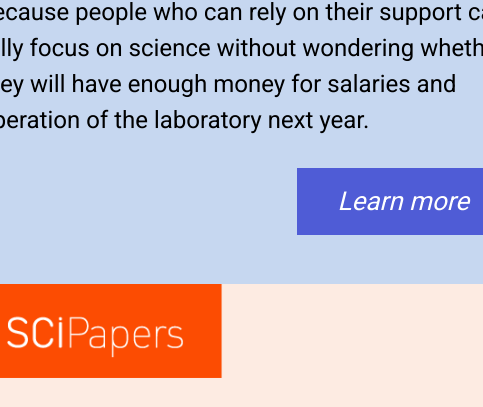
‘Three and a half years of working together shows that the creation of a distributed centre of excellence, the National Institute for Cancer Research, as part of the concept of the EXCELES National Plan of Renewal, was the right decision’, says Aleksi Šedo, director of the NiCR.

Without the NiCR, there would be no coordinated cooperation between eleven partner institutions with hubs in Prague, Brno, and Olomouc, which has resulted, among other things, in a continuously growing number of publications in leading journals, including those in the first decile. There would be no six new research groups or two new doctoral programmes. Without NiCR, there would be no workshops, summer schools, or popular science events, thanks to which hundreds of secondary-school students have had the opportunity to experience, for the first time, work in a research environment.

Without NiCR, there would be no significant expansion of technological equipment, the shared use of which across research groups is gradually growing. A number of international partnerships would not have been established, and the involvement of Czech scientists in European research structures would not have been significantly strengthened. Without NiCR, a functional culture of cooperation had not become established, as reflected also in the annual Czech Annual Cancer Research Meeting. ‘Everything that has been achieved lays the foundation for the next stage of sustainability. The NiCR should continue to serve as a stable platform that not only links academic work with clinical practice but, in virtue of serving as a national authority, identifies and provides expert support for addressing societal needs,’ emphasizes A. Šedo.

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SCIGeneration



Martin Sztacho: Longterm and stable support

What the Czech Republic is missing is a broader range of start-up grants with a longer financing period. That would give new teams enough time to develop their potential. Long-term and stable support is crucial for developing excellent teams because people who can rely on their support can fully focus on science without wondering whether they will have enough money for salaries and operation of the laboratory next year.

[Learn more](#)

Lenka Zdražilová Dubská: Bridging scientific disciplines

The key to creating new teams are more people who are enthusiastic about science, driven, and with a personal courage to take up challenges. Excellent research is nowadays necessarily interdisciplinary. It requires the ability to bridge scientific disciplines, to see things in broader contexts, and to collaborate with experts from various fields. What often limits Czech scientists is narrow specialisation without a wider context.

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SCIPapers

Molecular Landscape of Pediatric Low-Grade Gliomas: Insights From RNA-NGS and Bioinformatic Analysis

Petr Brož, Martina Strnadová..., Lenka Krsková.

Genes Chromosomes & Cancer.
2025 October

DOI: [10.1002/gcc.70085](#)
PMID: [41074694](#)

Circulating tumour DNA as a predictor of survival of patients with diffuse large B-cell lymphoma in a daily practice

Prokop Vodicka..., Marek Trněný, Ondřej Havranek.

British Journal of Haematology.
2025 September

DOI: [10.1111/bjh.70128](#)
PMID: [40916568](#)

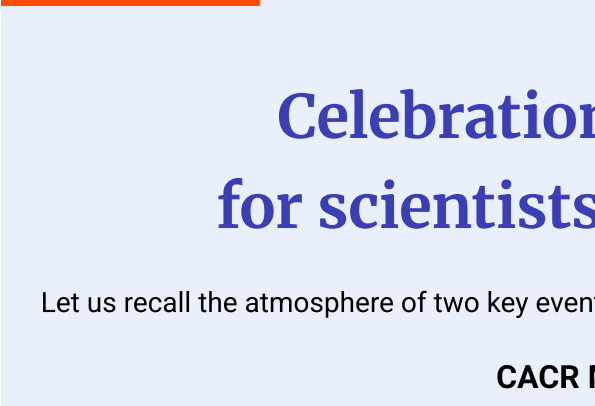
PET/CT imaging of esophageal cancer targeting tumor cell specific αvβ6-integrin expression

Kateřina Dvořáková Bendová..., Miloš Petřík a Johannes Noti.

European Journal of Nuclear Medicine and Molecular Imaging.
2025 June

DOI: [10.1007/s00259-025-07408-7](#)
PMID: [40540027](#)

SCICommunity



Science is also about the courage to doubt ingrained convictions

If you discover in science something new, perhaps even something that goes against the mainstream, you could change other people's views about how things work.

And that is what Petr Beneš and his team from the Faculty of Science of Masaryk University, whose Laboratory of Cell Differentiation is part of NiCR, have achieved. In the course of more than twenty years of studying the c-Myb protein, which was long considered to be an oncogene, they discovered to their great surprise that during some stages of carcinogenesis, it can function as a suppressor. In other words, they found that the function of this protein is crucially affected by the timing of its expression. ‘For me personally, this story shows that science is also about the courage to doubt ingrained convictions, and that unexpected results often lead to progress in our understanding of the biology of tumours,’ says Petr Beneš.

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SCITidbits

Celebration of science for scientists and patients

Let us recall the atmosphere of two key events linked to NiCR that took place this autumn.

CACR Meeting

The obvious place to start is Olomouc, where the next Czech Annual Cancer Research Meeting took place on 24–26 November. NiCR has organised this meeting already for the fourth time. The programme featured 45 communications mapping the hottest issues in cancer research, molecular pathology, and predictive oncology. ‘At this meeting, we aim to highlight the power of interdisciplinarity, the importance of collaboration and the cultural shift in our scientific community,’ said in his opening remarks the president of the conference Marián Hajdúch. For the second time, the main programme of CACR Meeting was preceded by the NiCR Edu workshop aimed at educating in subjects linked to broader social, communication, economic, or legal aspects of scientific work.



ONKO PACIENT

Almost exactly one month earlier, a conference organised by the Foundation for Cancer Research Czech Republic took place in the Brožík Hall of the Old Town Hall in Prague. It was intended for cancer patients and their loved ones, but also the general public. This year, it focused on cancers linked to HPV infection and their prevention. ‘The subject of oncology is broad but, in my view, it really starts with prevention, which should also be crucial for the future cabinet’, noted at the beginning of the conference Adam Vojtěch, guarantor of the now forming government for the area of healthcare. He also mentioned the existence of NiCR, which was a partner of the conference, and stated: ‘It is good that this project was created in the Czech Republic, and it is necessary to find support for it also in the future.’



SCIProgramme

RP2: Advances in anti-cancer drug research

Research teams gathered under RP2 have recently patented and published a number of new types of substances (small molecules, bioconjugates, polymers, nanoparticles) with anti-tumour or immunostimulant effects. In the future, such substances may be further developed into new drugs or contribute to more effective combination therapies. Examples include CD73 inhibitors,

which have a potential in tumour immunotherapy, discovery of a new mechanism of anti-tumour effects of triterpenoids in glioblastoma, conjugates of antibodies and polymer drugs for targeted lymphoma therapy, or a combined therapy of fluorouracil with disulphiram in the treatment of colorectal carcinomas. These results are introduced by Michal Hocek, who jointly with Marián Hajdúch heads Research Programme 2.

[Learn more](#)

SCIIndicators

Indicators are not only publications

In the past nine issues of this newsletter, we have listed under this heading information regarding the fulfilment of certain indicators. Finally, we got even to those publications. At the very beginning of the project, NiCR has declared its intention to generate at least 630 classifiable outputs, of which over 400 would be published. The ambition was to publish 65% of contributions in journals of the first quartile of the relevant area according to the Web of Science. NiCR managed to not only meet but exceed these targets.

Works by researchers from teams participating in NiCR were published by numerous renowned journals including Nature, Nature Communications, PNAS, Leukemia, Blood Advances, Nucleic Acid Research, Journal of Clinical Investigation, Clinical Cancer Research, Angewandte Chemie, Journal of Experimental Medicine, EMBO J, Molecular Cancer, and others.

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SCIMedia



Mission accomplished! Talented students know that cancer is not only a threat but also a challenge

Aktuálně.cz, 1 October 2025

Majda, Nela, Evža, Adam, Martin, and Karel are promising secondary-school students who, thanks to NiCR, had the opportunity to try working in top laboratories for one week. ‘We look for talents at universities but also in secondary schools. We want every talented student to get a chance’, explains Tomáš Etrych, head of the Biomedical polymers research team at the Institute of Macromolecular Chemistry of CAS, which is part of NiCR.

Precision oncology gives a chance even to patients in more advanced stages of cancer

Webozdrazvi.cz, 8 October 2025

While clinical studies clearly show that precision oncology can make a contribution to both diagnosis and treatment, we can observe a degree of hesitation regarding its impact on clinical practice. What is the situation like in the Czech Republic? For the first time, we find some answers in a study based on the data of the Department of Internal Medicine, Haematology, and Oncology of the Faculty of Medicine of Masaryk University and University Hospital Brno and the Centre for Precision Medicine of the University Hospital Brno. Its results, published in the international journal Cancer Medicine, are presented by Michal Eid.

Šedo: Sustainability of the strong NiCR network is what the state should commit to as well

Medical Tribune, 9 October 2025

‘The future of national institutes is now the subject of intensive discussions. We are trying to secure the continuation of the entire structure and shared activities. I believe it is a good example of a ‘success model’ also for the state administration: we are creating something that is internationally visible, and that creates an obligation for us here as well. It would be somewhat foolish to create a national institute with a clear international outreach and then say: ‘Sorry, we’ll just organise it differently’, says Aleksi Šedo, director of NiCR.

The first year of the Centre for Precision Medicine in Brno: Its successes, challenges, and plans for the future

Medical Tribune, 13 October 2025

‘Our long-term goal is to make sure that precision medicine becomes available and systematically integrated into healthcare in the Czech Republic’, says head of the Centre for Precision Medicine Ondřej Slabý at the occasion of evaluating the first year of its existence. Slabý is also head of the Department of Biology of the Faculty of Medicine of Masaryk University and his research team is part of both CEITEC MU and NiCR.

Vaccination could eradicate one entire group of tumours

Sciencemag.cz, 30 October 2025

Every year, almost 3,000 people in the Czech Republic hear a diagnosis of cancer that is linked to HPV infection. ‘Epidemiological studies show with certainty that in persons who had been vaccinated against the HPV virus these tumours do not develop or, rather, that the likelihood of their development is extremely low’, said Marián Hajdúch at the ONKO PACIENT 2025. Hajdúch, Medical Director of NiCR, is also head of the administrative board of the Foundation for Cancer Research Czech Republic, which organised this meeting.

Environmental pollution contributes to the emergence of cancer, says a scientist

Novinky.cz, 2 November 2025

‘In recent years, much attention has been paid to micro and nanoplastics, which need not be carcinogenic per se, but due to their small size can penetrate into the cell nucleus and damage genetic information’, explains Pavel Rössner, head of the team of Toxicology and molecular epidemiology of the Institute of Experimental Medicine of CAS, which is part of NiCR.

Czech scientists have developed smart nanofiber bandages

Czech Radio, Věda Plus, 6 November 2025

The team of Václav Liška from the Biomedical Centre in Pilsen and NiCR is developing, in collaboration with the Technical University in Liberec, biodegradable nanofiber bandages that could profoundly improve healing after surgeries of the intestines. In the future, this technology could also be used during liver transplantations or in gynaecological surgery. These bandages can be moreover ‘infused’ with antibiotics or other therapeutic substances.

Just one oral sex can trigger cancer in the throat. The risk could be revealed by a gurgles test

Aktuálně.cz, 9 November 2025

Cancer of the oral cavity and the throat is tricky: it can develop unobserved for up to ten years. By the time it is discovered, the patient often already has metastases. According to NiCR’s medical director Marián Hajdúch, these tumours could be prevented because they are triggered by papillomaviruses, which can be detected. His team is therefore developing gurgles tests that would, in conjunction with a blood test, detect at-risk patients.

In-Amongst the Cells: Screening saves lives

30 September 2025

Ladislav Dušek (Institute of Health Information and Statistics of the Czech Republic) a Jana Halámková (Masaryk Institute of Oncology, NiCR) explain myths and numbers around cancer prevention. Viewers and listeners will also learn how new technologies make screening faster and more comfortable.

In-Amongst the Cells: How should we encourage curiosity?

31 October 2025

A look back at (not only) the first year of the NiCR Summer School, a five-day programme that enabled six students to peek into the world of biomedical research. Our guests were Tomáš Etrych (Institute of Macromolecular Chemistry of CAS), Petr Flachs (chemistry and biology teacher at the Jiří Orten Gymnasium in Kutná Hora), and Magdaléna Jurková (student and participant at the Summer School).

