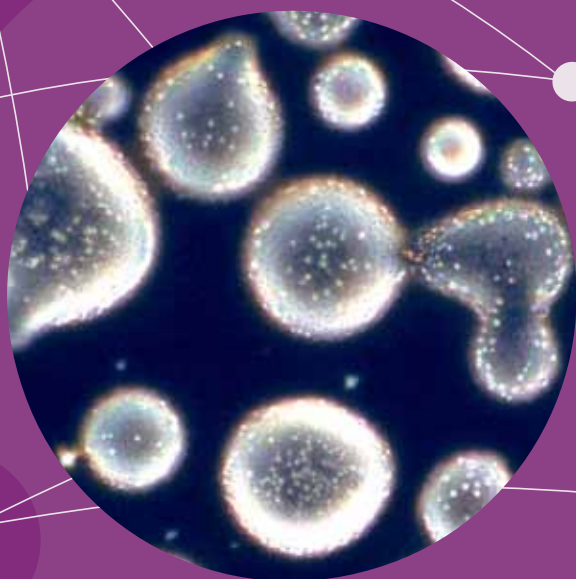
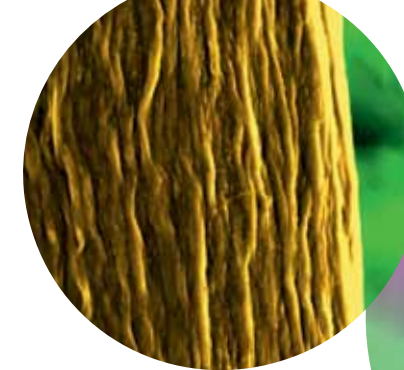




Eesti Teadusagentuur
Estonian Research Council



ESTONIAN RESEARCH COUNCIL

The Estonian Research Council is a foundation that has been established by the Estonian Ministry of Education and Research in public interest to support the development of the national research and development (R&D) policy. We act as a partner to researchers, R&D and education institutions, private businesses and the state.

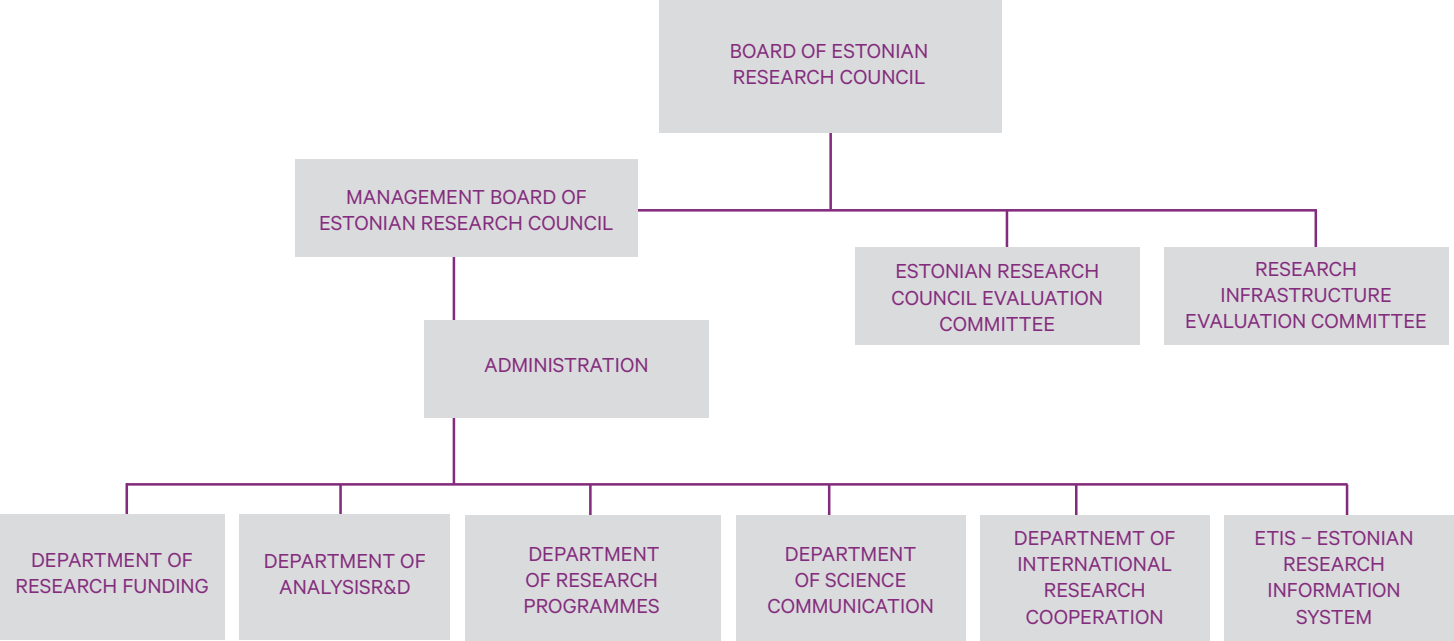
The aim of the Estonian Research Council is to support the development and implementation of the national research, development and innovation policies in an efficient way, and to strengthen the social and economic impact and synergy of research and innovation.

- We support researchers, award research grants, and facilitate applied research in the fields of smart specialisation.
- We represent Estonia at international organisations, coordinate participation in international cooperation programmes and support international cooperation by means of counselling and funding.
- We analyse research information and the impact of funding decisions, evaluate the efficiency and impact of grant usage, and the public access to research information.
- We manage the Estonian Research Information System (ETIS) that contains information on R&D institutions, researchers, research projects and research outputs.
- We help to get young people attracted to science, technology, engineering and mathematics, and raise public awareness about science and its importance to society.
- We are an active partner in shaping the Estonian research and innovation policy.



Eesti Teadusagentuur
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Structure of the Estonian Research Council



SHAPING THE RESEARCH AND INNOVATION POLICY

The Estonian Research Council participates in shaping the research policy both at the national and international level. We involve stakeholders in our activity, thereby enhancing the cooperation between industry and academia, and the interaction of technological, applied and basic research. In shaping the research and innovation policy, we rely on analysed and assessed research and development data in making evidence-based decisions.

We represent Estonia at Science Europe, an association of European research funding organisations. The association shapes the research policy of Europe, supports cooperation and sharing of the best experiences. The elaborated suggestions and principles are implemented in Estonian work groups, which include partners from research institutions, ministries, and other stakeholders.

To develop the research and innovation policy in cooperation with our partners, we support creating the position of research advisors to ministries within the framework of the National Programme for Addressing Socio-Economic Challenges through R&D (RITA) which is under preparation. With the help of RITA, we also support research stemming from the needs of society, carry out analyses and surveys, and make policy suggestions based on that.



RESEARCH FUNDING

The Estonian Research Council is nationally funding research and mobility grants and applied research. Research can also be funded by means of co-funding and foreign funding programmes.

Research funding

National research funding can be applied for personal or institutional research. In the case of personal research grants we fund start-up grants for young researchers, award post-doctoral grants that can be used to further research in Estonia or abroad, and support individual international level high-risk or innovative exploratory projects. Institutional research funding enables R&D institutions to finance high-level R&D activities and to modernize and maintain the necessary research infrastructure.

The development of research infrastructure necessary for implementing institutional research topics is supported by means of core infrastructure funding. The core infrastructures belong to an R&D institution but have been set up in public interest and can be publicly accessed by other research institutions and businesses alike.

Reliability of funding decisions

National research funding can be applied for at open calls published by the Estonian Research Council. The funding decisions are made based on a multi-stage system. The first stage is written remote peer-review of the applications by foreign and Estonian experts. After that, the applications and reviews are discussed in four fields of science expert panels. On the highest level, the Estonian Research Council's Evaluation Committee discusses the evaluations made by the four expert panels, and makes its proposals on awarding grants. The Evaluation Committee's composition is decided by the Minister of Education and Research and it includes 13 eminent researchers from different fields of science.

Funding researcher mobility

We support the mobility of Estonian researchers by means of various post-doctoral and top researcher grants and international cooperation programmes. The EU Structural Fund programme Mobilitas Plus under preparation will finance post-doctoral researchers and top researchers coming to Estonia, researchers' training and study trips as well as the preparation of European Research Council's grant applications; and we also support the European Research Area (ERA) chairs as well as the ERA-NET Cofund cooperation programmes.

Conducting applied research

The EU Structural Fund programme for Applied Research in Smart Specialisation Growth Areas (NUTIPRO) under preparation will support applied research to be conducted by R&D institutions based on the orders of companies and will create conditions for cooperation between academia and industry.

Co-funding and international funding

The Estonian Research Council participates in several international cooperation programmes which aim to promote cooperation between researchers and offer opportunities to obtain further research experiences. These programmes include organizing an open call for the position of a visiting post-doctoral research fellow in the UK (UCL SSEES), coordination of a post-doctoral researcher call to Japan (JSPS), funding a cooperation programme with France (PARROT) and Taiwan, and the Nordic-Baltic cooperation programme (NordForsk). In addition to that, we coordinate the Norwegian-Estonian research cooperation programme, finance researchers that have been successful at the European Molecular Biology Organisation grant calls, and enable Estonian research groups to participate in the cooperation project BONUS (a Baltic Sea programme) by providing co-funding. As of 2015, ETAg is member of 10 ERA-NET (ERA-NET Plus or ERA-NET Cofund) consortia, and has participated in organizing 13 calls. 18 Estonian research teams have received funding.



SERVING THE SOCIETY

Our task is to provide efficient support to the shaping and implementation of national research and development activities and innovation policy and to increase the social and economic impact and synergy of research and innovation.



FOR RESEARCHERS

Internationalisation of research and supporting mobility – MOBILITAS Plus

Personal research funding projects: personal research funding (PUT), Estonian Science Foundation (ETF) grants

Estonian Research Information System (ETIS): development and user support

The EU Framework Programme for Research and Innovation Horizon 2020

European Cooperation in Science and Technology (COST): distribution of information, application consultation, attestation of participation

Coordination of transnational research and mobility cooperation programmes and travel grants for researchers: Japan Society for the Promotion of Science (JSPS) postdoctoral grant, PARROT travel grants for cooperation with French researchers, Taiwanese-Estonian Scientific Cooperation Agreement, Norwegian-Estonian Research Cooperation Programme

Distribution of research and administrative information: the Estonian Research Council (ETAg) web page and newsletter, the research portal ETIS and target group portals miks.ee, researchinestonia.eu, euraxess.ee

Distribution of funding information, training and counselling of applicants

Personal research funding projects: personal research funding (PUT), Estonian Science Foundation (ETF) grants

Organisation of thematic training days and events related to the counselling and reception of foreign researchers: coordination of the research module of the Welcoming programme and EURAXESS network

FOR FOREIGN RESEARCHERS

Informing foreign researchers about the possibilities of conducting research in Estonia via the portal researchinestonia.eu

Providing support and information to foreign researchers: the Estonian Research Council (ETAg) website, portal euraxess.ee

Supporting postdoctoral research and mobility: personal postdoctoral research funding, ERMOS postdoctoral research grant, application for a postdoctoral research grant for research in the United Kingdom (SSEES, UCL)

Organisation of the contests for the Young Researcher's Grant and helping research-driven students find a supervisor amongst researchers

FOR SCHOOL STUDENTS, TEACHERS AND UNIVERSITY STUDENTS

Teacher training for supervising inventors and researchers

Activities of the Young Scientists' Association

Distribution of research and administrative information: via the Estonian Research Council (ETAg) web page and newsletter, in the research portal ETIS and target group portal miks.ee

Science communication programme TeaMe+

The EU Framework Programme for Research and Innovation Horizon 2020 (for schools and science communicators)

Cooperation of schools and companies in STEM (science, technology, engineering, and mathematics) fields

Coordination of the activities of project Scientix in Estonia

Coordination of the activities of the Science and Technology Pact

Television series *Rocket 69 (Rakett 69)*

Organisation of science communication project competitions and Estonian Science Communication Award

FOR PUBLIC UNIVERSITIES, RESEARCH AND DEVELOPMENT INSTITUTIONS AND COMPANIES

European Cooperation in Science and Technology (COST): distribution of information, application consultation, attestation of participation

Baltic Sea research and development programme BONUS

Cooperation of schools and companies in STEM (science, technology, engineering, and mathematics) fields

Research infrastructures roadmap – assessment and funding of infrastructures, ERIC legal framework

Estonian Research Information System (ETIS): development and user support

Evaluation of research and development activities

Supporting institutional research topics: institutional research funding (IUT), targeted financing (SF), funding for infrastructure

Estonian Research and Development Liaison Office in Brussels

Organisation of science communication project competitions and Estonian Science Communication Award

Estonian Research Information System (ETIS): development and user support

Research infrastructures roadmap – assessment and funding of infrastructures, ERIC legal framework

Provision of information on research funding in Europe (Science Europe)

Estonian Research and Development Liaison Office in Brussels

Provision and organisation of expert assessment

Reinforcement of sectoral research and development activities – RITA

Coordination of national and regional research programmes – ERA-NET Cofund

FOR THE RESEARCH COMMUNITY

Television series *Rocket 69 (Rakett 69)*

Estonian Research and Development Liaison Office in Brussels

Coordination of the activities of the Science and Technology Pact

Organisation of conferences, seminars, workshops and training days

Internationalisation of research and supporting mobility – MOBILITAS Plus

Register of the successful projects within a framework programme (FP5, FP6, FP7), H2020 and COST

Coordination of the participation scheme for partnerships in the European Union

Coordination of the activities of the Science and Technology Pact

Estonian Research Information System (ETIS): development and user support

RESEARCH ANALYSIS AND PUBLIC ACCESS TO RESEARCH INFORMATION

Analysis holds an important place in research funding — the Estonian Research Council analyses the effectiveness and impact of using research funding on society; monitors and analyses the availability of research information generated as a result of provided research funding, the creation and use of intellectual property, and the adherence to the ethical principles and research integrity. In order to support the elaboration of research policy, various aspects of research and statistical indicators are analysed, and evidence-based input is provided for making future decisions.

Evaluating research and development

Upon a regular evaluation, the level of research and development of the corresponding R&D field at a R&D institution is assessed by comparing it with internationally recognised criteria. If positive evaluation is granted, an institution has the right to apply for funding for their R&D activities from the state budget and to open doctoral studies programs.

Targeted evaluation is performed in order to prepare strategic field development plans that guide research and development or other research policy decisions and measures, or for assessing and analysing the impact and implementation thereof. The respective R&D field(s), subject of evaluation, participants, experts and specific procedure is confirmed by the Minister of Education and Research.

The Estonian Research Information System and Estonian Research Portal

The Estonian Research Council administrates the Estonian Research System (ETIS), a national registry, which acts as an information channel and tool both for researchers and R&D institutions. The system brings together information on institutions, researchers, research projects and research output.

Grant applications are submitted, assessed, and processed via ETIS. Project reports are approved via ETIS, too. The database is a good source for various analyses and several R&D institutions use it as an institutional research information system.

The Estonian Research Portal is the public section of ETIS. The Portal contains information on Estonian R&D and offers an operational environment for information exchange on research-related news and upcoming events. The Portal also provides an overview on various aspects of Estonian R&D activities.

In addition to that, the Portal provides researchers and research institutions the opportunity to present their research profiles, CV's, various types of research output – publications with full text, information on patents, products and services to public, etc. The research portal and information system are located at: www.etis.ee.



INTERNATIONAL COOPERATION

The Estonian Research Council assists in strengthening the competitiveness of Estonian research and development and facilitates its success in the international research arena. We organise and coordinate participation in international research programmes.

Representing Estonia in international research networks and partnership programmes

The Estonian Research Council represents Estonia in the European research and development cooperation network COST (European Cooperation in Science and Technology). The network helps to connect research projects done in different states and to form highly functional research communities. The Estonian Research Council organises counselling on cooperation programmes. As of 2015, 355 Estonian researchers are participating in different COST Actions.

We are an EU framework programme for research and development Horizon 2020 NCP organisation in Estonia. In that capacity we organise training events and information days, offer personal consultations and assist in finding partners, compile overviews of statistics and analyses, and coordinate funding allocated by the Estonian state. As of November 2015, 158 Estonian organisations participate in successful projects. The corresponding information is available at <http://edukad.etag.ee/>.

We coordinate Estonia's participation in EU partnerships to enable several stakeholders and funders from Estonia to work together and plan their joint future activities. The EU partnership participation action plan is annually presented to the Research Policy Council and confirmed by the ETAg Council. The relevant information is available at <http://www.etag.ee>

ETAg is a member of Science Europe and our representatives participate in the work of its several working groups (Research Data, Research Infrastructures, Research Integrity, Research Careers, Open Access to Scientific Publications, Research Policy and Programme Evaluation, and Gender and Diversity Working Group).

Promoting Estonian research internationally

The purpose of promoting Estonian researchers, research areas, and research capability on the international arena



is to facilitate international cooperation. Marketing depends on the target groups—we compile and communicate information materials, participate in fairs, introduce Estonian research institutions to foreign students studying in Estonia, and organise study visits to Estonian research institutions for foreign journalists. Comprehensive and constantly renewed information is available in English at www.researchinestonia.eu.

Foreign researchers in Estonia

We and our partners at R&D institutions support the adjustment of foreign researchers and their families arriving in Estonia with the help of the EURAXESS network. The corresponding mobility portal can be found at <http://euraxess.ee>.

The Estonian Research Council is also responsible for the research module in the adjustment programme aimed at foreign researchers and lecturers. Within this framework, we organise training courses about the Estonian research system, its organisation and funding for new immigrants.

Estonian Liaison Office for EU RTD in Brussels

The Estonian Liaison Office for EU RTD in Brussels supports better access to EU research cooperation. The office supports information exchange between Estonian R&D institutions and Brussels institutions, helps finding contacts and creating cooperation possibilities. We periodically organize calls for research administrators to provide the employees of universities, R&D institutions, ministries and their agencies the opportunity to familiarise themselves with EU organisations and institutions, and to advance cooperation in their areas of research or the organisation's area of research administration during their internship in Brussels.

SCIENCE COMMUNICATION

The Estonian Research Council is involved in communicating science and supporting future generations of researchers and engineers. We offer support to anyone who strives to attract young people to research and technology, as well as creates and maintains interest in these fields.

Increasing the interest and general awareness in science, technology, engineering and mathematics (STEM) among young people and general public

The Ministry of Education and Research, the Ministry of Economic Affairs and Communications and partners initiated the Estonian Research and Technology Pact in order to ensure the sustainable development of the STEM fields, and to guarantee sufficient workforce for Estonia. The pact serves as a cooperation agreement between the state, local governments, the business and education sectors as well as the third sector in order to popularize STEM among young people and general public, to raise the quality of education in the STEM subjects, and to increase the prestige of working in these fields. The Estonian Research Council coordinates the Pact.

We offer training courses for teachers on research project supervision and inquiry-based learning methods in order to support science education at schools. Students can apply for a Young Scientists' grant which provides an opportunity to cooperate with researchers. We support the development, diversification and better availability of extracurricular science education to spark interest in STEM among young people from early age.

We contribute to the development of science media; for example, the television programme "Rocket69" reached television screens as a result of the initiative of the Estonian Research Council. We develop www.miks.ee portal

that introduces the professions of STEM areas, and publish the miks.ee e-newsletter that gives an overview of the science communication activities in Estonia.

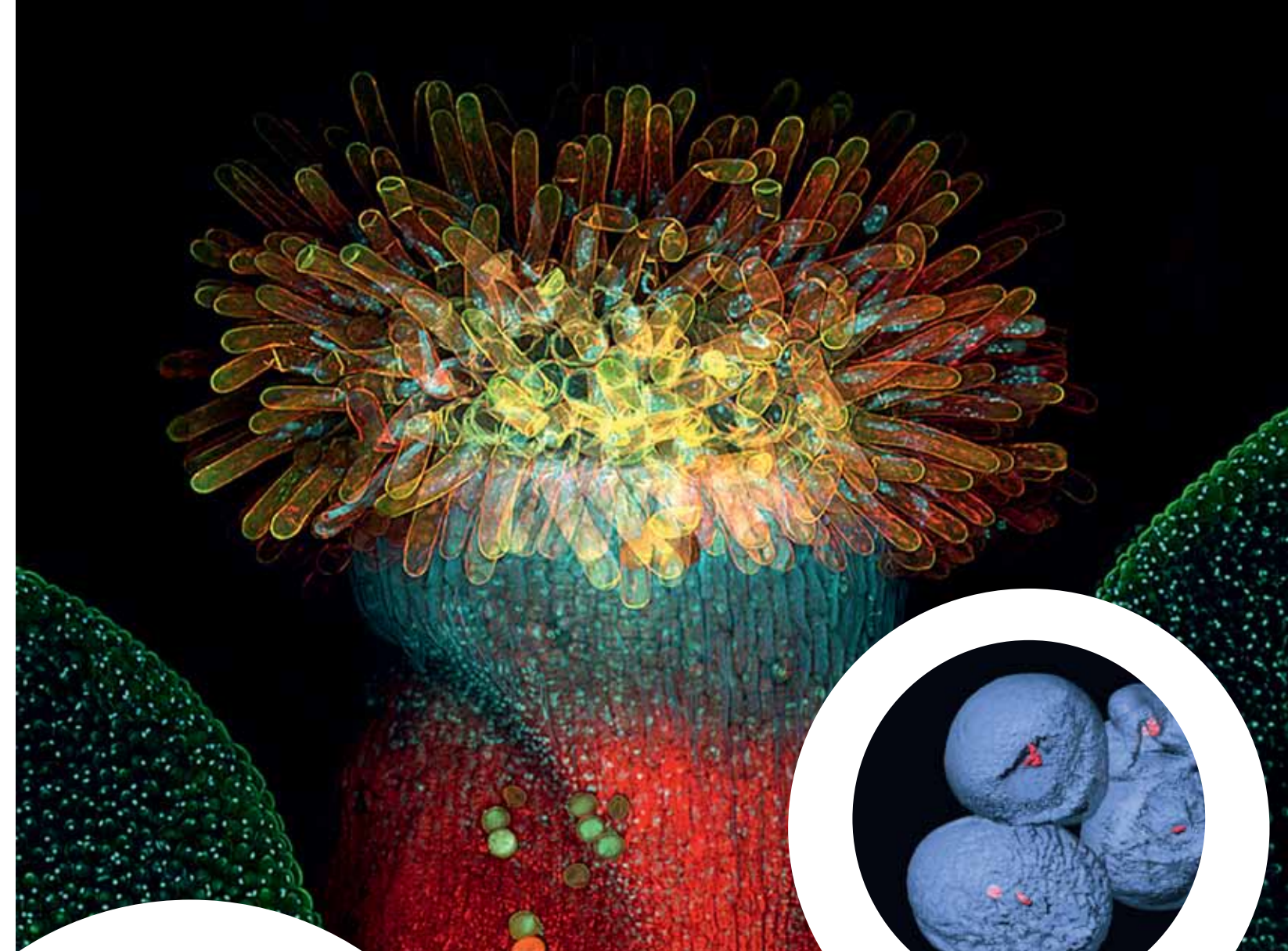
In order to support cooperation between science communicators, we organise annual summer schools and science communication conferences. We also fund an open call for Science Communication projects to support activities which promote the work of researchers and engineers for wider public as well as raise interest in these professions.

National awards and contests

We organise Estonian National Contests of Young Scientists and Young Inventors to support and add motivation to science projects and creativity at high-school. The aim of the National Contest for University Students is to promote research among university students, stimulate them to be more active and to acknowledge students who have achieved outstanding results. The Contest of Educational Research which culminates at the annual conference of educational research highlights the practical results of pedagogical research, introduces it to a larger group of stakeholders and supports the uptake of the results by practitioners.

Estonian Science Communication Award draws attention to the activities that introduce science to the society and acknowledges people who promote science in Estonia. The highest recognition is the Lifetime Achievement Award for long-time systematic communication of science and technology.

One can get an overview of the many activities we organise and support at the Annual Students' Science Festival that takes place in spring.



The copyright of the photographs in this publication is held by the Estonian Research Council or were submitted to the research photography competition organised in the Estonian Wikipedia by Wikimedia Estonia.

Front cover—Estonian physicist Mait Müntel by Lauri Kulpsoo
An optical microscope image of liquid crystal drops in glass 100x by Martin Timusk

A camp on drift ice in the middle of the Arctic Ocean as seen from the Chinese icebreaker Xue Long (The Snow Dragon) by Timo Palo

Pg. 1—An electron microscope image of a carbon nanotube fibre by Rünno Lõhmus

Aurora borealis in Estonia by Janek Pärn

Pg. 3—A Campbell-Stokes heliograph by Hannes Keernik

Pg. 6—Põrguorg in Paistu, new flow path of the Varstu creek in Aruküla stratum sandstone in 2011 by Tõnu Pani

Opening anther and pollen of thale cress (*Arabidopsis thaliana*) by Heiti Paves

Pg. 7—International research cooperation on the CHINARE Arctic expedition by Timo Palo

Interference in the air gap between ultra-thin glass sheets and a silica crystal by Martin Timusk

Back cover (inside)—thale cress (*Arabidopsis thaliana*) is a common weed of the Brassicaceae family by Heiti Paves

Thale cress (*Arabidopsis thaliana*) pollen by Heiti Paves

Petri dishes by Anna Loskutova

Cross-section of the trunk of a common hazel (*Corylus avellana*) by Annika Karusion

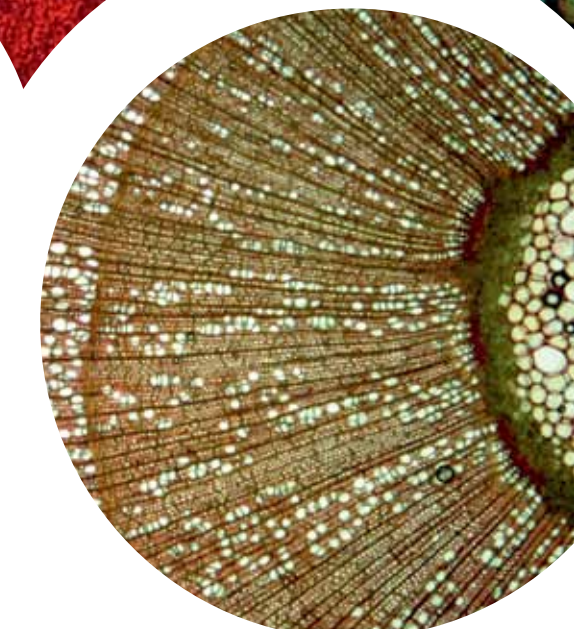
Estonian Research Council

Pg. 2—photographs of a conference at the Estonian Parliament (Riigikogu) "Research as Estonia's development engine. Do we keep thinking or just do it?" by Erik Peinar

Pg. 3—Estonia's first near-zero energy office building in Rakvere, from a presentation by Kalle Karron 13.10.15

Pg. 7—Horizon 2020 opening concert in Tallinn in 2014, photograph from a private collection

Pg. 8—Estonian geneticist Riin Tamm introducing the world of research at a miks.ee Science Day by Maanus Kullamaa



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