Table of contents

Guiding principles
1

Executive Board’s report
2

Highlights and prize winners
3

Organisation and decision-making bodies
4

FWF programmes
5

The FWF’s activities in figures

Contacts
Publishing information
The FWF stands for excellence, competition, and diversity. It supports projects as well as researchers in their research and manifold approaches. The illustrator Blagovesta Bakardjieva has translated cutting-edge research into the language of art. Ten exemplary projects completed in 2019 are featured in the annual report and can also be downloaded as wallpapers using the QR code below. The FWF would like to thank all the researchers for their contributions.
We strengthen scholarship in Austria.
Guiding principle

The Austrian Science Fund (FWF) is Austria’s central funding organisation for basic research.

Mission

The FWF’s mission is to support the ongoing development of basic research in Austria in line with the highest international standards. In pursuing that aim, the FWF makes a significant contribution to Austria’s cultural enrichment, to its development as a knowledge-based society and thus to creating value and prosperity in the country.

Goals

• To further improve Austria’s research performance on the international stage and to increase the country’s attractiveness as a research location, primarily by funding top-class research conducted by both individuals and teams, but also by helping to enhance the competitiveness of Austria’s research facilities and its innovation system as a whole.

• To heighten Austria’s research potential, both qualitatively and quantitatively, in line with the principle of research-based education.

• To strengthen links and foster interaction between scholarly research and all other fields of economic, social and cultural activity, and in particular to enhance the standing of basic research through concerted, long-term public relations work.
Basic principles

Excellence and competition

The FWF’s funding activities focus on research devoted to generating fresh knowledge, the quality of which is assessed on a competitive basis and by international referees.

Independence

Creativity in basic research requires freedom. Thanks to its legally independent status, the FWF is able to shield researchers from the direct influence of interest groups and so guarantee that freedom.

Internationality

The FWF is guided by the highest standards of the international academic community and supports cooperation across national borders.

Equal treatment of all disciplines

The FWF treats all researchers according to the same principles, neither favouring nor discriminating against particular disciplines.

Transparency and fairness

To attain a maximum of impartiality, the FWF strives to avoid conflicts of interest, to build in checks and balances at all stages of its procedures and to communicate clearly its practices and decision-making processes.
Gender mainstreaming

Ensuring the equal treatment of all researchers, regardless of gender, is a priority for the FWF, which it pursues through specific programmes and by practising gender mainstreaming in all areas of its work.

Equal opportunities

The FWF assesses all the applications for funding it receives without regard to the applicant’s position or academic title.

Ethical standards

The FWF is committed to ensuring, within its sphere of influence, that the rules of sound research practice and internationally recognised ethical standards are scrupulously observed.
The FWF 2019

Funding decisions on projects

- Approved projects: 707
  - Biology and Medical Sciences: 285 (Approval rate: 25.3%)
  - Natural and Technical Sciences: 242 (Approval rate: 28.6%)
  - Humanities and Social Sciences: 180 (Approval rate: 26.2%)

Funding requested (m €)

- New grants awarded: 237.4
  - Natural and Technical Sciences: 95.4 (Approval rate: 23.9%)
  - Biology and Medical Sciences: 86.6 (Approval rate: 23.9%)
  - Humanities and Social Sciences: 55.4 (Approval rate: 22.9%)
Key figures

Researchers funded by the FWF

- Over 55 years old: 108 (42♀/66♂)
- 36-55 years old: 1,087 (520♀/567♂)
- 16-35 years old: 2,981 (1,373♀/1,608♂)

Ongoing projects by discipline

- Biology and Medical Sciences: 928
- Humanities and Social Sciences: 557
- Natural and Technical Sciences: 893

Figures 2019
Executive Board’s report
Focus on excellence

2019: A year of political turbulence

For science and research, 2019 got off to quite a promising start. The ÖVP–FPÖ government’s programme provided for the implementation of long-standing research-policy demands, and a certain sense of anticipation could be felt. At the end of February, the FWF presented its multi-year programme for 2019–2021, which defined strategic milestones and outlined projects in the area of quality assurance and the further development of its portfolio.

On 14 May 2019, Federal Minister Heinz Faßmann and FWF President Klement Tockner looked back on the year 2018 at a joint press conference and presented their goals for the next year. Federal Minister Faßmann also referred, among other things, to the OECD report on the Austrian RTI ecosystem, which was published in December 2018. In it, Austria received a predominantly positive review. The fact that the report also included clear recommendations for action—for instance, in terms of the competitive allocation of funding for basic research—led the Minister of Science to view it as a mission for the future.

FWF President Tockner emphasised that competitively awarded funds generate the leverage necessary to ensure the highest quality and make a substantial contribution to establishing Austria as a world-class location for science and business. For the first time, two FWF-funded top researchers took an active part in the FWF’s annual press conference: Alice Vadrot, FWF Schrödinger fellow and ERC Starting grantee in 2018, and Muammer Ücal, coordinator of an FWF Young Independent Researcher Group, spoke about their journey to the top and the importance of the support they received from the FWF.
On 17 May 2019, just a few days after the FWF’s press conference, the governing coalition came to a sudden end, as did the federal government headed by Sebastian Kurz shortly after. Iris Rauskala was appointed interim Minister of Education, Science and Research as part of Chancellor Brigitte Bierlein’s caretaker government, which was sworn in on 30 May 2019. Chancellor Bierlein’s professed motto of ‘administrate, not legislate’ led to an unexpected interruption in the implementation of the research-policy project. At the beginning of January, the interim government ended, and Iris Rauskala handed over the Ministry of Science to her successor (and predecessor) Heinz Faßmann.

Alliance’s recommendations for strengthening Austria as a research country

In mid-August 2019, the Alliance of Austrian Science Organisations presented the future Austrian federal government with five research-policy recommendations. The Alliance’s key message was that it was imperative to use this window of opportunity to prepare Austria for the future, stay innovative in the long run, and remain competitive as a research- and business-friendly country. In detail, the five recommendations were:

1. **Enhancing the role of competition in promoting research**
   Since evidence has shown that projects approved using a competitive review process—if done in a fair and transparent manner—exhibit the highest quality, the Alliance called for a significant increase in the amount of funding awarded by competition. Following the findings of an OECD report, it was stated that the largest gap in funding was that for basic research.

2. **Improving the legal framework**
   The core of this recommendation was that the independence of publicly-funded research must be enshrined in a new research-funding act. This would provide for a three-year planning cycle and an annual increase of the funding budget for all institutions covered by the research-funding act to ensure the security necessary for planning.
3 Implementing the Excellence Initiative
The Excellence Initiative, developed, among others, by the FWF in line with international standards, aims to further boost cutting-edge research and cooperation between disciplines and institutions. It is intended to help Austria close the gap with the world’s leading countries in science and innovation.

4 Introducing overhead funding throughout Austria
The Alliance also recommended initiating uniform and binding overhead funding as a means of bolstering competitive research funding.

5 Endowing the national foundation in a sustainable way
It was recommended to ensure the long-term and adequate endowment of the National Foundation for Research, Technology and Development (NFTE), which finances essential components of eligible organisations’ funding portfolios.

Alpbach 2019

The European Forum Alpbach took place amid a turbulent political atmosphere in August 2019 and addressed the general theme of ‘Liberty and Security’. Together with the Austrian Federal Ministry of Education, Science and Research (BMBWF), the FWF organised a breakout session on ‘Artificial Intelligence and Governance: Liberty, Trust, Security’. Chaired by FWF President Klement Tockner, the working group consisting of Meredith Broussard (New York University), Patrice Chazerand (DIGITAL EUROPE), Ulrike Felt (University of Vienna), Sepp Hochreiter (JKU Linz), Tim O’Brien (Microsoft) and Jack Stilgoe (University College London) discussed the new opportunities presented by artificial intelligence (AI) in the areas of public policy and administration. The experts left no room for doubt that collective reflection on artificial intelligence and potential ways of regulating it were needed urgently. More than almost any other technological development, AI entails far-reaching changes to all aspects of society. An evaluation of the opportunities and risks associated with this development was the central theme of the discussion among experts as well as the numerous local and international participants.
Gender equality actions within the FWF

While women have constituted the majority of Austrian university graduates since 2000, they are still clearly under-represented in many areas of research. As part of its gender-mainstreaming strategy, the FWF has made an ongoing commitment to highlighting disparities at both Austrian and European levels and, at the same time, initiating and shaping positive changes in equality of gender representation. Since 2005, the following initiatives have been put in place:

- Enhancing the attractiveness of the FWF’s portfolio in terms of the career development of women (see ‘Consultation process for the career programmes’, p. 17)
- Increasing the visibility of women as principal investigators (through, for example, science-communication initiatives)
- Awareness-raising activities to increase the number of female applicants
- Ensuring the quality of data concerning gender balance in research and communicating the corresponding key indicators on an annual basis

Thanks to its monitoring of equal opportunities, the FWF is able to present all the relevant data, updated on an annual basis, and thus illustrate the current situation of the FWF’s structures, programmes, and processes. In 2019, a third of all applications were submitted by women when considered across all the funding programmes. This is consistent with the long-term average. The only area in which the percentage of women is lower is the natural and technical sciences (18%), whereas the percentage in the areas of biology and medical sciences as well as humanities and social sciences is 40 and 46 per cent, respectively. The key figure for the issue of equal opportunities is the approval rate, which, in 2019, was 27 per cent for women and 26.7 per cent for men.
To further emphasise gender awareness, a balanced participation of female and male researchers is a funding decision-making criterion in three programmes (Young Independent Researcher Groups, Special Research Programmes, and Research Groups). In addition, since the beginning of 2019, all applicants have been required to reflect explicitly on the gender dimension of their project’s research approach. These statements are also taken into consideration when evaluating the project.

Consultations, concepts, and collaboration

Consultation process for the career programmes

An essential component of the gradual reform of the FWF’s portfolio is the further development of the career programmes, with the aim of retaining more female researchers at research institutions and creating fair conditions for all applicants. In order to incorporate the views, expertise, and recommendations of the relevant stakeholders in planning for the future, the FWF has organised an in-depth consultation process. In spring 2019, consultation rounds started with several stakeholder groups. A total of five groups were involved: the representatives
of the Assembly of Delegates, the FWF Board, the Richter Network, and the Young Academy, as well as a group of gender equality experts. Their findings and recommendations for the restructuring of the FWF’s career programmes were submitted to the FWF in mid-December.

By way of background, the restructuring of the career programmes announced in the multi-year programme provides for two measures: First, the Lise Meitner and the Hertha Firnberg Programmes are to be merged into a new Early Stage Programme. Second, the Elise Richter and the START Programmes are to be harmonised and combined into a new Advanced Stage Programme. The long-term aim of reducing the programmes down to two stages (Early and Advanced) is to create equal opportunities and equal standing for all outstanding researchers at different stages of their careers.

After the conclusion of the initial consultation process, the new Early Stage Programme in its basic form has met with broad approval. The possibility of submission on a rolling basis, need-based funding, the expansion of mentoring for women, and the equal allocation of funding (50 per cent of the funds are reserved for women) are some of the most highly rated aspects of the new Early Stage Programme. The new programme and the accompanying measures are designed to retain female researchers in cutting-edge research for the long term. The discussion process also revealed that the ministries, research institutions, and the FWF must work together and share responsibility in order to take the next big step towards the sustainable promotion of women.

Since it appears that more time is needed for the reform of the Advanced Stage Programme, the FWF Executive Board has decided to extend the planning phase and the consultation process. However, the goal remains the same, to develop specific measures for improving the long-term retention of female researchers in cutting-edge research.

As things stand, the further consultations, which have been delayed due to the SARS-CoV-2 virus, will start mid-year so the decision on the measures for the further development of the programmes can be made by the end of 2020. The Early Stage Programme, however, will be fully developed as planned by summer 2020.
Science and academia are characterised by global competition and rapid developments. Within this dynamic environment, establishing Austria as one of Europe’s leading research countries requires continuous improvement of the framework for researchers. This is the ambitious goal of the current Excellence Initiative.

In December 2018, Minister of Science Heinz Faßmann commissioned an expert team consisting of Hannes Androsch (RFTE), Antonio Loprieno (OWR), Helga Nowotny (ERA Council), and Klement Tockner (FWF, chair) to outline a concept for an excellence initiative. In March 2019, the group sent the ministry a concept for further consultation with stakeholders.

According to the group of experts, the Excellence initiative would stimulate a culture of competition within the Austrian research community. Furthermore, it would promote a spirit of cooperation and pave the way for a dynamic research environment in all disciplines—including the arts and arts-based research. In addition, it would attract internationally outstanding researchers and provide young Austrian researchers with better career prospects. At the same time, the different programmes would also have an impact on the economy and society and create sustainable synergies.
New avenues for new initiatives and programmes

1,000 Ideas Programme

In 2019, researchers could, for the first time, request funding for new, daring, or particularly original research ideas as part of the 1,000 Ideas Programme. The aim of the programme is to investigate novel, future-oriented research topics with a high degree of relevance for science and research in general—one of the requirements being the courage to fail.

The demand was impressive: The more than 400 applications received from all academic disciplines demonstrated the great creative potential of Austrian researchers. In addition, the new programme expanded the circle of first-time applicants and clearly attracted new research institutions. With the 1,000 Ideas Programme, the FWF is also breaking new ground in how project proposals are reviewed. The proposals are selected on an anonymous and partially random basis as part of the evaluation by an international jury with broad expertise.

#ConnectingMinds

With the new #ConnectingMinds Programme, the FWF wishes to expand the transdisciplinary component of its portfolio. The aim is to support the common search for answers to complex contemporary issues and to promote social commitment and collective learning. What is unique about this programme is the way it includes actors from civil society right from the beginning. This means that they are already involved in the development of the research questions and the aims of the project. The experiences, views, and suggestions of these societal actors are intended to increase the project’s relevance to society and, ultimately, the knowledge gained from the project. The target group of societal actors includes, for example, representatives from NPO/NGOs, associations, public administrations, companies, health or educational institutions, as well as all others not directly involved in science and academia.
Funding is offered to teams that combine scientific and societal knowledge and thereby attempt to meet social, technological, ecological, and economic challenges. The first call for proposals was issued in spring 2020.

International agreements and developments

Central European Science Partnership (CEUS)

In June 2019, the presidents of the FWF’s partner organisations from Poland (NCN), Slovenia (ARRS), and the Czech Republic (GAČR) were guests at the START/Wittgenstein Awards ceremony. During this event, a memorandum of understanding was signed with the purpose of establishing a flexible framework for cooperation between the organisations. Starting in February 2020, researchers from these countries can receive joint funding not only for bilateral, but also trilateral research projects as part of the ‘Central European Science Partnership’ (CEUS). Thus, the CEUS initiative is making a significant contribution to the further integration of the Central European research area.

Partnerships

Liechtenstein: In September 2019, Liechtenstein’s Minister of Education Dominique Hasler and FWF President Klement Tockner met in Vienna and signed an agreement on continuing their countries’ cooperation in the area of research. The agreement provides researchers at research institutions in Liechtenstein with access to all the FWF’s funding programmes.

Israel: Since establishing the legal foundations for closer cooperation between Austria and Israel in the area of research in summer 2018, the FWF and the Israeli Ministry of Science and Technology (MOST) have taken concrete steps towards this and issued the first joint call for proposals in April 2019.
Funding can be requested for outstanding joint research projects in selected areas and involving Austrian and Israeli researchers on specific topics. The projects run for a period of three years and are financed proportionally by the FWF and MOST.

Taiwan: The successful and long-standing cooperation between the FWF and the Taiwanese Ministry of Science and Technology was further strengthened in 2019. The highlight was the visit of a Taiwanese delegation led by Yu-Han Tsou, the Vice-Minister of Science and Technology. The common goal is to continue to expand the opportunities for bilateral cooperation between excellent researchers of both countries in the future. In 2019, funding was granted to two Austrian-Taiwanese joint seminars (multi-day, thematic workshops/seminars) and two Austrian-Taiwanese research projects (joint projects), for the first time with a duration of four years.

Georgia: As part of its European Neighbourhood Policy (ENP), the EU has developed the Twinning instrument to support institutional cooperation between public administrations of the EU Eastern and Southern Neighbourhood partner countries. Together with partners from Austria, Germany, and Latvia, the FWF is participating in a project to support the organisational development of the Shota Rustaveli National Science Foundation of Georgia (SRNSFG) in the areas of science and industry cooperation and internationalisation. The Austrian Federal Ministry of the Environment, Joanneum Research, and the FFG are also involved in the Austrian part of the project.

GRC-Meeting 2019

High-ranking representatives of research funding organisations from all over the world get together once a year as part of the Global Research Council (GRC). In 2019, the event was organised in São Paulo by the Brazilian funding organisation FAPESP. As the host of the European preparatory meeting in Vienna in November 2019, the FWF was jointly responsible for the themes and focus of the event. At the GRC in São Paulo, in which President Tockner took part on behalf of the FWF, the discussion centred around research-policy themes of global importance.
The main issue was how funding organisations respond, or should respond, to increased expectations regarding the social applicability of scientific research. The participants passed a statement of principles which summarised the results.

Central European University in Vienna

Central European University (CEU) opened its doors in Vienna at the end of September 2019. Its US-accredited degree programmes primarily focus on the social sciences and humanities. The FWF has already received the first proposals from researchers working at CEU.

Multilateral lead agency procedure

In 2019, Science Europe—together with the FWF, among others—developed a procedure for combining the many bilateral cooperation agreements currently existing between European funding organisations into one integrated multilateral agreement. The coordination of the administrative framework creates the opportunity to expand cooperation and—starting probably in 2020—support multilateral research collaboration. This new form of cooperation is a groundbreaking research-policy project to promote the integration of European research.

Further development of open science

Plan S

The Plan S initiative, which will take effect in 2021, is an initiative to promote increased open access to research results. After an in-depth consultation process, the revised principles and guidelines were published at the end of May 2019. The FWF is part of a group of internationally renowned funding organisations that support the initiative. Owing to its previous activities in the area of open science, the FWF is well-prepared for the implementation of the initiative.
Data management plan

The FWF, like comparable organisations, requires a data management plan (DMP) for all projects approved according to the new application guidelines after 1 January 2019. A DMP describes how the data for a certain project are collected, organised, stored, backed-up, preserved, shared, archived, and destroyed. All of this is done in accordance with the open-access policy for research data.

Promoting philanthropic commitment
in cutting-edge research

International comparisons clearly show the enormous potential of philanthropy for science and research. Successful initiatives at universities and research institutions have also led to a welcome change of culture in Austria, which the FWF wishes to further promote through the establishment of the non-profit alpha+ foundation. The aim is to provide researchers who have succeeded in obtaining FWF funding with additional support from new private donors. The foundation kicked off its fundraising activities at the end of 2019 under the honorary chairmanship of Georg Winckler, long-time rector of the University of Vienna. In the context of the FWF’s existing collaboration with private partners, approximately one million euros in funding were granted to outstanding researchers in 2019 thanks to the funding awards sponsored by the Dr. Gottfried and Dr. Vera Weiss Science Foundation, the Internet Foundation Austria, and the Herzfelder Family Foundation.
Encouraging signs for the future

Science and research in the government’s programme

References to research and scientific expertise show up in many policy areas of the ÖVP-Green government’s programme, which was presented at the beginning of 2020. Among other things, it provides for the development of an ambitious RTI Strategy 2030 to implement the recommendations of the OECD report. This report calls for a significant increase in the funding awarded to basic research on a competitive basis. Three points of major importance to the FWF in this regard are mentioned explicitly in the government’s programme:

- Adoption of a research-funding act
- Commitment to an autonomous FWF
- Fostering basic research for example through an excellence initiative
Priorities for 2020

Research-funding act

The government’s programme provides for the implementation of a new research-funding act on the basis of the planned RTI Strategy 2030. If the recommendations of the OECD are followed, as announced, then for the FWF this would mean a stabilisation of the budget at a high level and subsequently a significant rate of growth over the next three years. The FWF estimates that the funding budget must grow by at least seven per cent per year to catch up with leaders in European innovation.

Excellence Initiative

After completing the initial concept phase, it is now time to get the Excellence Initiative off the ground. The government’s programme explicitly states that the FWF should be responsible for its implementation. The concept recommends establishing three facets to the programme: ‘Emerging Fields’ to stimulate innovation potential, an ‘Excellence Cluster’ to build on existing strengths, and ‘Austria Chairs of Excellence’ to make the Austrian science and research sector more attractive to outstanding international researchers. Overall, the Excellence Initiative is intended to foster the development of a competitive research culture, to promote cutting-edge research in line with international standards, and to ensure the freedom of research. Among the top priorities of the initiatives are the long-term enhancement of institutional reputations as well as closer cooperation between the different disciplines and institutions.
Putting an end to the standstill

Every plan and every initiative is only as good as its actual implementation. In the case of the chapter on science and research in the ÖVP-Green government’s programme, the ambitious plans require a similarly ambitious level of funding. The speed with which this is granted also plays a major role as the competition for the best research talent is a global race—one that is already in full swing.

The RTI Strategy 2030, the Research Funding Act, the Excellence Initiative, and other projects provide the Austrian research community with plenty of reasons to look optimistically to the future. After a year of standstill, 2020 could be a year of action and implementation, something from which Austria as a research country would benefit.

Particularly at a time in which every effort is being made to contain the spread of the SARS-CoV-2 virus, the importance of trust in science has become clear, and also how high-quality basic research acts as an insurance policy against challenges that we are not even aware of yet. In view of this fact, the FWF assumes two things: First, that despite the necessary budgetary measures of the government to support the economy and companies in the wake of the health crisis, there will also be another package of measures for the long-term support of research, and thereby Austria as a business location; and second, that the government’s original plans will remain the same. Investment in research has been shown to strengthen the resilience of centres of business and innovation.
Highlights and prize winners
Highlights

Press conference of Federal Minister of Science Heinz Faßmann and FWF President Klement Tockner

In mid-May, Federal Minister of Science Heinz Faßmann and FWF President Klement Tockner presented the current figures for 2018 and looked ahead to 2019. While Federal Minister Faßmann referred, among other things, to the OECD report, in which Austria received a predominantly positive review, FWF President Tockner emphasised the leverage created by competitively awarded third-party funding.

A celebration of top female researchers

On International Women’s Day on March 8, the FWF honoured, as in every year, the new Fellows on the ‘Herta Firnberg’ and ‘Elise Richter’ career programmes. In the impressive, columned hall of the Museum of Applied Arts (MAK), guests talked and celebrated late into the night.
Science on stage:

‘Am Puls’ brings research closer to society

Now in its 13th year, the successful ‘Am Puls’ series of events once again attracted a large audience in 2019. Over the course of five evenings, more than 2,000 people were able to learn about and discuss the current practical applications and future possibilities of basic research ‘made in Austria, funded by FWF’. The topics in 2019 were ‘Dementia: When the Brain No Longer Plays Along’, ‘Designer Babies, Mammoths & Such: The Possibilities of Synthetic Biology’, ‘Beauty’s Power of Attraction: The Adaptive Sense of Beauty’, ‘Autonomous Driving: When the Autopilot Takes Over’, and ‘50th Anniversary of the Moon Landing and the Settlement of Planets’. Reviews of all the ‘Am Puls’ talks are published on the FWF website.

ORF DialogForum

Must we fear the practical applications of artificial intelligence in the media or are there socially compatible ways of using it? What are the political, social, and ethical implications of an algorithm-driven media world? Is there such a thing as a good algorithm? These questions were the focus of the ORF DialogForum ‘Occupy Internet: The “Good” Algorithm’, which was co-hosted by the FWF in mid-November. FWF President Klement Tockner gave the keynote address at the event.
In 2019, the annual highlight of the FWF’s events calendar was once again the START/Wittgenstein Awards ceremony. The setting was the Museum of Applied Arts (MAK), where the ceremony and reception were held in the large exhibition hall and garden. For the first time, the names of the prize winners were not announced in advance, which kept everyone in suspense right until the end. The two Wittgenstein Award winners and the six START Award winners celebrated late into the night together with their families, friends, and teams, as well as numerous guests from the realms of politics, business, media, and society.
<table>
<thead>
<tr>
<th>Year</th>
<th>Winner(s)</th>
<th>Field</th>
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<tbody>
<tr>
<td>1996</td>
<td>Erwin F. Wagner</td>
<td>Morphogenesis of the Vertebrate Face</td>
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<tr>
<td></td>
<td>Ruth Wodak</td>
<td>Discourse, Politics, Identity</td>
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<tr>
<td>1997</td>
<td>Georg Gottlob</td>
<td>Information Systems and Artificial Intelligence</td>
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<tr>
<td></td>
<td>Erich Gornik</td>
<td>Semiconductor Nanoelectronics</td>
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<tr>
<td></td>
<td>Antonius and Marjori Matzke</td>
<td>Epigenetic Silencing of Plant Transgenes</td>
</tr>
<tr>
<td>1998</td>
<td>Walter Schachermayer</td>
<td>Stochastic Processes in Finance</td>
</tr>
<tr>
<td></td>
<td>Peter Zoller</td>
<td>Theoretical Quantum Optics and Quantum Information</td>
</tr>
<tr>
<td>1999</td>
<td>Kim Ashley Nasmyth</td>
<td>Yeast Cell Cycle</td>
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<tr>
<td></td>
<td>Andre Gingrich</td>
<td>Local Identities and Wider Influences</td>
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<tr>
<td></td>
<td>Peter A. Markowich</td>
<td>Applied Mathematics</td>
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<tr>
<td>2000</td>
<td>Meinrad Busslinger</td>
<td>Molecular Mechanisms of Lineage Commitment in the Hematopoietic System</td>
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<tr>
<td></td>
<td>Heribert Hirt</td>
<td>Cell Division Control in Plants</td>
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<td>2001</td>
<td>Ferenc Krausz</td>
<td>Quantum Optics: Ultrafast and High-Field Processes</td>
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<tr>
<td>2002</td>
<td>Renée Schroeder</td>
<td>RNA Folding and Catalysis, RNA-Binding Antibiotics</td>
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<td>2003</td>
<td>Walter Pohl</td>
<td>Early Medieval History and Culture</td>
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<td></td>
<td>Barry J. Dickson</td>
<td>The Development and Function of Neutral Circuits</td>
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<tr>
<td></td>
<td>Rudolf Grimm</td>
<td>Atomic and Molecular Quantum Gases</td>
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<td>2004</td>
<td>Jörg Schmiedmayer</td>
<td>Atomic Physics, Quantum Optics, Miniaturizing on a Chip</td>
</tr>
</tbody>
</table>
2007
Christian Krattenthaler
Classic Combinatorics and Applications
Rudolf Zechner
Metabolic Lipase in Lipid and Energy Metabolism

2008
Markus Arndt
Quantum Interference with Clusters and Complex Molecules

2009
Jürgen A. Knoblich
Asymmetric Cell Division
Gerhard Widmer
Informatics, AI, Music

2010
Wolfgang Lutz
Demography

2011
Gerhard J. Herndl
Microbial Oceanography, Marine Biochemistry
Jan-Michael Peters
Chromosome Segregation during Human Cell Division

2012
Thomas A. Henzinger
Formal Methods for the Design and Analysis of Complex Systems

2013
Niyazi Serdar Sarıçiftçi
Solar Energy Conversion

2014
Josef Penninger
Functional Genetics

2015
Claudia Rapp
Byzantium, Late Antiquity, Social and Cultural History

2016
Peter Jonas
Neurology (Synaptic Communication in Neuronal Microcircuits)

2017
Hanns-Christoph Nägerl
Experimental Physics—Ultracold Quantum Matter

2018
Herbert Edelsbrunner
Mathematics, Computer Science
Ursula Hemetek
Minority Research in Ethnomusicology
Philipp Ther

The Great Transformation: A comparative social history of global upheavals

Why did history ‘end’ differently than expected after 1989? This is the question that Philipp Ther explores as a social historian as well as an ‘89er’ who experienced first-hand a part of the Velvet Revolution in Prague and then lived and conducted research in East Germany, the former Czechoslovakia, Poland, and the Ukraine for several years in the 90s.

In the award winner’s view, a broader temporal and spatial perspective is necessary in order to better understand the transformation that took place after the end of state socialism. On the one hand, one must begin as far back as the eighties and, in some cases, the seventies, and on the other hand, extend the focus to include other global transformations, like the rise, the hegemony, and the radicalisation of neoliberalism, as well as their social implications. Besides this macro-perspective, in the coming years Philipp Ther plans to continue his research into the ‘transformation from below’, i.e., specific regional and local case studies, social groups like industrial workers, former collective farmers, migrant workers (the history of migration is also one of his long-standing research areas), families, and children.

To this end, he has established the Research Center for East Central Europe and the History of Transformations (RECET) together with colleagues from Poland, Sweden, Germany, the Czech Republic, Hungary, Croatia, and Austria. The funding from the award will enable him to expand this cluster and conduct research on the European and global level based on the concept of comparative area studies.
Michael Wagner is one of the world’s leading researchers in microbial ecology and microbiome analysis. These domains of microbiology involve the study of the composition and function of micro-organism communities in the environment and medicine, without which life on earth would not be possible.

Over the last 25 years, Michael Wagner and his team have developed methods that, for the first time, enable this ‘dark matter’ of microbes to be studied directly in medical or environmental samples. Currently, his research is focused on microbes that perform important functions in the global nitrogen cycle. Half of humanity is dependent on food produced using industrially manufactured nitrogen fertilisers. Due to the activity of certain groups of micro-organisms known as nitrifying bacteria in agricultural soil, a large part of the fertiliser, however, is not absorbed by the plants, but instead makes its way into the groundwater, rivers, and oceans. On the other hand, these nitrifying bacteria play an essential role in the purification of wastewater in modern sewage treatment plants.

Wagner plans to use the Wittgenstein Award funding to further strengthen the position of the Centre for Microbiology and Environmental Systems Research, which was established at the University of Vienna in 2019, as the world’s leading research institution in this field and to develop a new generation of methods for the functional analysis of microbiomes. If he succeeds, the function of individual cells in microbiomes will be able to be analysed in almost real time, thus revolutionising microbiome research.
<table>
<thead>
<tr>
<th>Year</th>
<th>Award Winners</th>
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<tr>
<td>1996</td>
<td>Christian Köberl, Ferenc Krausz, Ulrich Schmid, Peter Szmolyan, Karl Unterrainer, Harald Weinfurter, Gerhard Woeginger, Jakob Woisetschläger</td>
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<td>1997</td>
<td>Gerhard Holzapfel, Bernhard Palme, Michael Schmid</td>
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<td>Peter Grabner, Gottfried Kirchengast, Rudolf Valenta, Gerhard Widmer</td>
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<td>Christoph Marschner, Norbert J. Mauser, Otmar Scherzer, Thomas Schrefl, Christoph Spötl, Joseph Strauss</td>
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<td>Thomas Brabec, Susanne Kalss, Dietrich Leibfried, Herbert Strobl, Bernhard Tilg</td>
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<td>Markus Arndt, Michael Buchmeiser, Wolfgang Drexler, Wilfried Ellmeier, Clemens Sedmak</td>
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<td>Wolfgang Heiss, Michael Jursa, Georg Schett, Dieter Schmalstieg, Joachim Schöberl</td>
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<td>Georg Kresse, Hanns-Christoph Nägerl, Andreas Villunger</td>
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<td>2004</td>
<td>Thomas Bachner, Michael Kunzinger, Vassil Palankovski, Thomas Prohaska, Gerhard Schütz</td>
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<td>Michael Hintermüller, Matthias Horn, Alexandra Lusser, Michael Moser, Norbert Zimmermann</td>
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<td>Kathrin Breuker, Thomas Bugnyar, Otfried Gühne, Bernhard Lamel, Thomas Lörting, Paul Mayrhofer, Sigrid Wadauer, Thomas Wallnig</td>
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2008
Markus Aspelmeyer
Tom Battin
Massimo Fornasier
Daniel Grumiller
Alexander Kendl
Karel Riha
Kristin Tessmar-Raible
Christina Waldsich

2009
Francesca Ferlaino
Ilse Fischer
Arthur Kaser
Manuel Kauers
Thorsten Schumm
David Teis

2010
Julius Brennecke
Barbara Horejs
Barbara Kraus
Melanie Malzahn
Florian Schreck
Bojan Zagrovic

2011
Peter Balazs
Agata Ciabattoni
Sebastian Diehl
Alwin Köhler
Thomas Müller
Peter Rabl
Michael Sixt
Philip Walther

2012
Kaan Boztug
Julia Budka
Alexander Dammermann
Jürgen Hauer
Sofia Kantorovich
Michael Kirchler
Franz Schuster

2013
Stefan L. Ameres
Notburga Gierlinger
Clemens Heitzinger
Georgios Katsaros
David A. Keays
Ovidiu Paun
Thomas Pock
Paolo Sartori
Stefan Woltran

2014
Markus Aichhorn
Bettina Bader
Mathias Beiglböck
Alexander Grünheis
Sigrid Neuhauer
Manuel Schabus
Karin Schnass
Rene Thiemann

2015
Christoph Aistleitner
Ivona Brandic
Marcus Huber
Ben Lanyon
Gareth Parkinson
Rupert Seidl
Kristina Stöckl
Caroline Uhler

2016
Christopher Campbell
Michael Eichmair
Harald Grobner
Felix Höflmayer
Nikolai Kiesel
Tracy Northup

2017
Hannes A. Fellner
Vera Fischer
Claudine Kraft
Wolfgang Lechner
Andrea Pauli
Miriam Unterlass

2018
Emanuela Bianchi
Josef Norbert Füssl
Philipp Haslinger
Oliver Hofmann
Robert R. Junker
Gina Elaine Moseley
Silicon Light Emitters Based on Defect-Enhanced Quantum Dots

Silicon is the dominant material of the digital world as all integrated chips are based on it. However, digitalisation based on silicon electronics will clearly reach its limits in the foreseeable future. This project investigates a fundamentally new approach for extracting light from silicon-compatible group IV materials. The success of this project could be a decisive step in the integration of silicon-based light sources in modern semiconductor components.

Universal Structures in Mathematical Finance

This project focuses on mathematics and financial economics. The finance part is concerned with robust empirical features that can be observed universally across various financial markets, share classes, and, in particular, over time. The mathematics part deals with universally occurring model classes and probabilistic properties which unite phenomena that, at first glance, often seem unrelated. The goal is to develop a probabilistic framework that allows universal phenomena to be studied using universal mathematical methods.

Nomads’ Manuscripts Landscape

The rise of Genghis Khan and the expansion of the Mongol Empire in western Eurasia in the 13th century had a dramatic impact on the Islamic world. The Mongols are generally regarded as unstoppable nomadic warriors. This project starts from the hypothesis that the interaction of the nomadic rulers with resident elites went so far as to initiate a process of vigorous mutual cultural borrowing. The project will also develop two openly accessible digital databases.
The word *glass* is usually associated with glass for windows. However, metals can also form a glass. They have very attractive properties, but, like window glass, they can break catastrophically. In this project, metallic glasses are produced with specifically arranged nanocrystals. This makes it possible to develop new materials that are extremely hard but do not break catastrophically. This previously unachieved combination of properties is fundamental for the future development of high-performance materials.

---

**Time-Frequency Analysis, Randomness and Sampling**

Time-frequency analysis studies various phenomena of the domains of time and frequency simultaneously. It is a broad field that comprises not only many areas of mathematics, but also acoustics, wireless communication, statistical data analysis, and mathematical physics. The limits within which simultaneous time-frequency analysis is possible are determined by the uncertainty principle. The project deals with problems in which the uncertainty limit is reached.

---

**Ion Impacts in Real-Time (time4ions)**

In his project, Richard Wilhelm studies surfaces on the atomic scale. They are irradiated by bright laser flashes and bombarded almost simultaneously with pulses of charged particles. This is made possible by an ultrafast ion source which can fire high-energy charged atoms at a material sample. This project is the world’s first ion scattering experiment in which the time sequences can be observed with such precision. This enables us to make specific changes to material properties using customised pulses.
Organisation and decision-making bodies
Supervisory Board

Appointed by the Assembly of Delegates (4), FWF Works Council (1), BMVIT (1), BMBWF (3) and an elected member (1)

Executive Board

President, Executive Vice-President, 3 Vice-Presidents of Research

Assembly of Delegates

30 voting members of the universities, non-university research institutions, and stakeholders as well as the (non-voting) BMVIT (1), BMBWF (1), FWF Executive Board (5)

FWF Board

28 expert advisors from all disciplines (and 28 deputies) as well as the FWF Executive Board
Executive Board

5th term
(since September 2016)

President

Klement Tockner

Executive Vice-President

Artemis Vakianis

Vice-President

Humanities and Social Sciences

Gerlinde Mautner
Vienna University of Economics and Business
Institute for English Business Communication

Vice-President

Natural and Technical Sciences

Gregor Weihs
University of Innsbruck
Department of Experimental Physics

Vice-President

Biology and Medical Sciences

Ellen Zechner
University of Graz
Institute of Molecular Biosciences
Supervisory Board

6th term
(2019–2023)

Chair
Sonja Puntscher Riekmann
University of Salzburg,
Salzburg Centre of European Union Studies

Deputy Chair
Eva Liebmann-Pesendorfer
Institute for Advanced Studies (IHS)

Members
Gabriele Ambros
Forschung Austria,
Verlag Holzhausen GmbH

Iris Fortmann
FWF Works Council

Martin Grötschel
Berlin Brandenburg Academy of Sciences
and Humanities, Germany

Renate E. Meyer
Vienna University of Economics and
Business, Institute for Organization Studies

Martin Netzer
BMBWF– Federal Ministry of Education,
Science and Research

Johanna Rachinger
Austrian National Library

Barbara Sporn
Vienna University of Economics and
Business, Institute for Higher Education
Management

Hans Sünkel
Austrian Academy of Sciences,
Institute for Space Research

Consultant Members
Martin Gerzabek
Christian Doppler Research Association

Gertrude Tumpel-Gugerell
FFG Supervisory Board
# Assembly of Delegates

6th term  
(2019 – 2023)

<table>
<thead>
<tr>
<th>Institution</th>
<th>Members</th>
<th>Deputies</th>
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<tbody>
<tr>
<td>Academy of Fine Arts Vienna</td>
<td>Michaela Glanz</td>
<td>—</td>
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<tr>
<td>Austrian Institute of Technology GmbH</td>
<td>Wolfgang Knoll</td>
<td>Katja Lamprecht</td>
</tr>
<tr>
<td>Federal Ministry for Transport, Innovation and Technology (non-university research)</td>
<td>Iris Filzwieser</td>
<td>Elke Guenther</td>
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<tr>
<td>Danube University Krems</td>
<td>Viktoria Weber</td>
<td>Friedrich Faulhammer</td>
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<tr>
<td>Institute of Science and Technology Austria</td>
<td>Thomas A. Henzinger</td>
<td>Carl-Philipp Heisenberg</td>
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<tr>
<td>Ludwig Boltzmann Association</td>
<td>Sylvia Knapp</td>
<td>Martina Mara</td>
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<tr>
<td>Medical University of Graz</td>
<td>Caroline Schober-Trummler</td>
<td>Michael Speicher</td>
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<td>Medical University of Innsbruck</td>
<td>Christine Bandtlow</td>
<td>Günter Weiss</td>
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<td>Medical University of Vienna</td>
<td>Michaela Fritz</td>
<td>Michael Freissmuth</td>
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<td>Montanuniversität Leoben</td>
<td>Wilfried Eichlseder</td>
<td>Oskar Paris</td>
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<td>Oliver Jens Schmitt</td>
<td>Georg Brasseur</td>
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<tr>
<td>Austrian Conference of Universities of Applied Sciences</td>
<td>Johann Kastner</td>
<td>Andreas Altmann</td>
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<td>Austrian National Union of Students</td>
<td>Desmond Grossmann</td>
<td>Adrijana Novakovic</td>
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<tr>
<td>Austrian Conference of Private Universities</td>
<td>Rudolf Mallinger</td>
<td>Stefan Hampl</td>
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<td>Graz University of Technology</td>
<td>Horst Bischof</td>
<td>Gernot Müller-Putz</td>
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<td>Vienna University of Technology</td>
<td>Johannes Fröhlich</td>
<td>Ulrike Diebold</td>
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<td>University of Applied Arts Vienna</td>
<td>Alexander Damianisch</td>
<td>Barbara Putz-Plecko</td>
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<tr>
<td>University of Natural Resources and Life Sciences, Vienna</td>
<td>Christian Obinger</td>
<td>Hubert Hasenauer</td>
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Chair

**Michaela Fritz**
Medical University of Vienna

Deputy Chair

**Horst Bischof**
Graz University of Technology

<table>
<thead>
<tr>
<th>University of Art and Design Linz</th>
<th>Karin Harrasser</th>
<th>Thomas Macho</th>
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<tr>
<td>University of Music and Performing Arts Graz</td>
<td>Gerd Grupe</td>
<td>Roland Reiter</td>
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<td>University of Music and Performing Arts Vienna</td>
<td>Therese Kaufmann</td>
<td>Nikolaus Urbanek</td>
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<td>University of Graz</td>
<td>Christof Gattringer</td>
<td>Petra Schaper-Rinkel</td>
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<td>Ulrike Tanzer</td>
<td>Bernhard Fügenschuh</td>
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<td>University of Klagenfurt</td>
<td>Friederike Wall</td>
<td>Martina Merz</td>
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<td>Johannes Kepler University Linz</td>
<td>Alberta Bonanni</td>
<td>Peter Paule</td>
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<td>Mozarteum University Salzburg</td>
<td>Eugen Banauch</td>
<td>Elisabeth Gutjahr</td>
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<td>University of Salzburg</td>
<td>Nicola Hüsing</td>
<td>Hendrik Lehnert</td>
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<td>University of Vienna</td>
<td>Jean-Robert Tyran</td>
<td>Heinz Engl</td>
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<tr>
<td>University of Veterinary Medicine, Vienna</td>
<td>Otto Doblhoff-Dier</td>
<td>Veronika Sexl</td>
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<tr>
<td>Vienna University of Economics and Business</td>
<td>Michael Lang</td>
<td>Harald Badinger</td>
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Non-voting members

<table>
<thead>
<tr>
<th>FWF Executive Board</th>
<th>Klement Tockner</th>
<th>Artemis Vakianis</th>
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<tr>
<td></td>
<td>Gerlinde Mautner</td>
<td>Gregor Weihs</td>
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<td>Ellen Zechner</td>
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<td>Federal Ministry of Education, Science and Research</td>
<td>Eva Gottmann</td>
<td>Wolfgang Neurath</td>
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<td>Federal Ministry of Transport, Innovation and Technology</td>
<td>Mario Steyer</td>
<td>Margit Harjung</td>
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## FWF Board

### 5th term (2017–2020)

### Biology and Medical Sciences

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Expert Advisor</th>
<th>Deputy</th>
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</table>
| Biology I  | Kurt Kotrschal  
University of Vienna | Ilse Kranner  
University of Innsbruck |
| Biology II | Elisabeth Haring  
Natural History Museum Vienna | Ruben Sommaruga  
University of Innsbruck |
| Genetics / Microbiology, Biotechnology / System biology | Ortrun Mittelsten Scheid  
Austrian Academy of Sciences Vienna | Joachim Reidl  
University of Graz |
| Cell Biology | Ludger Hengst  
Medical University of Innsbruck | Wilfried Ellmeier  
Medical University of Vienna |
| Biochemistry and Structural Biology | Iain B. H. Wilson  
University of Natural Resources and Life Sciences, Vienna | Ruth Prassl  
Medical University of Graz |
| Neurobiology and Cognitive Neuroscience | Bernhard E. Flucher  
Medical University of Innsbruck | Claus Lamm  
University of Vienna |
| Biomedical Research I | Akos Heinemann  
Medical University of Graz | Barbara Kofler  
Paracelsus Medical Private Univ. Salzburg |
| Biomedical Research II | Maria Sibilia  
Medical University of Vienna | Till Rümenapf  
University of Veterinary Medicine, Vienna |
| Clinical Research I | Thomas Bauernhofer  
Medical University of Graz | Marc–Michael Zaruba  
Medical University of Innsbruck |
| Clinical Research II | Christoph J. Binder  
Medical University of Vienna | Elke Gizewski  
Medical University of Innsbruck |

### Humanities and Social Sciences

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<tr>
<th>Discipline</th>
<th>Expert Advisor</th>
<th>Deputy</th>
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| Business and Economics | Sigrid Stagli  
Vienna University of Economics and Business | Paul Schweinzer  
University of Klagenfurt |
| Social Sciences I | Jessica Fortin-Rittberger  
University of Salzburg | Ursula Kriebaum  
University of Vienna |
### Social Sciences II
Libora Oates-Indruchová  
University of Graz  
Tobias Greitemeyer  
University of Innsbruck

### Philosophy, Theology and Cultural Studies
Anne Siegetsleitner  
University of Innsbruck  
Ruth Sonderegger  
Academy of Fine Arts Vienna

### Historical Studies
Susan Zimmermann  
Central European University  
Reinhard Stauber  
University of Klagenfurt

### Classical Studies
Erich Kistler  
University of Innsbruck  
Reinhard Wolters  
University of Vienna

### Literary Criticism and Linguistics
Norbert Christian Wolf  
University of Salzburg  
Ulrike Jessner-Schmid  
University of Innsbruck

### Art and Art History
Raphael Rosenberg  
University of Vienna  
Federico Celestini  
University of Innsbruck

### Natural and Technical Sciences

| Mathematics I | Josef Schicho  
Johannes Kepler University Linz | Michael Drmota  
Vienna University of Technology |
| Mathematics II | Barbara Kaltenbacher  
University of Klagenfurt | Georg Pflug  
University of Vienna |
| Informatics I | Silvia Miksch  
Vienna University of Technology | Ruth Breu  
University of Innsbruck |
| Informatics II | Thomas Pock  
Graz University of Technology | Bernhard Rinner  
University of Klagenfurt |
| Experimental Physics | Gottfried Strasser  
Vienna University of Technology | Peter Zeppenfeld  
Johannes Kepler University Linz |
| Theoretical Physics and Astrophysics | Enrico Arrigoni  
Graz University of Technology | Andreas Läuchli  
University of Innsbruck |
| Inorganic Chemistry | Julia Kunze-Liebhäuser  
University of Innsbruck | Erik Reimhult  
University of Natural Resources and Life Sciences, Vienna |
| Organic Chemistry | Rolf Breinbauer  
Graz University of Technology | Nuno Maulide  
University of Vienna |
| Geosciences | Georg Kaser  
University of Innsbruck | Rainer Abart  
University of Vienna |
| Engineering | Oszkár Biró  
Graz University of Technology | Andreas Ludwig  
Montanuniversität Leoben |
International START/Wittgenstein Jury

Biology and Medical Sciences

Bruce Beutler
University of Texas, USA

Adrian Bird
University of Edinburgh, UK

Carlo Croce
Ohio State University, USA

Christine Foyer
University of Leeds, UK

Humanities and Social Sciences

Robin Mansell
London School of Economics and Political Science, UK

Peter van Dommelen
Brown University, USA

Janet Wolff (Chair)
University of Manchester, UK

Natural and Technical Sciences

Christoph Beckermann
The University of Iowa, USA

Carlo W. J. Beenakker
Leiden University, NL

Stefan Hell
Max Planck Institute for Biophysical Chemistry, Germany

Gitta Kutyniok
Technische Universität Berlin, Germany

Mira Mezini
Technische Universität Darmstadt, Germany

Equal Opportunities

Executive Board
Supervisory Board
FWF Board BIOMED
FWF Board HUMSOC
FWF Board NATTEC
Assembly of Delegates
International START/Wittgenstein Jury
PEEK Board
WKP Jury
Staff
Total

PEEK Board

Darla Crispin
Norwegian Academy of Music, Norway

Lynn Hughes
Concordia University, Canada

Sandra Kemp
Imperial College, UK

Michael Punt
University of Plymouth, UK

Anton Rey (Chair)
Zurich University of the Arts, Switzerland

Marc Aurel Schnabel
Victoria University of Wellington, NZL

Organisation and decision-making bodies
International Strategic Advisory Board

**Jutta Allmendinger**  
Professor of Educational Sociology and Labour Market Research, Humboldt University, Berlin;  
President of the Berlin Social Science Centre (WZB)

**Dymph van den Boom**  
Professor of Education, University of Amsterdam;  
former Rector of the University of Amsterdam and the Amsterdam University of Applied Sciences

**Stephen Curry**  
Professor of Structural Biology, Imperial College London;  
Panel member of the European Research Council (ERC)

**Lino Guzzella**  
Professor of Thermotronics, ETH Zurich;  
former President of ETH Zurich

**Hermann Parzinger**  
Professor of Prehistoric Archaeology, Free University of Berlin; President of the Prussian Cultural Heritage Foundation, Berlin

**Sarah de Rijcke**  
Professor of Science, Technology and Innovation Studies, Scientific Director of the Centre for Science and Technology Studies, Leiden University; Co-chair of the Research on Research Institute (RoRI)

**Sverker Sörlin**  
Professor of the History of Science, Technology and the Environment, KTH Royal Institute of Technology Stockholm; Member of the Swedish Climate Policy Council

**Ulrike Tillmann**  
Professor of Mathematics, Oxford University;  
Council Member of the Royal Society, United Kingdom

---

**WKP Jury**

**Gian-Andri Casutt**  
**Beate Langholf**  
**Oliver Lehmann**  
**Christian Müller**  
**Jutta Rateike**  
**Barbara Streicher**

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**FWF sections by gender (female/male)**

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1) voting members;  
2) incl. deputies;  
excl. non-voting members;  
3) incl. part-time staff and freelancers;  
excl. staff on parental leave and Executive Board members  
(as at 31 December 2019)
FWF programmes
Exploring new frontiers: Funding top-quality research

Stand-alone project funding

Stand-Alone Projects

Objective:
› To enable researchers to carry out research projects in basic research

1,000 Ideas Programme

Objectives:
› To encourage risk-taking, foster creativity, and facilitate the development of novel, innovative research domains
› To focus on high-risk, original, or transformative research at an early stage
› To address visionary research ideas that cross disciplinary boundaries and/or are not yet the subject of debates in academic research and/or in society

International programmes

Transnational funding activities

Objective:
› To enable researchers to carry out closely integrated bilateral or multilateral research projects in basic research

Funding programmes:
› Joint projects: bi- and trilateral research projects, sometimes with a specific focus
› ERA NET calls: multilateral (European) research cooperation with a specific focus
› Joint seminars: seminar events to initiate cooperative projects

Priority research programmes

Special Research Programmes (SFB)

Objective:
› To create areas of focus for research at one or more locations and develop extremely productive, tightly interconnected research units for long-term and interdisciplinary work on complex research topics
Research Groups

Objectives:
› To fund cooperative projects between researchers at research institutions with more limited infrastructure or in certain disciplines that cooperate on smaller scales
› To cooperate on medium-term projects on a complex, current topic in mixed teams of 3 to 5 researchers
› To promote inter- or multidisciplinary, innovative research collaboration that explores a topic in more depth or breadth
› To place young researchers in a leadership role
› To define an internationalisation strategy to connect with the international scientific/scholarly community

Awards and prizes

START Programme

Objectives:
› To provide outstanding young researchers with long-term support to carry out basic research
› To help researchers gain the qualifications necessary for leadership positions in research by developing, growing, and managing their own working groups

Wittgenstein Award

Objectives:
› To provide outstanding established researchers with long-term support to carry out basic research
› To give those researchers maximum freedom and flexibility in pursuing their research

Gottfried and Vera Weiss Prize
(funded by the Dr. Gottfried and Dr. Vera Weiss Science Foundation)

Objective:
› To enable (young) researchers to carry out basic research in the fields of meteorology or anaesthesiology

netidee SCIENCE
(funded by the Internet Foundation Austria)

Objectives:
› To make a sustainable contribution to expanding, strengthening, and preserving the benefits of the internet for all members of society
› To support researchers from all disciplines who can help to achieve the foundation’s objectives in the fields of technology, the natural sciences, business and economics, and the social sciences

ASMET Research Award
(funded by the Austrian Society of Metallurgy and Materials)

Objective:
› To support researchers in the fields of metallurgy and materials development with a focus on the use of AI methods
**Herzfelder Foundation Projects**  
*(funded by the Herzfelder Family Foundation)*

**Objectives:**
- To enable researchers to carry out basic research in the field of biochemical/medical cell research
- To support research into cell changes and ageing as well as the search for new means of influencing these processes

**Cultivating talents:**

**Human resources development**

**Doctoral programmes**

**doc.funds**

**Objectives:**
- To promote outstanding education and training for doctoral students in existing internationally oriented doctoral programmes with clearly defined structures and quality standards
- To reinforce the research orientation and sustained consolidation of existing education and training structures for highly qualified junior researchers

**Young researcher programmes**

**Young Independent Researcher Groups**

**Objectives:**
- To promote cooperation and networking among internationally outstanding young researchers through interdisciplinary research cooperation (for up to 4 years) in teams of 3 to 5 researchers
- To promote advanced interdisciplinary research into complex issues at a minimum of 2 distinct research institutions or 2 organisational units of a single institution

**International mobility**

**Erwin Schrödinger Fellowships**

**Objectives:**
- To help (young) researchers work on basic research at leading research institutions outside Austria
- To help researchers gain experience abroad at the postdoc stage
- To facilitate access to new fields of research, methods, procedures, and techniques, so that fellows can contribute to the development of their respective fields

**Lise Meitner Programme**

**Objectives:**
- To enhance the quality of research at Austrian research institutes
- To increase quality levels and scholarly expertise among Austria’s scientific community
- To help researchers establish international contacts and support career development
Career development for women in research

Hertha Firnberg Programme
Objectives:
› To help enable female researchers carry out basic research
› To support female postdoc researchers early in their academic careers or on their return from maternity leave
› To enhance women’s opportunities for academic careers at Austrian research institutions

Elise Richter Programme
Objectives:
› To enable female researchers to carry out basic research
› To support the development of women’s academic careers and help them obtain the qualifications necessary for a professorship in Austria or abroad

Elise Richter PEEK
Objectives:
› To enable young female researchers to carry out innovative arts-based research projects
› To support the development of women’s academic careers and help them obtain the qualifications necessary for a professorship in Austria or abroad

Realising new ideas: A bridge between research and society

Funding of application-oriented basic research

Clinical Research Programme (KLIF)
Objectives:
› To enable researchers to carry out clinical research projects
› To generate new scholarly knowledge and insights in order to improve clinical practice
› To optimise diagnostic and therapeutic procedures

Quantum Research and Technology (QFTE)
Objectives:
› To promote the transfer of knowledge from basic research on quantum physics to the development and application of quantum technologies and vice versa
› To help establish highly qualified researchers in the field of applied quantum technologies
› To offer researchers career opportunities in business as an alternative to an academic career
› To provide researchers with experience of working in a company
Funding research into the arts

Arts-Based Research Programme (PEEK)

Objectives:
- To enable researchers to carry out innovative arts-based research projects
- To increase awareness of arts-based research and its potential applications among a broader audience and within the research and arts communities

Funding transdisciplinary research

#ConnectingMinds

Objectives:
- To support teams that combine scientific and societal knowledge to meet looming social, technological, ecological, and economic challenges
- To strengthen the dialogue between science and society as well as increase the transfer of research results into practice
- To improve the ability of researchers to build capacity in terms of transdisciplinary research

Funding of publications and communication

Stand-Alone Publications

Objective:
- To support the publication of stand-alone scholarly works in an appropriate and economical manner using conventional or digital-publication formats

Peer-Reviewed Publications

Objective:
- To support the publication of peer-reviewed works

Science Communication Programme (WKP)

Objective:
- To support outstanding science-communication measures related to the research project funded by the FWF

Expansions of FWF-funded projects

Top Citizen Science (TCS)

Objectives:
- To support research activities that promote the active involvement of citizens
- To incorporate citizens’ skills, expertise, curiosity, and willingness to participate.
The FWF’s activities in figures
# FWF balance sheet

## Assets

### A  Fixed Assets

<table>
<thead>
<tr>
<th>Description</th>
<th>31 Dec. 2018</th>
<th>31 Dec. 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Intangible assets</td>
<td>181,708.45</td>
<td>329,332.99</td>
</tr>
<tr>
<td>2. Construction investment in non-owned facilities</td>
<td>48,089.57</td>
<td>42,570.84</td>
</tr>
<tr>
<td>3. Tangible fixed assets (equipment)</td>
<td>163,841.06</td>
<td>167,805.73</td>
</tr>
<tr>
<td></td>
<td><strong>393,639.08</strong></td>
<td><strong>539,709.56</strong></td>
</tr>
</tbody>
</table>

### B  Current assets

#### I. Accounts receivable and other assets

<table>
<thead>
<tr>
<th>Description</th>
<th>31 Dec. 2018</th>
<th>31 Dec. 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Accounts receivable from the BMBWF</td>
<td>21,650,004.85</td>
<td>21,650,004.85</td>
</tr>
<tr>
<td>2. Accounts receivable from the BMK</td>
<td>811,845.00</td>
<td>811,845.00</td>
</tr>
<tr>
<td>4. Accounts receivable from provincial governments and other sponsors</td>
<td>9,977,641.45</td>
<td>7,898,815.79</td>
</tr>
<tr>
<td>5. Accounts receivable from the BMBWF, approved grants for future years</td>
<td>410,460,878.74</td>
<td>426,670,062.91</td>
</tr>
<tr>
<td>6. Other receivables and assets</td>
<td>609,800.25</td>
<td>525,206.31</td>
</tr>
<tr>
<td></td>
<td><strong>547,670,361.68</strong></td>
<td><strong>568,576,126.25</strong></td>
</tr>
</tbody>
</table>

#### II. Cash on hand or in banks

<table>
<thead>
<tr>
<th>Description</th>
<th>31 Dec. 2018</th>
<th>31 Dec. 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>72,128,854.93</td>
<td>88,747,232.90</td>
<td></td>
</tr>
<tr>
<td>619,799,216.61</td>
<td>657,323,359.15</td>
<td></td>
</tr>
<tr>
<td><strong>Assets</strong></td>
<td><strong>620,298,773.15</strong></td>
<td><strong>658,068,417.39</strong></td>
</tr>
</tbody>
</table>

C  Accruals and deferred items

<table>
<thead>
<tr>
<th>Description</th>
<th>31 Dec. 2018</th>
<th>31 Dec. 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Assets</strong></td>
<td><strong>620,298,773.15</strong></td>
<td><strong>658,068,417.39</strong></td>
</tr>
</tbody>
</table>

The FWF’s activities in figures 70.
as at 31 December 2019, all figures in euros
(with the exception of scientific equipment)

## Liabilities

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A Provisions</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2,201,321.32</td>
<td>2,337,081.80</td>
</tr>
<tr>
<td><strong>B Liabilities</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I. Liabilities from research funding</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. from research projects</td>
<td>545,302,545.61</td>
<td>581,748,916.50</td>
</tr>
<tr>
<td>2. Contingent liabilities: international projects still open</td>
<td>2,348,046.94</td>
<td>3,216,828.14</td>
</tr>
<tr>
<td>3. Liabilities from international agreements</td>
<td>96,805.00</td>
<td>0.00</td>
</tr>
<tr>
<td>4. Liabilities to publishers</td>
<td>35,753.93</td>
<td>104,351.40</td>
</tr>
<tr>
<td>5. Liabilities from payroll costs</td>
<td>298,226.90</td>
<td>292,396.53</td>
</tr>
<tr>
<td></td>
<td>548,081,378.38</td>
<td>585,362,492.57</td>
</tr>
<tr>
<td>II. Liabilities from contractual agreements</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. with the BMK</td>
<td>1,296,218.09</td>
<td>1,287,184.11</td>
</tr>
<tr>
<td>7. with the European Union (COFUND)</td>
<td>32,490.07</td>
<td>0.00</td>
</tr>
<tr>
<td>8. with the National Foundation for RTD</td>
<td>67,108,969.61</td>
<td>67,305,667.18</td>
</tr>
<tr>
<td>9. with Austrian provincial governments</td>
<td>960,748.50</td>
<td>1,132,598.12</td>
</tr>
<tr>
<td></td>
<td>69,398,426.27</td>
<td>69,725,449.41</td>
</tr>
<tr>
<td>III. Other liabilities: office costs</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>562,785.18</td>
<td>615,962.61</td>
</tr>
<tr>
<td></td>
<td>618,042,589.83</td>
<td>655,703,904.59</td>
</tr>
<tr>
<td><strong>C Accruals and deferred items</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>54,862.00</td>
<td>27,431.00</td>
</tr>
<tr>
<td><strong>Total Liabilities</strong></td>
<td>620,298,773.15</td>
<td>658,068,417.39</td>
</tr>
</tbody>
</table>
### FWF income statement

#### I. Revenue

1. **Revenue from research funding**

<table>
<thead>
<tr>
<th></th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>Contributions from the BMBWF</td>
<td>217,275,398.17</td>
</tr>
<tr>
<td>b</td>
<td>Contributions from the National Foundation for RTD</td>
<td>75,200,000.00</td>
</tr>
<tr>
<td>c</td>
<td>Other contributions</td>
<td>6,952,522.02</td>
</tr>
<tr>
<td>d</td>
<td>Grants and donations</td>
<td>1,004,080.67</td>
</tr>
<tr>
<td></td>
<td></td>
<td>300,432,000.86</td>
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</tbody>
</table>

2. **Change of use of approved grants**

<table>
<thead>
<tr>
<th></th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>– 56,321,789.11</td>
<td>-327,160.97</td>
</tr>
</tbody>
</table>

3. **Revenue from unused research grants**
   *(returned funds)*

<table>
<thead>
<tr>
<th></th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7,954,771.69</td>
<td>8,944,725.62</td>
</tr>
</tbody>
</table>

4. **Other revenues**

<table>
<thead>
<tr>
<th></th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>Revenues from completed research projects</td>
<td>4,722.07</td>
</tr>
<tr>
<td>b</td>
<td>Reimbursements for services and other revenues: Administrative activities</td>
<td>693,776.17</td>
</tr>
<tr>
<td>c</td>
<td>Interest income</td>
<td>47,079.39</td>
</tr>
<tr>
<td></td>
<td></td>
<td>745,577.63</td>
</tr>
<tr>
<td></td>
<td>Revenues</td>
<td>252,810,561.07</td>
</tr>
</tbody>
</table>

#### II. Expenses

5. **Expenditure for research funding**

<table>
<thead>
<tr>
<th></th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>Projects (incl. KLIF &amp; PEEK)</td>
<td>115,207,665.62</td>
</tr>
<tr>
<td>b</td>
<td>Doctoral Programmes</td>
<td>22,651,266.27</td>
</tr>
<tr>
<td>c</td>
<td>International mobility</td>
<td>19,884,610.30</td>
</tr>
<tr>
<td>d</td>
<td>Programmes for female researchers</td>
<td>14,195,556.76</td>
</tr>
<tr>
<td>e</td>
<td>Wittgenstein Award / START Programme</td>
<td>10,139,791.00</td>
</tr>
</tbody>
</table>
From 1 January 2019 to 31 December 2019, all figures in euros
(with the exception of scientific equipment)

<table>
<thead>
<tr>
<th></th>
<th>f Young Independent Researcher Groups &amp; Research Groups</th>
<th>g Special Research Programmes (SFB) &amp; NFN</th>
<th>h International Programmes</th>
<th>i Experimental research formats</th>
<th>j Dissemination und Outreach</th>
<th>k Programmes funded by third parties</th>
<th>l Changes in contingent research project approvals BMBWF</th>
<th>m Expenses for research support from international agreements</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12,990,709.40</td>
<td>13,822,010.18</td>
<td>30,739,021.71</td>
<td>38,643.79</td>
<td>2,404,916.11</td>
<td>1,267,677.60</td>
<td>868,781.20</td>
<td>597,173.38</td>
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<tr>
<td></td>
<td>4,226,747.68</td>
<td>20,912,888.50</td>
<td>33,365,760.66</td>
<td>14,871.85</td>
<td>2,923,385.42</td>
<td>2,847.46</td>
<td></td>
<td>586,110.38</td>
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<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>240,544,265.07</td>
</tr>
<tr>
<td>6.</td>
<td>Expenses for research support</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a Expenses for research support from international agreements</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>36,062.35</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>b Other</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>36,193.99</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>72,256.34</td>
<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Administrative expenses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a Personnel expenses</td>
<td>7,686,468.01</td>
<td></td>
<td>8,049,632.24</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>b Other</td>
<td>4,507,571.65</td>
<td></td>
<td>4,023,285.27</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>12,194,039.66</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Expenses</td>
<td>252,810,561.07</td>
<td></td>
<td>263,739,989.86</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Result for the year</td>
<td>0.00</td>
<td></td>
<td>0.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Research funding overview

### Number of grants

<table>
<thead>
<tr>
<th>Programmes</th>
<th>2018</th>
<th>2019</th>
<th>2018</th>
<th>2019</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stand-Alone Projects (incl. clinical research)</td>
<td>1,131</td>
<td>1,169</td>
<td>315</td>
<td>331</td>
<td>27.9</td>
</tr>
<tr>
<td>Programme for the Development and Understanding of the Arts (PEEK)</td>
<td>68</td>
<td>60</td>
<td>11</td>
<td>11</td>
<td>16.2</td>
</tr>
<tr>
<td>Doctoral Programmes (DK): extensions</td>
<td>8</td>
<td>3</td>
<td>6</td>
<td>2</td>
<td>75.0</td>
</tr>
<tr>
<td>doc.funds</td>
<td>—</td>
<td>28</td>
<td>—</td>
<td>6</td>
<td>21.4</td>
</tr>
<tr>
<td>Erwin Schrödinger Programme</td>
<td>132</td>
<td>129</td>
<td>53</td>
<td>50</td>
<td>40.2</td>
</tr>
<tr>
<td>Lise Meitner Programme</td>
<td>238</td>
<td>221</td>
<td>70</td>
<td>64</td>
<td>29.4</td>
</tr>
<tr>
<td>Career Development for Women Researchers</td>
<td>174</td>
<td>159</td>
<td>51</td>
<td>45</td>
<td>29.3</td>
</tr>
<tr>
<td>START Programme and Wittgenstein Award</td>
<td>105</td>
<td>109</td>
<td>8</td>
<td>8</td>
<td>7.6</td>
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<tr>
<td>Research Groups</td>
<td>—</td>
<td>5</td>
<td>—</td>
<td>3</td>
<td>7.7</td>
</tr>
<tr>
<td>Special Research Programmes (SFB): new applications(^1)</td>
<td>62</td>
<td>56</td>
<td>29</td>
<td>45</td>
<td>10.3</td>
</tr>
<tr>
<td>Special Research Programmes (SFB): extensions(^1)</td>
<td>—</td>
<td>9</td>
<td>—</td>
<td>8</td>
<td>88.9</td>
</tr>
<tr>
<td>International Programmes</td>
<td>456</td>
<td>491</td>
<td>121</td>
<td>124</td>
<td>26.5</td>
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<tr>
<td>Top Citizen Science</td>
<td>10</td>
<td>21</td>
<td>5</td>
<td>4</td>
<td>50.0</td>
</tr>
<tr>
<td>Science Communication Programme (WKP)</td>
<td>—</td>
<td>29</td>
<td>—</td>
<td>6</td>
<td>20.7</td>
</tr>
<tr>
<td><strong>Total(^3)</strong></td>
<td>2,501</td>
<td>2,489</td>
<td>684</td>
<td>707</td>
<td>26.7</td>
</tr>
<tr>
<td><strong>Women</strong></td>
<td>858</td>
<td>857</td>
<td>243</td>
<td>247</td>
<td>27.8</td>
</tr>
<tr>
<td><strong>Men</strong></td>
<td>1,643</td>
<td>1,631</td>
<td>441</td>
<td>459</td>
<td>26.1</td>
</tr>
<tr>
<td><strong>Non-gender-binary</strong></td>
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<td>1</td>
<td>—</td>
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<td>100.0</td>
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<tr>
<td>SFB: draft proposals and approved full applications</td>
<td>29</td>
<td>16</td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Research Groups: draft proposals</td>
<td>—</td>
<td>39</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

1. Special Research Programmes (SFB) - new applications and extensions were assessed separately in 2018 and 2019.
2. Approval rate calculated as approved projects divided by assessed applications.
3. Total includes all programmes with data available.
## Grant totals (€ million)

<table>
<thead>
<tr>
<th></th>
<th>Assessed total</th>
<th>Approved total</th>
<th>Applications rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>384.5</td>
<td>108.1</td>
<td>28.1</td>
</tr>
<tr>
<td>2019</td>
<td>423.4</td>
<td>119.5</td>
<td>28.2</td>
</tr>
<tr>
<td>2018</td>
<td>25.2</td>
<td>4.1</td>
<td>16.5</td>
</tr>
<tr>
<td>2019</td>
<td>22.3</td>
<td>4.2</td>
<td>19.0</td>
</tr>
<tr>
<td></td>
<td>26.0</td>
<td>19.0</td>
<td>60.0</td>
</tr>
<tr>
<td></td>
<td>9.0</td>
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<td>1.0</td>
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<td>19.8</td>
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<td></td>
<td>—</td>
<td>0.3</td>
<td>—</td>
</tr>
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<td></td>
<td>1.4</td>
<td>—</td>
<td>19.1</td>
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<tr>
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<td>948.7</td>
<td>230.8</td>
<td>22.1</td>
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<tr>
<td></td>
<td>908.7</td>
<td>237.4</td>
<td>23.6</td>
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<td>318.6</td>
<td>75.5</td>
<td>21.9</td>
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<td></td>
<td>630.1</td>
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<td>0.2</td>
<td>0.2</td>
<td>100.0</td>
</tr>
<tr>
<td></td>
<td>8.6</td>
<td>9.1</td>
<td>—</td>
</tr>
<tr>
<td>Supplementary approvals</td>
<td>239.5</td>
<td>246.5</td>
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<tr>
<td>Total approvals</td>
<td>120.3</td>
<td>4</td>
<td>17.3</td>
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<tr>
<td></td>
<td>69.4</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>55.1</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

1) Relates to sub-projects
2) The approval rate is calculated from new approvals of assessed applications or the relation of approved full applications to draft proposals.
3) 2018: incl. Young Independent Researcher Groups, EVTZ
4) Increases, completion funding, etc.
Funding development

Total new approvals (€ millions)

Approved projects (number of)

Share of funded programmes

Total of new approvals (in € millions)

Stand-Alone Projects (incl. clinical research)

PEEK / Top Citizen Science / WKP

START Programme and Wittgenstein Award

Career Development for Women Researchers

Schrödinger / Meitner

International programmes

Doctoral Programmes doc.funds

Research Groups / SFB

The FWF’s activities in figures
Research staff funded by the FWF

In 2019, 4,176 people working in research were funded by the FWF. More than half of these are young researchers aged between 26 and 35. The figures underline the importance of the FWF as a supporter of young talent and prove its commitment to the development of scientific human capital in Austria. As at 31 December 2019

<table>
<thead>
<tr>
<th></th>
<th>Women</th>
<th>Men</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other staff</td>
<td>410</td>
<td>285</td>
<td>695</td>
</tr>
<tr>
<td>Doctoral students</td>
<td>844</td>
<td>1,102</td>
<td>1,946</td>
</tr>
<tr>
<td>Postdocs</td>
<td>617</td>
<td>813</td>
<td>1,430</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,871</strong></td>
<td><strong>2,200</strong></td>
<td><strong>4,071</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Women</th>
<th>Men</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other staff</td>
<td>414</td>
<td>287</td>
<td>701</td>
</tr>
<tr>
<td>Doctoral students</td>
<td>893</td>
<td>1,128</td>
<td>2,021</td>
</tr>
<tr>
<td>Postdocs</td>
<td>628</td>
<td>826</td>
<td>1,454</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,935</strong></td>
<td><strong>2,241</strong></td>
<td><strong>4,176</strong></td>
</tr>
</tbody>
</table>

Approvals by cost category

- **Personnel costs**: 199.2 83.9%
- **Material costs**: 14.9 6.3%
- **Other costs**: 14.4 6.1%
- **Travel costs**: 4.5 1.9%
- **Equipment costs**: 2.6 1.1%
- **Total**: 237.4

The FWF’s activities in figures
Total new grants:
University research institutes

according to Section 6 para. 1 UG 2002
(in € millions)

2015 2016 2017 2018 2019

University of Vienna
49.9 35.5 45.3 41.6 52.9

University of Innsbruck
19.1 18.1 18.2 18.8 23.9

Medical University of Vienna
19.0 19.0 21.5 23.3 21.6

Technical University Vienna
19.2 19.7 21.3 22.1 20.5

University of Graz
11.0 10.7 15.1 12.0 16.0

University of Natural Resources and Life Sciences, Vienna
8.4 7.2 6.5 11.3 8.3

University of Salzburg
5.5 6.0 7.7 10.0 8.0

Johannes Kepler University Linz
8.3 6.5 10.1 8.5 7.8

Technical University of Graz
6.7 6.8 7.0 7.8 7.4

Medical University of Innsbruck
5.1 6.6 10.3 5.7 7.3

Medical University of Graz
4.7 3.1 6.5 10.9 5.1

University of Applied Arts Vienna
2.0 0.7 0.8 2.2 2.7
### Total new grants:

**Non-university and other research institutes**

(in € million)

*also includes research institutes and fellowships abroad*

<table>
<thead>
<tr>
<th>Institute Name</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austrian Academy of Sciences</td>
<td>17.8</td>
<td>14.4</td>
<td>17.0</td>
<td>18.0</td>
<td>24.2</td>
</tr>
<tr>
<td>Institute of Science and Technology Austria – ISTA</td>
<td>2.4</td>
<td>4.0</td>
<td>4.4</td>
<td>5.8</td>
<td>4.0</td>
</tr>
<tr>
<td>Private universities</td>
<td>1.7</td>
<td>2.1</td>
<td>1.2</td>
<td>2.6</td>
<td>3.1</td>
</tr>
<tr>
<td>Other research institutes*</td>
<td>10.6</td>
<td>10.8</td>
<td>9.7</td>
<td>12.2</td>
<td>12.8</td>
</tr>
</tbody>
</table>
Grants by province

Total new grants: 237.4 € millions (2019)

Vienna 140.1 59.0%
Upper Austria 11.6 4.9%
Salzburg 9.7 4.1%
Styria 34.1 14.4%
Carinthia 1.4 0.6%
Lower Austria 7.8 3.3%
Tyrol 32.3 13.6%
Burgenland 0.0 0.0%
Abroad 0.4 0.2%
Vorarlberg 0.0 0.0%

Matching funds

Number of projects / Total grants (€ millions)

21 6.2
Projects  € millions

Carinthia 0.3
Styria 0.4
Salzburg 0.8
Lower Austria 0.8
Upper Austria 1.5
Tyrol 2.4

The FWF's activities in figures
The FWF has for many years pursued one of the world’s most effective open-access strategies among funding organisations. In 2019, 89% of all quality-assured publications listed in final FWF project reports were openly accessible.

### Peer-reviewed publications

<table>
<thead>
<tr>
<th>Year</th>
<th>Open Access</th>
<th>No Open Access</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>6,525 = 89%</td>
<td>801 = 11%</td>
<td>7,326</td>
</tr>
<tr>
<td>2018</td>
<td>7,094 = 92%</td>
<td>608 = 8%</td>
<td>7,702</td>
</tr>
<tr>
<td>2017</td>
<td>5,771 = 90%</td>
<td>668 = 10%</td>
<td>6,439</td>
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</table>

### Publication funding

<table>
<thead>
<tr>
<th>Category</th>
<th>Mio. €</th>
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</thead>
<tbody>
<tr>
<td>Stand-Alone Publications</td>
<td>0.6</td>
</tr>
<tr>
<td>Peer-Reviewed Publications</td>
<td>2.9</td>
</tr>
<tr>
<td>&gt; Hybrid Open Access</td>
<td>1.9</td>
</tr>
<tr>
<td>&gt; Gold Open Access</td>
<td>0.9</td>
</tr>
<tr>
<td>&gt; Other Publication Costs</td>
<td>0.1</td>
</tr>
<tr>
<td>Total</td>
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</tbody>
</table>

of which Open Access \(^3\)

1) The publication funding was published on the FWF website and in the Zenodo repository in spring 2020.
2) consists of a) direct billing to publishers and b) payment through projects
3) Total of Stand-Alone Publications, Hybrid Open Access and Gold Open Access and their percentage of the total amount
### Grants by Scientific Discipline

#### Total of new grants (€ millions)

<table>
<thead>
<tr>
<th>Discipline</th>
<th>2018</th>
<th>2019</th>
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</thead>
<tbody>
<tr>
<td>Natural and Technical Sciences</td>
<td>27.4</td>
<td>27.1</td>
</tr>
<tr>
<td>Biology and Medical Sciences</td>
<td>19.2</td>
<td>21.8</td>
</tr>
<tr>
<td>Humanities and Social Sciences</td>
<td>7.4</td>
<td>5.5</td>
</tr>
<tr>
<td>Other Natural Sciences</td>
<td>0.1</td>
<td>0.1</td>
</tr>
<tr>
<td>Medical Technology</td>
<td>0.1</td>
<td>0.1</td>
</tr>
<tr>
<td>Environmental Engineering</td>
<td>0.1</td>
<td>0.1</td>
</tr>
<tr>
<td>Agricultural Sciences</td>
<td>0.1</td>
<td>0.1</td>
</tr>
<tr>
<td>Chemical Engineering</td>
<td>0.1</td>
<td>0.1</td>
</tr>
<tr>
<td>Other Technological Sciences</td>
<td>0.1</td>
<td>0.1</td>
</tr>
<tr>
<td>Electrical Engineering</td>
<td>0.1</td>
<td>0.1</td>
</tr>
<tr>
<td>Information Technology</td>
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<td>0.1</td>
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<tr>
<td>Civil Engineering</td>
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<td>0.1</td>
</tr>
<tr>
<td>Other Sciences</td>
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</table>

#### Natural and Technical Sciences

<table>
<thead>
<tr>
<th>Discipline</th>
<th>2018</th>
<th>2019</th>
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</thead>
<tbody>
<tr>
<td>Physics, Astronomy</td>
<td>11.9</td>
<td>11.4</td>
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<tr>
<td>Mathematics</td>
<td>8.3</td>
<td>92%</td>
</tr>
<tr>
<td>Chemistry</td>
<td>4.4</td>
<td>6.5%</td>
</tr>
<tr>
<td>Computer Science</td>
<td>4.9%</td>
<td>4.5%</td>
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<tr>
<td>Geosciences</td>
<td>3.2%</td>
<td>2.3%</td>
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</table>

#### Biology and Medical Sciences

<table>
<thead>
<tr>
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<th>2019</th>
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</thead>
<tbody>
<tr>
<td>Biology</td>
<td>11.4</td>
<td>10.7</td>
</tr>
<tr>
<td>Medical Sciences</td>
<td>6.3%</td>
<td>6.3%</td>
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#### Humanities and Social Sciences

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<tr>
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</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>0.1</td>
<td>0.1</td>
</tr>
<tr>
<td>Forestry</td>
<td>0.1</td>
<td>0.1</td>
</tr>
<tr>
<td>Fishery</td>
<td>0.1</td>
<td>0.1</td>
</tr>
<tr>
<td>Livestock Breeding and Farming</td>
<td>0.1</td>
<td>0.1</td>
</tr>
<tr>
<td>Other Agriculture</td>
<td>0.1</td>
<td>0.1</td>
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</table>
### The FWF’s activities in figures

#### Biology and Medical Sciences

<table>
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<th>2019</th>
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</thead>
<tbody>
<tr>
<td>Biology</td>
<td>54.1</td>
<td>58.2</td>
</tr>
<tr>
<td>Clinical Medicine</td>
<td>7.8</td>
<td>7.6</td>
</tr>
<tr>
<td>Theoretical Medical Sciences, Pharmacology</td>
<td>3.4%</td>
<td>3.2%</td>
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<tr>
<td>Other*</td>
<td>1.8%</td>
<td>1.6%</td>
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#### Humanities and Social Sciences

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<th>2019</th>
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<tbody>
<tr>
<td>Linguistics and Literature Studies</td>
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</tr>
<tr>
<td>History, Archaeology</td>
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<td>9.2</td>
</tr>
<tr>
<td>Art and Art History</td>
<td>3.4%</td>
<td>3.2%</td>
</tr>
<tr>
<td>Philosophy, Ethics, Theology</td>
<td>2.4%</td>
<td>1.9%</td>
</tr>
<tr>
<td>Sociology</td>
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<td>4.1</td>
</tr>
<tr>
<td>Other*</td>
<td>15.0</td>
<td>16.5</td>
</tr>
</tbody>
</table>

#### Total of new grants

- **2018**: € 237.4 million
In 2019 the FWF assessed 2,489 applications amounting to a total of 908.7 million euros. 15,669 review applications led to a total of 4,632 reviews from 64 countries and regions, and funding decisions were based on these.

1,396 USA
589 Germany
542 UK

Average processing time

(in months)

<table>
<thead>
<tr>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
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<td>4.7</td>
<td>4.8</td>
<td>4.9</td>
<td>5.0</td>
<td>5.4</td>
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</table>

Stand-Alone Projects

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<th>2017</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
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<td>4.2</td>
<td>4.2</td>
<td>4.2</td>
<td>4.1</td>
<td>4.1</td>
</tr>
</tbody>
</table>

International mobility

Schrödinger and Meitner Programmes

<table>
<thead>
<tr>
<th>2015</th>
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<th>2017</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.6</td>
<td>4.7</td>
<td>4.7</td>
<td>4.8</td>
<td>5.1</td>
</tr>
</tbody>
</table>

Total average

Share of reviews by region (in %)

<table>
<thead>
<tr>
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<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
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<td>36.1</td>
<td>37.8</td>
<td>36.4</td>
<td>36.0</td>
</tr>
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<td>34.5</td>
<td>34.7</td>
<td>34.2</td>
<td>33.9</td>
<td>34.4</td>
</tr>
<tr>
<td>16.5</td>
<td>15.9</td>
<td>17.1</td>
<td>16.4</td>
<td>15.6</td>
</tr>
<tr>
<td>12.1</td>
<td>13.4</td>
<td>11.0</td>
<td>13.3</td>
<td>14.0</td>
</tr>
</tbody>
</table>

rest of EU
USA/Canada
Germany/Switzerland
rest of world
## The FWF’s activities in figures

### Reviews applied for and received

<table>
<thead>
<tr>
<th>Year</th>
<th>Applied for</th>
<th>Received</th>
<th>Response Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>14,706</td>
<td>4,831</td>
<td>32.9</td>
</tr>
<tr>
<td>2016</td>
<td>15,203</td>
<td>4,723</td>
<td>31.1</td>
</tr>
<tr>
<td>2017</td>
<td>15,221</td>
<td>4,701</td>
<td>30.9</td>
</tr>
<tr>
<td>2018</td>
<td>15,845</td>
<td>4,726</td>
<td>29.8</td>
</tr>
<tr>
<td>2019</td>
<td>15,669</td>
<td>4,632</td>
<td>29.6</td>
</tr>
</tbody>
</table>

- **Ireland**: 32
- **Portugal**: 32
- **Hungary**: 31
- **Brasil**: 30
- **Poland**: 28
- **New Zealand**: 28
- **Czech Republic**: 27
- **India**: 24
- **Singapore**: 23
- **Greece**: 16
- **Taiwan (Chinese province)**: 14
- **South Korea**: 13
- **Serbia**: 12
- **South Africa**: 12
- **Argentina**: 12
- **Chile**: 11
- **Russia**: 11
- **Hong Kong (Chinese administrative region)**: 9
- **Mexico**: 9
- **Luxembourg**: 8
- **Slovenia**: 6
- **Estonia**: 5
- **Romania**: 5
- **Croatia**: 4
- **Turkey**: 4
- **Iran**: 4
- **Bulgaria**: 3
- **Cyprus**: 3
- **Iceland**: 3
- **Egypt**: 2
- **Ukraine**: 2
- **Saudi Arabia**: 2
- **Latvia**: 2
- **Qatar**: 2
- **Lebanon**: 2
- **Uruguay**: 1
- **Zambia**: 1
- **Uzbekistan**: 1
- **North Macedonia**: 1
- **Bosnia and Herzegovina**: 1
- **Thailand**: 1
- **Kosovo**: 1
- **Bahrain**: 1
- **Lithuania**: 1
- **Philippines**: 1
- **Malta**: 1
- **Taiwan (Chinese province)**: 1
- **South Korea**: 1
- **Mexico**: 1
- **Hong Kong (Chinese administrative region)**: 1
- **Luxembourg**: 1
- **Slovenia**: 1
- **Estonia**: 1
- **Romania**: 1
- **Croatia**: 1
- **Turkey**: 1
- **Iran**: 1
- **Bulgaria**: 1
- **Cyprus**: 1
- **Iceland**: 1
- **Egypt**: 1
- **Ukraine**: 1
- **Saudi Arabia**: 1
- **Latvia**: 1
- **Qatar**: 1
- **Lebanon**: 1
- **Uruguay**: 1
- **Zambia**: 1
- **Uzbekistan**: 1
- **North Macedonia**: 1
- **Bosnia and Herzegovina**: 1
- **Thailand**: 1
- **Kosovo**: 1
- **Bahrain**: 1
- **Lithuania**: 1
- **Philippines**: 1
- **Malta**: 1

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The FWF’s activities in figures
International programmes

Invested FWF funds 2019 (in € millions)

4.1 Bilateral/outside Europe

5.1 ERA-NETs

23.4 Bilateral/Europe

ERA-NET participation by FWF

BiodivERsA3 - Biodiversity
CHISTERA 3 - Information Technology
EJP Rare Diseases - Rare Diseases
ERA CoSysMed - Systems Medicine
ERA-CVD - Cardiovascular Diseases
ERA PerMed - Personalised Medicine
FLAGERA II - Future Emerging Technologies
Gendernet - The Gender Dimension in Research
HERA - Humanities
NEURON III - Neurosciences
NORFACE - Social Sciences
QuantERA - Quantum Technology
TRANSCAN-2 - Cancer Research

Participation in calls 2004–2019: 77
Funded projects 2004–2019: 199
Active participation 2019: 13
International mobility 2019

The FWF supports successful young researchers on their way to scientific independence with the Schrödinger and Meitner mobility programmes. In 2019, 50 young postdocs from Austria carried out research in 15 countries worldwide. In return, 64 international young researchers worked at Austrian research institutes.

Lise Meitner grantees

Countries of origin/nationalities: Italy (8), Germany (6), China (6), Austria (4), France (4), Czech Republic (3), Russian Federation (3), USA (3), Poland (3), Belgium (2), Vietnam (2), Greece (1), Slovakia (1), Romania (1), Israel (1), Sri Lanka (1), Brazil (1), UK (1), Uzbekistan (1), Bosnia and Herzegovina (1), Albania (1), Spain (1), Netherlands (1), Taiwan (Chinese province) (1), Belarus (1), Hungary (1), Argentina (1), India (1), Portugal (1), Latvia (1), Montenegro (1)

Women 23 Men 41 Total 64

Erwin Schrödinger fellows

Destination countries: USA (11), Germany (7.5), UK (6), Canada (5), Switzerland (4), Spain (3.5), Sweden (3), Italy (2), Netherlands (2), Australia (1), Belgium (1), Finland (1), France (1), Portugal (1), Hungary (1)

Women 17 Men 33 Total 50

The FWF’s activities in figures 89
The FWF’s activities in figures

ERC grants since 2007

Top 20 host countries, listed by grants per million residents*

* (a) without Advanced Grants 2017; **host country** means the country of the host institution that supplied the recommendation at the time of application; (b) with regard to Synergy Grants, only the host country of the project coordinator is taken into account.


<table>
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<tr>
<th>Country</th>
<th>Residents</th>
<th>Approved projects</th>
<th>Grants (per million res.)</th>
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<tbody>
<tr>
<td>1 Switzerland</td>
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<tr>
<td>2 Israel</td>
<td>8,675,475</td>
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<td>66.97</td>
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<td>3 Netherlands</td>
<td>17,280,397</td>
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<td>53.99</td>
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<tr>
<td>4 Denmark</td>
<td>5,869,410</td>
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<td>5 Sweden</td>
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<td>6 Finland</td>
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<td>1,228,624</td>
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</table>
## Bibliometric data 2009–2018

Top 20 countries ranked by citation per 1,000 residents

*) Sources: Population data: United Nations Statistics Division; Publications and citations: Scimago Journal & Country Rank; 2009–2018; generally, only includes countries with at least 10,000 publications; Taiwan is not included because the United Nations Statistics Division does not list it as a country

**) Special Administrative Region of the People’s Republic of China

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<th>Country</th>
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<th>Citations</th>
<th>Residents (in thousands)</th>
<th>Publications (per 1,000 res.)</th>
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<td>2,067</td>
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</tr>
</tbody>
</table>
Contacts

Executive Board
Klement Tockner
Artemis Vakianis
Gerlinde Mautner
Gregor Weihs
Ellen Zechner

Assistants
Katharina Anna Landerl
Ina Matt
Himali Pathirana

Staff Departments
Manuela Banoza
Irina Leonas
Susanne Springer-Briem

Communications
Stefan Kranewitter
Katrin Buschmann
Silvia Dallabrida
Ingrid Ladner
Natascha Rueff
Margit Schwarz-Stiglbauer
Marc Seumenicht

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Stephanie Resch
Iris Fortmann
Milojka Gindl
Vera Humr-Strunz
Markus Kubicek
Ena Kathrin Linnau
Herbert Mayer
Bettina Reitner
Anita Stürtz
Thomas Tallian
Inge Unfried
Martina Wiesböck
Nicola Wiskocił
Feng Xie

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Sabina Abdel-Kader
Petra Bohle
Simon Hadler
Doris Haslinger
Monika Maruska
Cornelia Nalepka
Georg Rücklinger
Eva Scherag
Ilonka Schwarzenfeld
Andrea Wald-Bruckner
Maria Weissenböck

Natural and Technical Sciences
Kati Huttunen
Natascha Dimovic
Sahire Dogan
Christophe Hintermaier
Bettina Löschner
Christian Maszl-Kantner
David Miksits
Maria Oberbauer
Daniel Raoul Perez
Elvira Seumonicht
Silvia Teubl
Stefan Uttenthaler

Strategy:
Career Development
Barbara Zimmermann
Robert Gass
Alexander Hanisch
Simone Recchi
Reinhard Schmidt
Barbara Stöss-Aichmayer
Claudia Tasch
Johannes Winkler
Susanne Woytacek
Eva Lidia Wysocki

Strategy:
International Programmes
Reinhard Belocky
Christoph Bärenreuter
Beatrice Lawal-Kamateh

Strategy:
National Programmes
Uwe von Ahsen
Aliette Dörflinger
Sabine Haubenwallner
Mario Mandl
Gerit Oberraufner
Tina Olteanu
Nina Thomann
Manuela Wiesinger
Birgit Woitech

Strategy:
Policy, Evaluation, Analysis
Falk Reckling
Nikolai Blagoev
Martin Kunzmann
Ralph Reimann
Katharina Rieck
Thomas Völker

Finance
Robert Kunter
Miyuki Faltermeier
Kerstin Habacht
Monika Mattula
Renate Narozny
Barbara Novak
Nicolas Novak
Regina Schirmer
Priya Thurin

Auditing
Robert Kunter
Marie-Jose Bedi
Sandra Snorek
Elisabeth Thörnblohm
Isabell Wulf-Huber

IT
Gerald Wurz
Joachim Ernst
Roland Graebner
Wolfgang Hirsch
Benedikt Müller
Helmut Rechberger
Martina Satzer
Nikola Stanimirovic
Daniela Weber

Organisation and Human Resources
Gerlinde Weibold
Eleonora Anderl-Dubrovina
Angelika Brandstätter
Slavica Illic
Harald Kroneisl

Legal Affairs and Quality Assurance
Ulrike Varga
Doris Krajnc-Rumpl
Nicole Sammer
Susanne Spiesz
Sibylle Vorbrodt-Stelzer

Email addresses
(First name.surname@fwf.ac.at) and telephone extensions at www.fwf.ac.at/fwf-team

Business hours:
Mon to Thur 8am-5pm,
Telephone: +43 1 505 67 40;
Email: office@fwf.ac.at

As at 31 March 2020
Geometry of discrete copulas for weather forecasting

Copula functions are a flexible tool for describing the behaviour of dependencies between random variables and are thus largely employed in applied statistics. In this Schrödinger project, Elisa Perrone defines the geometry of multivariate discrete copulas (MDCs) and develops new methods for weather forecasting.

Elisa Perrone
MIT – Massachusetts Institute of Technology, Institute for Data, Systems, and Society

Environmental fate of nanopesticides

Agriculture urgently needs innovations to meet the growing demand for food, feed, and fuels. Large quantities of pesticides are currently used to maintain high crop yields with devastating consequences for the environment. In this project, Melanie Maria Kah develops a better understanding of the processes that influence the environmental fate of nanoparticles. In this way, she contributes to establishing a global basis for harmonising the ecological risk assessment of nanopesticides.

Melanie Maria Kah
BOKU – University of Natural Resources and Life Sciences, Vienna, Interuniversity Department of Agrobiotechnology, IFA Tulln

Early fertility desires and later union formations

We know little so far about whether early fertility desires also have an influence on later union formations. The relevant literature on the subject argues that both union formations as well as the birth of the first child are guided by the same preferences and have a strong influence on each other. In this project, Natalie Nitsche explores whether early preferences in terms of children have an influence on whether and when unions are formed later in life.

Natalie Nitsch
ÖAW – Austrian Academy of Sciences, Institute of Demography
The underlying mechanisms of drug interactions

This project investigates the mechanisms of antibiotic interactions. Tobias Bollenbach is conducting research into the genetic factors and functions that control drug interactions by identifying mutants in antibiotic combinations. Overall, this will offer a new approach for the rational design of drug combinations.

Gesche Westphal-Fitsch

Medical University of Graz,
Department of Neurology

Visual patterns and how the brain processes them

This project is based on the observation that visual geometric patterns are present in all human societies. Gesche Westphal-Fitsch’s project is guided by the hypothesis that the study of visual patterns offers profound insights into the structures and functions of human understanding.

Tobias Bollenbach

University of Cologne,
Institute of Theoretical Physics
Drosophila TNFα’s function in immune cells

In this project, Daria Siekhaus studies fruit flies (Drosophila) to show that a certain type of immune cell called a macrophage can penetrate tissue barriers more easily if the barrier cells receive a signal that reduces the tension inside them. The cell signalling protein, or cytokine, sent out is a tumour necrosis factor (TNF). Since TNF signalling molecules also play an important role in vertebrates, the potential significance of these results extends far beyond fruit flies.

Interactive proof: Proof translation, premise selection, rewriting

Formal proof development is becoming a more and more accepted means of identifying errors in computer programmes and mathematical theories. In this project, Cezary Kaliszyk develops techniques for using automated approaches in interactive proof systems. This allows for the computer verification of the mechanical construction of proofs.

Cezary Kaliszyk
University of Innsbruck, Department of Computer Science

Daria Siekhaus
IST Austria – Institute of Science and Technology Austria
Arsenic hyperaccumulation in mushrooms

Arsenic hyperaccumulation in mushrooms plays an important role in the distribution and transformation of chemical elements in nature. Different types of mushrooms have been shown to have the ability to accumulate certain elements. In this project, Walter Gössler significantly expands our knowledge of arsenic speciation in mushrooms. This study helps us to better understand the arsenic cycle in mushrooms and the role this element plays in their symbiotic relationship with plants.

Walter Gössler
University of Graz, Institute of Chemistry

Tumour-initiating cells and therapy resistance

Prostate cancer is one of the most common tumour diseases in the Western world. If the tumour is detected at an early stage, the chances of recovery are high. In this project, Frédéric R. Santer identifies several molecular mechanisms which regulate stem-cell characteristics. These mechanisms are good starting points for the development of new prostate cancer therapies.

Frédéric R. Santer
Medical University of Innsbruck, Department of Urology

Towards new forms of safe immunotherapy for insect allergy

The most severe and life-threatening allergic reaction of the immediate type is anaphylactic shock. Honeybee and wasp venom allergy is the most common cause in adults and the second most common cause in children after food-related anaphylaxis. In this project, Irene Mittermann identifies and characterises the allergenic components of the venom so that a safe immunotherapy can be developed using a precisely defined vaccine with significantly reduced side effects.

Irene Mittermann
Medical University of Vienna, Centre for Pathophysiology, Infectiology, and Immunology