

FUNDING THE WAY FORWARD Full-size poster inside

> For decades, the Austrian Science Fund (FWF) – Austria's main funding agency for basic research – has stood for top-notch quality standards in research funding and for excellent, open-ended and curiosity-driven basic research in all disciplines.





Annual report submitted to the Austrian Federal Ministry of Science, Research and Economy in accordance with Art. 2b No. 3 of the Austrian Research and Technology Funding Act (FTFG).



→ is independent and integrative

→ funds basic research across all disciplines without imposing thematic constraints

-> supports researchers at all career stages

→ evaluates research according to top-notch international standards

→ plays a leading role in promoting high quality standards in Austria

> → has a decisive impact on open access and open science initiatives

→ actively helps to shape the Austrian and European research landscape

> --> supports the internationalisation of Austrian science and research

- is committed to equal opportunities in research





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The purpose of the FWF is to support the ongoing development of Austrian science and basic research in line with the highest international standards. In this way, the FWF makes a significant contribution to cultural development, to the advancement of our knowledge-based society, and thus to value creation and prosperity in Austria.

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Our

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TO STRENGTHEN AUSTRIA'S INTER-NATIONAL RESEARCH CAPABILITIES across all disciplines as well as the country's attractiveness as a location for high-level research activities; this is done primarily by funding top-quality research projects conducted by individuals and teams, and by enhancing the competitiveness of Austria's innovation system and its research facilities 2 TO DEVELOP AUSTRIA'S HUMAN RESOURCES FOR RESEARCH, in both qualitative and quantitative terms, based on the principle of research-driven education

**3** TO EMPHASISE AND ENHANCE THE INTERACTIVE EFFECTS between science and all other areas of culture, the economy and society, and in particular to increase the acceptance of basic research through concerted public relations activities

# objectives

## 1 EXCELLENCE AND COMPETITION

The FWF's funding activities focus on research devoted to generating new knowledge; the quality of research is assessed by international referees on a competitive basis.

## 2 INDEPENDENCE

Creativity in basic research requires freedom. Thanks to its legally independent status, the FWF is able to ensure this freedom and to safeguard science and research from the direct influence of special interest groups.

## 3 INTERNATIONAL ORIENTATION

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

# Our **T** principles

## EQUAL TREATMENT OF ALL RESEARCH DISCIPLINES

The FWF treats all researchers according to the same standards, without giving preference to or discriminating against individual disciplines.

## **5** TRANSPARENCY AND FAIRNESS

The FWF makes every effort to avoid conflicts of interest, to implement checks and balances in all stages of its procedures, and to clearly communicate its methods and decision-making process in order to ensure acceptance of its activities.

## 6 gender mainstreaming

The equal treatment of women and men in research is a top priority at the FWF, and our organisation pursues this objective through specific programmes and gender mainstreaming in all fields.

## Z EQUAL OPPORTUNITIES

The FWF evaluates each proposal without regard to the applicant's position or academic degree.

## 8 ETHICAL STANDARDS

The FWF is dedicated to ensuring that the rules of sound research practice and internationally accepted ethical standards are observed within the organisation's sphere of influence.





in funding requested

38%

of new grants awarded to projects in biology and medicine

ir

624 projects approved

facts

an

FWF

# €183.8 million

3,989 project staff members (as of 31 December 2016)

2,351 ongoing projects (as of 31 December 2016)

15,203 reviews requested

4,723

FWF FACTS AND FIGURES

figures



of new grants awarded to projects in the natural sciences and engineering



of new grants awarded to projects in the humanities and social sciences



in funding for publications



#### refereed publications arising from FWF projects

92%

open access share

71 ongoing ERA-NET projects (as of 31 December 2016)





## On the state of scholarly research in Austria

asic research is an indispensable element of any open civil society. This type of research is curiositydriven, independent and just as important as the freedom of the press

and open access to information and data. While transparency and the involvement of society are crucial, researchers also have a duty to identify and respond to topics that are not yet part of public discourse. Basic research serves to combat current "post-truth" tendencies with evidence-based knowledge, surmounting technological and societal challenges and leaving the "best possible world" for future generations.

As Austria's main funding organisation for basic research and arts-based research, the Austrian Science Fund (FWF) makes a key contribution to achieving this objective.

#### THE AUSTRIAN SCIENCE FUND

For decades now, the FWF has played a key role in the Austrian research landscape and stood for outstanding quality standards in research funding as well as for excellence in curiositydriven basic research that is open to all research outcomes and fields.

#### The FWF

- $\rightarrow$  is independent and integrative
- → funds basic research across all disciplines without imposing thematic constraints
- → supports researchers at all career stages → evaluates research according to
  - top-notch international standards
- $\rightarrow$  plays a leading role in promoting high quality standards in Austria
- $\rightarrow$  has a decisive impact on open access and open science initiatives
- → actively helps to shape the Austrian and European research landscape
- $\rightarrow$  supports the internationalisation of Austrian science and research
- → is committed to equal opportunities in research

# **BASIC RESEARCH IN AUSTRIA** AND THE FWF'S ROLE

Basic research prepares the foundation that other players in the innovation system need in order to succeed in their activities. In turn, applied research, innovation and new product development can create fresh stimuli for basic research. To enable a country to become a worldleading innovator, it is important to strike a balance between these two types of research. The goal set by the Austrian government is to make Austria one of the leading countries for innovation in Europe. In paving the way for such an achievement, the FWF plays a central role in creating a strong foundation for progress.

RECOGNISING AND UTILISING **OPPORTUNITIES** 

In Austria and abroad, research funding is currently faced with a number of formidable challenges. At the same time, those challenges represent an opportunity for funding agencies to re-orient themselves - and thus also research in general.

- for innovation in research in particular for society at large
- This will require funding agencies to: → create even greater space  $\rightarrow$  support greater openness in research, → seek new forms of cooperation
- → simplify administrative rules and processes

This is the only way to maintain Austria's attractiveness as a location for scholarly research in the face of international competition and thus make a contribution to the general well-being of society.

ON THE STATE OF AUSTRIAN RESEARCH Thanks to an exceptional catching-up process over the last two decades, numerous Austrian research institutions have been able to establish themselves as international leaders in their

## REPORT OF THE EXECUTIVE BOARD

Basic research is an indispensable element of any open civil society.

fields. Many of them have succeeded in attracting outstanding researchers from abroad. As a result, Austria is now among the top 15 countries in the world in terms of publication impact and one of the most successful countries in competing for European Research Council grants. In this context, FWF funding plays a decisive role. For example, over 80 per cent of Austria's ERC Advanced Grantees were previously funded by the FWF.

In order to promote top-notch research on a sustainable basis, Austria needs to differentiate itself even further as a research location. In parallel with increasing the basic budgets of research institutions, competitive basic research needs to be expanded markedly in both financial and intangible terms. Otherwise, Austria will not only lose attractiveness as a research location, but also sacrifice the rewards of past investment.

Another major concern of the Austrian Science Fund is the need to implement 25 per cent overhead payments for all FWF projects. In this way, the indirect costs incurred by research institutions hosting FWF projects would be covered across all of the FWF's funding programmes and settled directly with the FWF in a legally binding manner. These payments, which are supported unanimously by all research institutions in Austria, have been common practice at the European Research Council and in applied research funding (e.g., at the Austrian Research Promotion Agency, or FFG) for many years, and this shortcoming has created a massive disadvantage for competitive funding offered by the FWF.

#### FROM INNOVATION FOLLOWER ...

The Austrian federal government's strategy for research, technology and innovation (RTI strategy), which was published in 2011 and has been confirmed by the current administration, states the following: "Thus our objective for Austria is to push forward from the group of innovation followers into the group of innovation leaders, i.e. to be among the most innovative countries in the EU." The RTI strategy proposed many positive measures to promote research

1 Federal Ministry of Transport, Innovation and Technology

(2016): Austrian Research and Technology Report

2 FWF (2016): Strategische Vorhaben 2017-2020

in Austria, and those measures were defined more concretely in the action plan for a competitive research area (Research Action Plan) prepared by the Austrian Federal Ministry of Science, Research and Economy (BMWFW). In 2016, the authors of a mid-term review of the RTI strategy noted that a wide variety of initiatives had been launched (and in some cases implemented), and that the FWF played a special role in promoting excellence in basic research. However, the report ultimately concluded that "from today's perspective, the Federal Government's overarching goal of catching up with the leading innovation countries by 2020 will not be achieved".

Similarly, in its annual report on research and technology, the Austrian Council for Research and Technology Development (RFTE) observes that start-up activity has been insufficient, that the performance of Austria's education system has remained below expectations, and that the competitive funding of basic research is still insufficient by international comparison. In this context, the RFTE urgently recommends an increase in the share of basic research funding awarded on a competitive basis.

Finally, the EU Research and Innovation Observatory (RIO) reports similar findings in its 2017 country report on Austria: "Funding for basic research in Austria is low compared to both EU and international innovation leaders. The relatively low amounts of competitive funding for basic research channelled through the Austrian Science Fund (FWF) limit the potential for the emergence of a critical mass in specific scientific fields."

#### ... TO INNOVATION LEADER

At the same time, Austria's research and development (R & D) spending is about 3.1 per cent of GDP, which means that the country boasts the second-highest R & D intensity in the European Union. Austria is therefore placed far above the EU average of approximately 2 per cent and has overtaken innovation leaders such as Germany, Denmark and Finland.

According to an estimate published by Statistics Austria, total R&D spending in Austria came to some  $\in 10.7$  billion in 2016. Nearly half of that expenditure ( $\in 5.1$  billion) was covered by Austria's private-sector businesses, while a third ( $\in 3.8$  billion) was funded by the public sector and some  $\in 1.7$  billion came from abroad. The private non-profit sector accounted for only 0.5 per cent (approximately  $\in 49$  million) of R&D spending. A large share of R&D activity in Austria is experimental development (45 per cent); the share of applied research comes to 36 per cent, while that of basic research amounts to only 19 per cent.<sup>1</sup>

In order to enjoy sustainable development as a location for research and business and to catch up with the world's innovation leaders. Austria will have to substantially increase competitive basic research funding in the coming years. In this context, FWF funding generates demonstrable effects that make a key contribution to bringing the quality of Austrian research closer to that of leading countries. For example, citations of scholarly articles arising from FWF-funded projects are 40 percentage points above the world average; this is on a par with countries such as the Netherlands, Denmark and the US. For comparison purposes, it is important to note that without FWF-funded publications, the number of citations is only 12 per cent above the worldwide average.

15 countries worldwide in terms of publication impact and one of the most successful countries in competing for European Research Council grants.

Austria is among the top

The Austrian federal government's announcement of a €1 billion budget allocation for research, which still has to be formally included in the Austrian federal budget for 2017 and will go into effect from 2018 onward, laid the groundwork for Austria to continue on its path towards innovation leadership. This initiative was launched by former Federal Minister of Science Reinhold Mitterlehner and will benefit the FWF the most, as a total of €281 million in additional funds will be made available for the years 2018 to 2021. In this way, the FWF's annual budget will gradually be raised from its current level of €184 million to €290 million by the year 2021. In a strategy paper presented in December 2016, the FWF envisaged a number of measures and initiatives that it can implement with funds from the

increased budget.<sup>2</sup>

In order for Austria to catch up with the leading countries for innovation, competitive basic research funding must be increased substantially.



#### 64 per cent of researchers who received a Schrödinger Fellowship before 1995 are now full professors.

#### 2016: A YEAR OF MANY MILESTONES

#### NEW EXECUTIVE BOARD

On 1 September 2016, the FWF's new Executive Board took office under the leadership of President Klement Tockner. Over his four-year term, Tockner will be supported by Artemis Vakianis as Executive Vice-President and by three Academic Vice-Presidents: Gerlinde Mautner (Institute for English Business Communication, Vienna University of Economics and Business), Gregor Weihs (Department of Experimental Physics, University of Innsbruck) and Ellen Zechner (Institute of Molecular Biosciences, University of Graz).

Before taking over as FWF President, Tockner served as the Director of the Leibniz Institute of Freshwater Ecology and Inland Fisheries in Germany and as a pro-International fessor of aquatic econetworking is especially logy at the Free University of Berlin. At important for the FWF. he sucscientific communities ceeded Christine Mannhalter, a proin small but research-intensive fessor of molecular diagnostics who countries in order to filled in as acting maintain and expand their FWF President after Pascale Ehrenfreund research capacity. became Chair of the Executive Board at the

#### START AND WITTGENSTEIN

German Aerospace Center

(DLR) in July 2015.

The START and Wittgenstein Awards are the most prestigious and respected awards for excellence in the Austrian scientific community. An evaluation<sup>3</sup> completed in 2016 bore witness to these programmes' extraordinary impact on scholarly output, on career advancement for the people involved, and on Austria as a research location. These awards, often referred to as "Austria's Nobel Prizes", are conferred by the FWF Board on the basis of recommendations issued by a jury of 13 international experts. The annual START/Wittgenstein award ceremony is a major highlight in the FWF's calendar and brings together numerous figures from the worlds of politics, research, business and

society as well as the award winners and their research teams, families and friends. The importance of the two awards and of the ceremony itself is also demonstrated by the fact that the last two START/Wittgenstein events attracted a great deal of media attention.

#### FWF CAREER DEVELOPMENT

Among the key pillars of the FWF's funding portfolio are the programmes that help young academics on their path towards independence in research. These programmes offer rich opportunities for international mobility and give young scholars an incentive to return to Austria later. And clearly the two programmes are highly effective: In the Schrödinger Programme alone, which enables young researchers to gain experience abroad during the early post-doc stage, 47 per cent of those who received a fellowship before 2005 are now full professors: among those who participated before 1995, the figure is

64 per cent. DOCTORAL

PROGRAMMES In its efforts to promote high-quality doctoral education and training, the FWF has approved a total of nearly €185 million in funding for 46 FWF Doc-

toral Programmes (DKs) in the past few years. In 2016, the FWF developed a new funding model with the help of the Österreich-Fonds and in close cooperation with Universities Austria, as well as the spokes-

persons for ongoing DK projects and the Austrian Ministry of Science, Research and Economy (BMWFW) as the FWF's supervisory authority. The new programme, which is known as *doc.funds*, is designed to support the expansion of existing structured research and training programmes at Austrian research

3 Seus, S., Bührer, S., Heckel, E. (2016): Evaluation of the START Programme and the Wittgenstein Award. DOI: 10 5281/50610

institutions that are entitled to confer doctoral degrees. It also provides for a division of tasks between the research institutions and the FWF: While the former are responsible for designing and running the doctoral programmes, the latter is in charge of quality assurance during the application process and provides additional funding for especially ambitious research efforts.

#### THE FWF AS AN INTERNATIONAL PLAYER

The FWF is an active participant in various activities and organisations at the European and global levels, including Science Europe (the umbrella organisation for European research funding agencies) and multilateral ERA-NETs in basic research.

The FWF's efforts in this context focus on funding in three central areas:

- → participation in ERA-NET calls involving basic research
- → cooperation in research with other European countries and funding organisations
- → global cooperation in research with countries characterised by strong or ambitious research systems

International networking is especially important for scientific communities in small but research-intensive countries in order to maintain and expand their research capacity. The FWF now cooperates with a total of eight research funding agencies in Europe (Belgium, Czech Republic, France, Germany, Hungary, Luxembourg, Slovenia and Switzerland), and all of those arrangements are based on the "lead agency" procedure. Outside of Europe, the FWF has engaged in broad cross-border funding activities with Argentina, China, India, Japan, Russia, South Korea, Taiwan and the US.

In addition, the FWF is actively involved in enhancing cooperation in European research policymaking, which is a common concern of the European Commission, the member states and European stakeholder organisations.

#### DIALOGUE BETWEEN

**RESEARCHERS AND THE PUBLIC** One especially high priority of the FWF is to promote communication and dialogue between researchers and the general public. Since 2007, this interaction has been intensified

by the FWF's highly successful Am Puls ("On the pulse") event series, where FWF-funded researchers and renowned figures from other fields come together to discuss issues of special importance to society. The events are held against the attractive backdrop of the Theater Akzent in Vienna, which was chosen as a deliberate counterpoint to the conventional formats used for academic presentations and conferences. The theatre was fully booked for almost all of the events, which drew audiences of up to 450 guests. The Am Puls events not only provide unfiltered and personal perspectives on the significance of basic research for society, but also enable guests and researchers to exchange ideas and engage in dialogue on an equal footing.

THE EWE AS A PIONEER IN OPEN SCIENCE For many years now, the FWF has maintained one of the most effective open access policies of all funding agencies worldwide. Of the gualityassured publications listed in FWF final reports in 2016, 92 per cent were openly accessible. In close cooperation with Austrian research institutions and international partners such as the OA2020 initiative, the FWF plans to make all quality-assured publications freely accessible by the year 2020.

The FWF also engages in initiatives to support the transparency and responsibility of research vis-à-vis society. These efforts include the FWF's programmes for science communication, citizen science and new digital publication formats. In the future, the FWF plans to integrate these programmes more closely so that efforts of this kind can be promoted across all funding programmes. Thanks to the introduction of high-performance tools for statistics and documentation, the FWF will also substantially enhance the transparency of the output generated by its grantees over the next two years.

#### PRIVATE-SECTOR FUNDS FOR BASIC RESEARCH

In recent years, the FWF has also made efforts to encourage the private-sector funding of basic research. Up to now, four different private foundations have committed to providing a total of approximately €1.6 million in funding for FWF research projects. In terms of private research funding, the FWF has thus

92 ner cent of all guality-assured publications listed in FWF final project reports in 2016 are openly accessible.



funding agencies and research institutions. For the future, the FWF plans to establish a foundation to make private donations more attractive and to consolidate those funds more effectively. This will help the FWF to create synergies between private and public-sector funding and to promote a stronger culture of research patronage in Austria. However, with regard to these efforts it is important to stress that private research funding is regarded as a supplement to - not a replacement for - public-sector funds.

The FWF's efforts to attract private-sector research funding have begun to bear fruit: Each year since 2014, the Gottfried and Vera Weiss Science Foundation has provided funding on an alternating basis for projects in the fields of meteorology and anaesthesiology. In addition, the ASMET Research Award was established in 2015 to promote projects in the field of metallurgy. In 2016, two more foundations joined the ranks of the FWF's private-sector patrons: Starting in 2017, the Herzfelder'sche Familienstiftung (Herzfelder Family Foundation) will provide a total of €650,000 a year, while the Internet Foundation Austria (IPA) will provide €400,000 per year. The projects funded by the Herzfelder Foundation will relate to the field of biochemical/medical cell research, while the IPA's "netidee SCIENCE" initiative, which is the largest private initiative for the promotion of the Internet in Austria, will be open to projects in any research discipline as long as they deal with the transformational potential of the Internet in business and society.

#### MATCHING FUNDS

The matching funds initiative, which is supported by the Austrian National Foundation for Research, Technology and Development, is based on cooperation agreements between the FWF and most of Austria's nine federal provinces. This initiative provides funding for projects that receive excellent reviews but cannot be funded by the FWF itself for budgetary reasons; instead, those projects are recommended to the provincial governments for funding. When a provincial government agrees to fund a project, it covers 50 per cent of the costs, while the other half is funded by the National Foundation (via the FWF). The Austrian Court of Auditors' report on the FWF highlights this successful cooperation as a role model and strongly recommends that these efforts be expanded. In the year 2016, a total of 17 projects were funded by five provincial governments, with an overall funding volume of €4.2 million.

#### A LOOK AHEAD

The science and research system currently faces the risk of transforming itself into a "consulting industry" that focuses on pursuing short-term business objectives and tackling acute problems and disasters. In light of the federal government's aim of transforming Austria into an innovation leader, it is especially important to maintain a healthy balance between the "R" and the "D" in research and development. This means that if greater emphasis is placed on development, for example by increasing research subsidies to businesses, it will also be necessary to make a corresponding investment in research in order to avoid an imbalance.

Another important consideration is that innovative breakthroughs in research also require a great deal of perseverance as well as space for creativity. As a result, one of the FWF's top priorities is to use its funding portfolio to provide researchers with more creative time - an especially scarce resource in research - for unconventional and risky projects.

#### 2017 AS A YEAR OF TRANSITION

From 2018 onward, the budget increase for the FWF envisaged by the federal government will enable the FWF to implement a number of projects from its strategy paper. The priorities will be the new "future-track" professorships, the "1,000 ideas" programme and grant proposals that receive excellent reviews but cannot currently be funded for budgetary reasons. The FWF is also planning to establish synthesis networks in which international, interdisciplinary working groups led by Austrian researchers compile, edit, analyse and provide free access to existing digital data stocks. In order to leverage additional synergies, the FWF also plans to coordinate its programmes more effectively with those of Austria's key funding organisations.

Thanks to the federal government's commitment to provide an additional €1 billion in research funding, 2017 will mark an upswing after years of steadily decreasing approval rates. Due to the FWF's largely unchanged budget and the increasing amounts of funding requested (2011: €646.1 million; 2016: €790 million), approval rates have dropped in nearly all FWF funding programmes since 2011. It is therefore an especially positive development for the FWF and the scientific community – that the FWF will already be able to launch the first initiatives in 2017 in preparation for the budget increase in 2018. For example, the FWF plans to issue the first call for the "1,000 ideas" programme as well as a pilot project for "futuretrack" professorships. Funding for projects with outstanding reviews will be provided depending on the budget available. From 2018 onward, this will enable the FWF to fund approximately 1,400 researchers in addition to the 4,000 already employed in FWF projects. This development also points to the special importance of the FWF for young researchers.

#### AN ALLIANCE FOR RESEARCH

In November 2016, just over two months after taking office, FWF President Klement Tockner launched a nationwide alliance of research organisations in Austria. For pragmatic reasons, membership of the alliance was initially limited to a few organisations. Its goal is to enable a continuous exchange of opinions and ideas on the Austrian research landscape as well as regular dialogue on issues related to research policy, research funding and the structural improvement of the Austrian science and research system. This exchange of information will serve to strengthen Austria as a location for research on a sustainable basis. In addition to engaging in dialogue within the alliance, its members will also publish statements on key research policy issues. In this way, the members of the alliance aim to develop a joint strategy for an Austrian excellence programme that will include teaching and research as well as the basic funding of universities and research institutions as the basis for sustainable success.

#### HOPE ON THE HORIZON

The goals of the new FWF Executive Board include creating greater freedom for innovation, making the science and research system more open, developing new forms of cooperation and introducing more efficient processes within the FWF itself. The clear overarching objective of these measures is to develop Austria into one of the most attractive locations for research in Europe and to expand basic research substantially in both qualitative and quantitative terms.

In addition, the FWF aims to be a role model and a pioneer in the continued enhancement of quality in peer-review and selection procedures. In cooperation with Austrian research institutions, the FWF also plans to accelerate the development of an open science strategy as the basis for open innovation. A key prerequisite for success in this area is the effective use of the additional €1 billion in federal funding for research. This is not only essential for the FWF, but also for Austria as a location for research and business in general.

Thanks to the federal government's allocation of an additional €1 billion for research, the year 2017 will mark an upswing for the FWF.



#### ORGANISATION AND DECISION-MAKING BODIES 22

EXECUTIVE BOARD

5<sup>th</sup> term (since September 2016)

President Klement TOCKNER

President

5<sup>th</sup> term 2015-2019

Chair

Hans SÜNKEL

Deputy Chair

Iris RAUSKALA

Institute of Geodesy, Graz University of Technology Communication, Vienna Univerof Economics and Business Vice-President Ellen ZECHNER

Institute of Molecular Biosciend University of Graz

EXECUTIVE BOARD 4<sup>th</sup> term (September 2013 to August 2016)

Pascale EHRENFREUND

Technology Policy (USA)

(September 2013 to August 2015) George Washington University,

Center for International Science and

NASA Astrobiology Institute (USA)

SUPERVISORY BOARD

Section VI, Austrian Federal Ministry

of Science, Research and Economy

#### Vice-President

Vice-President

Gerlinde MAUTNER Institute for English Business

Christine MANNHALTER (Acting President from August to August 2016) Clinical Institute of Medical and Chemical Laboratory Diagnosti Medical University of Vienna

#### Vice-President

Hermann HELLWAGNER Institute of Information Technology University of Klagenfurt

#### Members

Engelbert DOCKNER († 2017) Institute for Finance, Banking and Insurance, Vienna Universit of Economics and Business

Iris FORTMANN FWF Works Council

Martin GRÖTSCHEL Berlin-Brandenburg Academy of Sciences and Humanities (Ge

Gerhard GRUND business connect gmbh

Harald KATZMAIR FAS.research

FWF gender data	Total	Women	Men	1 Voting members
Executive Board	5	3	2	2 Including deputy
Supervisory Board <sup>1</sup>	10	5	5	reporters; excluding
Biology and Medicine Board	18	7	11	3 Including persons
Humanities and Social Sciences Board	16	8	8	with marginal employ-
Natural Sciences and Engineering Board	20	5	15	ment relationships
Assembly of Delegates <sup>2</sup>	60	21	39	and independent
International START/Wittgenstein Jury	12	4	8	employees on leave
PEEK Board	6	3	3	and members of the
SciComm Jury	6	3	3	Executive Board
FWF Office <sup>3</sup>	104	71	33	As of 31 December
Total	257	130	127	2016

#### ORGANISATION AND DECISION-MAKING BODIES

sity ces,	Vice-President Gregor WEIHS Department of Experimental Physics, University of Innsbruck Executive Vice-President Artemis VAKIANIS
2015 I cs, ogy,	Vice-President Alan SCOTT Department of Sociology, University of Innsbruck Executive Vice-President Dorothea STURN
ty	Sonja PUNTSCHER RIEKMANN Salzburg Centre of European Union Studies Janet RITTERMAN Middlesex University (UK) Michaela SCHMIDT Salzburg Chamber of Labour
ermany)	Advising members Reinhart KÖGERLER Christian Doppler Research Association (CDG) Gertrude TUMPEL-GUGERELL FFG Supervisory Board

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# FWF

The FWF is led and managed by the Executive Board, which is subject to oversight by the Supervisory Board and control by the Assembly of Delegates.









# portraits

### **ARTEMIS VAKIANIS**

**GERLINDE MAUTNER** 

**GREGOR WEIHS** 

Artemis Vakianis has been the FWF's Executive Vice-President since September 2016. Prior to joining the Executive Board, she managed a number of cultural institutions, most notably serving as Deputy Managing Director of the Komische Oper in Berlin and as Managing Director of the Steirischer Herbst festival in the province of Styria, Austria. Her academic background is in economics and arts management, a field in which she continues to give lectures and teach university-level courses.



## HANS SÜNKEL

Hans Sünkel has held the chair of the FWF Supervisory Board since 2015. He has been a full professor of theoretical and satellite geodesy at Graz University of Technology since 1983 and has received numerous Austrian and international awards for his work. From 2003 to 2011, he served as Rector at Graz University of Technology. As the president of Universities Austria (2010-2011), he vehemently advocated an increase in the budget for Austrian universities to an internationally competitive level.

### JOSEF GLÖSSL

Josef Glössl has chaired the FWF Assembly of Delegates since 2015. As a professor of applied genetics and cell biology, he established a separate department for those disciplines at the University of Natural Resources and Life Sciences (BOKU) Vienna and has served as Vice-Rector for Research and International Research Cooperation at that university since 2010. For eight years, Glössl was a reporter for biology and medicine on the FWF Board. As a researcher, he works to improve the dialogue between researchers and the public, especially in the debate surrounding biotechnology and green genetic engineering.



### KI EMENT TOCKNER

Klement Tockner, a biologist and freshwater ecologist who studied at the University of Vienna, has been President of the FWF since September 2016. After conducting research in Rwanda, Uganda, Japan, Italy, Switzerland and the US, he received the title of professor at ETH Zurich in 2005. Two years later, he was appointed Professor of Aquatic Ecology at the Free University of Berlin, where he also became the head of the Leibniz Institute of Freshwater Ecology and Inland Fisheries.





## ELLEN L. ZECHNER

Research Council (ERC).

Ellen L. Zechner has been the FWF's Vice-President for Biology and Medicine since September 2016. From 2011 to 2016, she served as a member of the FWF Board. As a molecular biologist, she conducts research at the Institute of Molecular Biosciences at the University of Graz. Zechner has a great deal of international experience, including work at Harvard University, Rockefeller University and the Max Planck Institute for Molecular Genetics in Berlin. Her research mainly focuses on the molecular mechanisms of bacterial infections.

After serving on the FWF Board from 2008 to 2016, Gerlinde Mautner became the FWF's Vice-President for the Humanities and Social Sciences in September 2016. With a background in linguistics, she teaches and conducts research as a full professor at the Vienna University of Economics and Business (WU). Since 2014, Mautner has also been an Honorary Visiting Professor at Cass Business School (City, University of London).

Gregor Weihs, a professor in the Department of Experimental Physics at the University of Innsbruck, has been the FWF's Vice-President for Natural Sciences and Engineering since September 2016. Previously, Weihs worked as a consulting assistant professor at Stanford University and as a research fellow at the University of Tokyo. He is also a fellow in the Quantum Information Science Program of the Canadian Institute for Advanced Research (CIFAR). In 2010, Weihs was awarded a Starting Grant from the European



- 1 2016 Wittgenstein Award recipient Peter Jonas gives his acceptance speech at the START / Wittgenstein ceremony.
- 2 2016 START and Wittgenstein Award recipients pose with then Austrian Vice-Chancellor Reinhold Mitterlehner, acting FWF President Christine Mannhalter, FWF Vice-President Hermann Hellwagner and Julius Rebek, Chairman of the START / Wittgenstein Jury.
- 3 FWF President Klement Tockner gives his first interview after taking office in September 2016.
- 4 Patrizia Stoitzner gives a lecture during an FWF *Am Puls* event in Vienna.





s Immunsystem kann Krebs erkennen, aber kann Tumore auch kontrollieren oder gar besiegen? 100.000 Zellen entarten jeden Tag, aber die meisten werden vom Immunsystem erkannt und eliminiert







- 5 Brian Nosek gives a talk organised by the FWF and IST Austria on the topic of "Scientific Utopia – Improving Transparency in Scholarly Communications".
- 6 Klement Tockner visits then Vice-Chancellor and Minister of Science Reinhold Mitterlehner upon taking office as FWF President.
- 7 Networking event for grant recipients at the Firnberg/Richter ceremony in 2016
- 8 The FWF Executive Board since September 2016 (left to right): Klement Tockner (President), Ellen Zechner (Vice-President, Biology and Medicine), Gerlinde Mautner (Vice-President, Humanities and Social Sciences), Artemis Vakianis (Executive Vice-President), Gregor Weihs (Vice-President, Natural Sciences and Engineering)
- 9 The then Austrian Vice-Chancellor Reinhold Mitterlehner and FWF President Klement Tockner hold a joint press conference in December 2016 to present the FWF's new strategy after the announcement of the €1 billion budget allocation for research.







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THE YEAR 2016

THE YEAR 2016

# START principal investigators



#### CHRISTOPHER CAMPBELL

Born in the United States in 1980. Christopher Campbell conducts research into molecular biology at the Department of Chromosome Biology, Max F. Perutz Laboratories (MFPL) in Vienna. He received the START Award for his project "Causes and Consequences of Chromosomal Instability", in which he plans to identify mutations in yeast cells through which defects in chromosome alignment can be avoided, leading to a better understanding of chromosome missegregation.



#### MICHAEL EICHMAIR

Born in Vöcklabruck, Austria, in 1983, Michael Eichmair was appointed Professor of Global Analysis and Differential Geometry at the University of Vienna in March 2015, before which he was an assistant professor at ETH Zurich. Eichmair received the START Award for his project "Isoperimetric study of initial data for the Einstein equations", in which he will investigate the interface between geometry and the general theory of relativity.



#### HARALD GROBNER

Another START Award went to a mathematician at the University of Vienna in 2016: Harald Grobner, born in Neunkirchen, Austria, in 1980. will address fundamental questions of number theory in his project "Special L-values and p-adic L-functions". Insights from number theory form the basis for various applications, including the data encryption methods used on bank cards or in Internet communication.



#### FELIX HÖFLMAYER

Born in Vienna in 1978, Egyptologist Felix Höflmayer is an APART fellow at the Austrian Academy of Sciences (ÖAW). In his START project, he will focus on "Tracing transformations in the southern Levant from collapse to consolidation". On the basis of excavations, radiocarbon analyses and a re-assessment of historical sources, Höflmayer will investigate the causes and mechanisms behind the collapse of Middle Bronze Age city-states in the region.



### NIKOLAI KIESEL

Born in Nuremberg in 1977, physicist Nikolai Kiesel is a researcher with the Quantum Optics, Quantum

Nanophysics and Quantum Information group in the Faculty of Physics at the University of Vienna. Kiesel received the START Award for his project "Thermodynamics by Levitating Optomechanics". which will transpose the laws of thermodynamics into the singleparticle and quantum regimes. In this

way. Kiesel wishes to address fundamental questions in the current field of quantum thermodynamics.

#### 1996

KÖBERL Christian KRAUSZ Ferenc SCHMID Ulrich SZMOLYAN Peter UNTERRAINER Karl WEINFURTER Harald WOEGINGER Gerhard WOISETSCHLÄGER Jakob

#### 1997

HOLZAPFEL Gerhard PALME Bernhard SCHMID Michael

#### 1998

GRABNER Peter KIRCHENGAST Gottfried VALENTA Rudolf WIDMER Gerhard

#### 1999

MARSCHNER Christoph MAUSER Norbert J. SCHERZER Otmar SCHREFL Thomas SPÖTL Christoph STRAUSS Joseph

2000 BRABEC Thomas KALSS Susanne LEIBFRIED Dietrich STROBL Herbert TILG Bernhard

#### 2001

ARNDT Markus **BUCHMEISER Michael** DREXLER Wolfgang ELLMEIER Wilfried SEDMAK Clemens

#### 2002 HEISS Wolfgang JURSA Michael SCHETT Georg

SCHMALSTIEG Dieter SCHÖBERL Joachim

#### 2003 **KRESSE** Georg NÄGERL Hanns-Christoph

VILLUNGER Andreas 2004 **BACHNER** Thomas KUNZINGER Michael PALANKOVSKI Vassil **PROHASKA** Thomas SCHÜTZ Gerhard

HINTERMÜLLER Michael

HORN Matthias LUSSER Alexandra MOSER Michael ZIMMERMANN Norbert

#### 2006

HÄFFNER Hartmut POLACEK Norbert SCHMIDT Piet Oliver **TEICHMANN** Josef **TESCHL** Gerald

2005

## 2007 BREUKER Kathrin

BUGNYAR Thomas GÜHNE Otfried LAMEL Bernhard LÖRTING Thomas MAYRHOFER Paul WADAUER Sigrid WALLNIG Thomas

ASPELMEYER Markus BATTIN Tom FORNASIER Massimo GRUMILLER Daniel KENDL Alexander RIHA Karel **TESSMAR-RAIBLE Kristin** WALDSICH Christina

#### 2009

2008

FERLAINO Francesca **FISCHER IIse** KASER Arthur KAUERS Manuel SCHUMM Thorsten TEIS David

#### 2010

**BRENNECKE** Julius HOREJS Barbara KRAUS Barbara MALZAHN Melanie SCHRECK Florian ZAGROVIC Bojan

#### 2011

BALAZS Peter CIABATTONI Agata **DIEHL** Sebastian KÖHLER Alwin MÜLLER Thomas RABL Peter SIXT Michael WALTHER Philip

# 2013

2012

## THE YEAR 2016

30

## THE YEAR 2016

## 2016





### TRACY NORTHUP

Born in the United States in 1978. physicist Tracy Northup has been a researcher with the Department of Experimental Physics at the University of Innsbruck since 2015. Northup received the START Award for her research into quantum optomechanics with nanospheres and ions. In the long term, she aims to develop highly sensitive detectors with which to observe quantum mechanics in unprecedented regimes and to create interfaces with other quantum systems.

BOZTUG Kaan BUDKA Julia DAMMERMANN Alexander HAUER Jürgen KANTOROVICH Sofia KIRCHLER Michael SCHUSTER Franz

AMERES Stefan L. **GIERLINGER** Notburga HEITZINGER Clemens KATSAROS Georgios KEAYS David A. PAUN Ovidiu POCK Thomas SARTORI Paolo WOLTRAN Stefan

#### 2014

AICHHORN Markus **BADER Bettina** BEIGLBÖCK Mathias GRÜNEIS Alexander **NEUHAUSER** Sigrid SCHABUS Manuel SCHNASS Karin THIEMANN Rene

#### 2015

AISTLEITNER Christoph BRANDIC Ivona HUBER Marcus LANYON Ben PARKINSON Gareth SEIDL Rupert STÖCKL Kristina UHLER Caroline



As of 31 December 2016, in EUR (not including scientific equipment)

ASSETS	31 DEC. 2016	31 DEC. 2015
A. Fixed assets		
1. Intangible assets	460,678.09	601,262.32
2. Construction investments in non-owned facilities	15,617.93	0.00
3. Tangible fixed assets (equipment)	163,556.41	183,090.88
4. Advances	0.00	19,584.00
	639,852.43	803,937.20
B. Current assets		
I. Accounts receivable and other assets		
1. Accounts receivable from the BMWFW	36,650,004.85	42,138,604.14
2. Accounts receivable from the BMVIT	1,261,951.19	2,643,951.19
3. Accounts receivable from the National	49,760,372.54	44,663,460.54
Foundation for Research, Technology and Development		
4. Accounts receivable from the EU (COFUND)	1,869,113.56	1,924,030.40
5. Accounts receivable from provincial governments and other sponsors	5,326,474.32	3,646,931.13
6. Accounts receivable from the BMWFW,	373,063,339.01	366,722,834.70
7 Other receivables and assets	563 311 27	472 798 76
	468,494,566.74	462,212,610.86
II Cash on hand and at hanks	45 504 730 09	42 293 247 62
	513 000 206 83	504 505 858 48
	515,333,230.05	504,505,656.46
C. Accruals and deferred items	109,146.17	549,999.98
ASSETS	514,748,295.43	505,859,795.66

LIABILITIES	31 DEC. 20
A. Provisions	1,794,506.
B Liabilities	
L liabilities from research funding	
1 From research projects	484 836 073
2 Contingent liabilities from international projects	7 629 545
2. Contingent nabilities from international agreements	200 / 15
Liabilities to publishers	250,415. 45.101
5. Liabilities from overhead navments	+3,101.
6. Liabilities from payroll costs	287 025
	403 080 061
II lightlities from contractual agreements	+93,009,001.
1. with the BMVIT	1 1 20 000
2. with the European Union (COEUND)	214 502
2. with the National Equidation for PTD	214,302.
3. with the National Foundation for RTD	17,310,610.
4. with Austrian provincial governments	310,555.
	18,971,858.
III. Other liabilities / FWF Office costs	783,145.
	512,844,065.
C. Accruals and deferred items	109,724.
LIABILITIES	514,748,295.
D. Potential contributions to international projects	4,100,000.

016	31 DEC. 2015
5.00	1,967,469.00
3.85	489,972,304.53
5.41	2,016,921.88
5.00	12,215.00
1.66	41,139.20
-	5,906,918.53
5.14	0.00
L.06	497,949,499.14
0.00	1,093,585.04
2.55	214,502.55
0.33	4,020,251.97
5.70	139,578.90
3.58	5,467,918.46
5.79	474,639.06
5.43	503,892,056.66
1.00	270.00
5.43	505,859,795.66
0.00	4,035,000.00

## FWF income statement

1 January 2016 to 31 December 2016, in EUR (not including scientific equipment)

Ι.	Revenues	2016	2015
1.	Revenues from research funding		
a)	Contributions from the BMWFW	190,340,504.31	197,586,631.34
b)	Contributions from the National Foundation for RTD	18,000,000.00	20,000,000.00
c)	Contributions from the European Union (COFUND)	0.00	10,362.39
d)	Other contributions	4,050,941.41	3,725,082.98
e)	Grants and donations	1,632,814.56	1,031,588.88
		214,024,260.28	222,353,665.59
2.	Change in utilisation of approved grants	-13,605,421.17	-2,679,001.85
З.	Revenues from unused research grants	7,768,469.49	10,171,076.29
	(returned funds)		
4.	Other revenues		
a)	Revenues from completed research projects	1,852.70	19,760.91
b)	Reimbursement for services and other revenues	487,189.32	549,275.40
	from administrative activities		
c)	Interest income	53,884.51	73,947.92
		542,926.53	642,984.23
Ī.	Revenues	208,730,235.13	230,488,724.26
П.	Expenses		
5.	Expenses for research funding		
a)	Stand-Alone Projects Pgm. (including Clinical Research)	94,133,247.21	95,748,241.68
b)	International programmes	22,468,443.43	22,376,538.94
c)	Priority research programmes	19,077,301.79	25,227,973.36
d)	Awards and prizes	8,605,846.94	10,721,738.36
e)	Doctoral programmes	14,828,949.40	23,652,432.09
f)	International mobility	17,423,516.04	15,188,701.88
g)	Career development for women in research	8,747,471.91	11,223,257.68
h)	Arts-Based Research Programme	2,845,319.69	2,677,911.27
i)	Science Communication Programme	234,001.94	290,907.12
j)	Publication funding	1,503,284.71	1,302,337.71
k)	Translational Research Programme	57,884.60	112,702.11
I)	Top Citizen Science	245,615.80	-
m)	Partnership in Research	1,277,291.10	-
n)	Change in contingent project approvals	5,612,623.53	866,222.68
o)	Payroll costs (paid out to research institutions)	704,568.98	273,195.42
p)	Overhead payments	-	10,602,124.90
-		197,765,367.07	220,264,285.20

	2016	2015
6. Expenses for research support		
a) Research expenditure from international agreements	521,651.25	71,258.08
b) Other	2,678.33	2,737.48
	524,329.58	73,995.56
7. Administrative expenses		
a) Personnel expenses	6,791,792.12	6,579,736.05
b) Other administrative expenses	3,648,746.36	3,570,707.45
	10,440,538.48	10,150,443.50
II. Expenses	208,730,235.13	230,488,724.26
Result for the year	0.00	0.00

#### NOTES ON THE INCOME STATEMENT

#### Grants / donations (EUR)

addition to allocations from the federal budget (BMWFW) and from the National Foundation for RTD						
	2016	2015				
mounts from						
rovincial Government of Tyrol	1,233,756.11	1,816,226.70				
iottfried and Vera Weiss Science Foundation	200,000.00	431,174.50				
SMET	305,297.32	-				
rovincial Government of Lower Austria	188,893.22	201,918.71				
rovincial Government of Upper Austria	346,437.00	379,890.51				
rovincial Government of Styria	411,805.86	383,903.57				
rincipality of Liechtenstein	228,018.97	238,344.93				
Ithers	501,596.50	1,315,575.33				
	3.415.804.98	4.767.034.25				



In 2016, the FWF Board issued a total of 2,569 decisions on grant proposals. For the purpose of assessing those applications, the FWF obtained 4,723 peer reviews from researchers based in 67 different countries. In its five meetings in 2016, the FWF Board was able to approve funding for 624 new projects, with grants totalling €183.8 million. The decrease in total funding compared to the total amount approved in 2015 can be attributed to a reduction in the FWF's approval budget by some €22 million. Including supplementary approvals and other expenses (such as grants for publications), the FWF's total research funding expenditure came to €197.8 million in the year under review. As of 31 December 2016, the overall number of employees in FWF-funded research projects was 3,989.

# FWFprogrammes

to strengthen Austria's science and research system

## EXPLORING NEW FRONTIERS

Top-quality research

#### STAND-ALONE PROJECTS

#### Objective:

→ To enable scholars to carry out independent projects in basic research

#### INTERNATIONAL PROGRAMMES

#### Objective:

→ To enable researchers to carry out closely integrated bilateral or multilateral basic-research projects

Funding programmes:

- → Joint Projects: calls for bilateral and trilateral research projects, sometimes in specific focus areas
- → ERA-NET calls: support for multilateral (European) research cooperation in specific focus areas
- → Joint Seminars: meetings and workshops to initiate cooperation projects

#### SPECIAL RESEARCH PROGRAMMES (SFBs)

#### **Objectives:**

- → To create focus areas for research at one or more locations
- → To build exceptionally productive, tightly interconnected research units for interdisciplinary / multidisciplinary work on long-term research topics

#### AWARDS AND PRIZES

#### START Programme

Objectives:

- → To provide outstanding young researchers with long-term support for 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 established researchers with long-term support for basic research
- → To give those researchers a maximum of freedom and flexibility in their research

#### Gottfried and Vera Weiss Prize

(administered on behalf of the Gottfried and Vera Weiss Science Foundation) Objective:

→ To enable (young) researchers to carry out basic research in the field of meteorology or anaesthesiology

#### ASMET Research Award

(administered on behalf of ASMET, the Austrian Society for Metallurgy and Materials) Objective:

→ To enable (young) researchers to carry out basic research in the field of metallurgy

#### netidee SCIENCE

(funded by the Internet Foundation Austria [IPA]) Objectives:

- → To support researchers from all disciplines who can contribute to the foundation's objectives in the fields of technology, the natural sciences, business and economics, or the social sciences
- → To make a sustainable contribution to expanding, strengthening and preserving the benefits of the Internet for all members of society

#### Herzfelder Foundation projects

(administered on behalf of 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 those processes
- → To support research into cell diseases and malignancies with a view to influencing the human ageing process (prolongation of healthy longevity)



## GENERAL ACTIVITY REPORT

## GENERAL ACTIVITY REPORT



## CULTIVATING TALENTS

Human resources development



#### DOCTORAL PROGRAMMES ("doc.funds" pilot)

#### **Objectives:**

- To promote outstanding education and training for doctoral students in 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

#### INTERNATIONAL MOBILITY

#### Erwin Schrödinger Fellowships

Objectives:

- → To help (young) researchers work in basic research at leading research institutions abroad
- → To help researchers gain experience abroad during the post-doc stage
- → To facilitate access to new fields of research, methods, procedures and techniques so that Schrödinger fellows can contribute to the development of their respective fields upon their return to Austria

#### Lise Meitner Programme

Objectives:

- → To enhance research quality and expertise at Austrian research institutions and in the wider research community
- → To help researchers establish international contacts
- → To support career development

#### CAREER DEVELOPMENT FOR WOMEN IN RESEARCH

### Hertha Firnberg Programme

Objectives:

- → To enable female researchers to carry out basic research
- → To support female post-doc 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 gain the qualifications necessary for a professorship in Austria or abroad

#### Elise Richter / PEEK Programme

Objectives:

- → To enable female researchers to carry out innovative arts-based research projects
- → To support the development of women's academic careers and help them gain the qualifications necessary for a professorship in Austria or abroad

## REALISING NEW IDEAS

#### Bridge between research & society

#### 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

#### 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 OF PUBLICATIONS AND COMMUNICATION

## Stand-Alone Publications Programme 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 Programme** Objective:

→ To support the publication of peer-reviewed works



#### Science Communication Programme (SciComm) Objective:

→ To enable researchers to carry out outstanding science communication measures related to FWF-funded research projects

#### TOP CITIZEN SCIENCE (TCS)

#### Objectives:

- → To support research activities that call for active citizen involvement
- → To make use of citizens' abilities, expertise, curiosity and willingness to participate



# Total funding by cost type



RESEARCH PERSONNEL Women FUNDED BY THE FWF Men Post-docs 625 807 2015 1,432 795 2016 574 1,369 Doctoral students 883 1,998 2015 1,115 2016 863 1,114 1,977 Technical personnel 119 48 2015 167 126 51 177 2016 Other personnel 2015 273 240 513 2016 240 226 466 Total 2015 1.900 4.110 2016 1.803 3.989

# New grants and projects



GENERAL ACTIVITY REPORT

#### AGE STRUCTURE OF FWF-FUNDED PROJECT EMPLOYEES IN 2016 (as of 31 December 2016)

An analysis of the nearly 4,000 employees in FWF-funded projects underscores the significance of the FWF as a sponsor of young scholars in particular, as well as highlighting the organisation's key contribution to the development and expansion of human resources for research in Austria.

Age group	Total	Women	Men
16-20	8	4	4
21-25	377	201	176
26-30	1,473	667	806
31-35	1,028	394	634
36-40	513	223	290
41-45	249	138	111
46-50	157	80	77
51-55	98	53	45
56-60	54	34	20
61-65	16	9	7
66-70	5	0	5
Over 70	11	0	11
Total	3,989	1,803	2,186

# Overview of research funding

Number of grants in 2015/2016

Programme	De	cisions issued	Projects approved		Approval rate (%)	
		<b>ہ/ر</b>		<b>ب</b> /٥		ç/ơ
	2016	2015	2016	2015	2016	2015
Stand-Alone Projects	1,171	1,246	299	317	25.5	25.4
(including Clinical Research)	302/869	329/917	71/228	84/233	23.5/26.2	25.5/25.4
International programmes	552	599	98	93	17.8	15.5
	128/424	140/459	19/79	19/74	14.8/18.6	13.6/16.1
Special Research Programmes	52	44	26	9	13.6 <sup>2</sup>	4.3 <sup>2</sup>
(SFBs) – new applications	9/43	10/34	3/23	3/6	0.0/18.8	25.0/0.0
SFB extensions <sup>1</sup>	29	61	17	53	58.6	86.9
	4/25	15/46	3/14	12/41	75.0/56.0	80.0/89.1
START Programme and	92	103	7	9	7.6	8.7
Wittgenstein Award	15/77	32/71	1/6	4/5	6.7/7.8	12.5/7.0
FWF Doctoral Programme (DK)	6	6	6	6	100,0	100.0
extensions	2/4	0/6	2/4	0/6	100.0/100.0	0.0/100.0
Schrödinger Programme	182	147	64	59	35.2	40.1
	64/118	57/90	16/48	27/32	25.0/40.7	47.4/35.6
Meitner Programme	202	185	50	49	24.8	26.5
	77/125	61/124	20/30	13/36	26.0/24.0	21.3/29.0
Firnberg and Richter Programmes	142	155	32	41	22.5	26.5
(including Richter/PEEK)	142/-	155/-	32/-	41/-	22.5/-	26.5/-
Programme for Arts-Based	49	40	8	8	16.3	20.0
Research (PEEK)	18/31	15/25	2/6	2/6	11.1/19.4	13.3/24.0
"Science & Public" Programmes	49	<b>27</b> <sup>3</sup>	11	<b>7</b> <sup>3</sup>	22.4	25.9 <sup>3</sup>
(SCP, TCS)	18/31	12/15	3/8	3/4	16.7/25.8	25.0/26.7
Partnership in Research (PiR)	43	-	6	_	14.0	_
	9/34	_/_	2/4	_/_	22.2/11.8	_/_
Total	2,569	<b>2,617</b> <sup>4</sup>	624	655 <sup>4</sup>	23.7	24.8 <sup>4</sup>
	788/1,781	827/1,790	174/450	209/446	21.8/24.5	25.1/24.7
SFBs: Outline proposals submitted	22	23				
	6/16	4/19				
SFBs: Full applications approved			3	1		
			0/3	1/0		

# Overview of research funding

## Grant amounts in 2015/2016 (EUR million)

Programme	Gr	ants requested	Grants approved		Approval rate (%)		
		ç∕ơ		ଦ୍/ଟ		ç/♂	
	2016	2015	2016	0015	2016	2015	
Stand Alana Prejecto	2016	2015	2016	2015	2016	2015	
(including Clinical Passanch)	05 9/272 0	375.4 100 1 / 275 2	92.1 21 9/70 2	93.4	20.0	24.9	
	95.67272.0	149.4	21.0/70.2	24.07 09.3	22.0/25.0	24.0725.2	
international programmes	22 2/110 2	24.6/112.7	۲۵/17 ۹	21.4	122/161	11 1 / 15 A	
Special Research Programmes	19.8	163	11 7	3.0/17.5	13.07 10.1 13.4 <sup>2</sup>	3 12	
(SFBs) – new applications	35/163	39/124	12/105	11/20	0.0/18.7	188/00	
SFB extensions	11 7	25.7	6.9	21.7	58.4	84.3	
	13/104	56/201	09/59	46/171	698/570	82 1 / 84 9	
START Programme and	114.0	127.1	8.5	10.5	7.4	8.3	
Wittgenstein Award	18.2/95.8	40.3/86.8	1.2/7.3	4.8/5.7	6.6/7.6	12.0/6.6	
FWF Doctoral Programme	17.0	16.6	13.7	13.9	80.9	83.3	
(DK) extensions	5.7/11.3	0.0/16.6	4.4/9.3	0.0/13.9	77.7/82.5	0.0/83.3	
Schrödinger Programme	22.0	16.6	8.5	6.3	38.5	38.1	
	7.3/14.7	6.5/10.0	2.0/6.5	3.0/3.3	27.5/43.9	45.2/33.4	
Meitner Programme	31.1	27.4	7.7	7.2	24.8	26.2	
-	11.9/19.2	9.1/18.3	3.1/4.6	1.9/5.3	25.8/24.2	20.7/28.9	
Firnberg and Richter Programmes	36.4	39.9	8.1	10.5	22.3	26.3	
(including Richter/PEEK)	36.4/-	39.9/-	8.1/-	10.5/-	22.3/-	26.3/-	
Programme for Arts-Based	15.9	13.7	2.8	2.6	17.7	19.3	
Research (PEEK)	5.8/10.1	5.0/8.8	0.8/2.0	0.7/2.0	14.2/19.7	13.6/22.4	
"Science & Public" Programmes	2.3	1.2 <sup>3</sup>	0.5	0.3 <sup>3</sup>	20.8	23.2 <sup>3</sup>	
(SCP, TCS)	0.9/1.5	0.6/0.7	0.1/0.3	0.1/0.2	17.6/22.7	19.6/26.0	
Partnership in Research (PiR)	9.4	-	1.3	-	13.6	-	
	2.0/7.4	_/_	0.4/0.8	_/_	22.2/11.3	_/_	
Total new grants	790.0	<b>818.2</b> <sup>4</sup>	183.8	<b>199.3</b> <sup>4</sup>	21.4	<b>21.4</b> <sup>4</sup>	
	221.0/569.0	248.4/569.8	48.5/135.3	56.8/142.5	19.5/22.2	21.9/21.2	
Supplementary grants			4.3	5.4			
Total grants			188.1	204.7			
SFBs: Outline proposals submitted	87.5	99.3					
	24.8/62.7	16.2/83.1					
SFBs: Full applications approved			11.7	3.0			
			0.0/11.7	3.0/0.0			

1 Sub-projects

2 The approval rate is calculated as the ratio of full applications approved to outline proposals submitted.

3 2015: SCP only

4 Including FWF Doctoral Programmes

# Reviews received

for decisions issued in 2016 by country/region

Canada 201

In the year 2016, the FWF Board decided on a total of 2,569 applications, with funding requests amounting to €790 million. In the process, over 15,000 requests for peer reviews yielded a total of 4,723 reviews from 67 countries. The FWF Board issued its funding decisions on the basis of those reviews.



Requested Received

#### APPLICATION PROCESSING TIME

from submission to approval / rejection (average in months)



Meitner Programme

#### SHARE OF REVIEWS BY REGION

(%)					
	2012	2013	2014	2015	2016
Rest of EU	33.8	35.4	33.7	36.4	36.1
USA/Canada	34.5	32.1	35.4	34.5	34.7
Germany/Switzerland	18.1	17.5	16.9	16.5	15.9
Other countries	12.0	11.9	12.5	12.1	13.4



France **227** – Netherlands **148** – Switzerland **144** 

Sweden 90

Denmark 51

Belgium 73

Italy **190** Spain **128** 

Australia 172

Germany 605

00	1 × 1		
0			
0	Armenia 1	Cyprus 3	l
	Bosnia 1 Brunei 1	Egypt 1 Estonia 1	
9	Bulgaria <b>6</b> Chile <b>8</b>	lceland 1 Iran 2	
	Costa Rica 1	Lebanon 1	(
	Croatia <b>2</b> Cuba 1	Lithuania 1 Luxembourg <b>3</b>	

USA

1,436

## GENERAL ACTIVITY REPORT

Argentina 10 Brazil 24 Czech Republic 17 Finland 38 Greece 21 Hong Kong 14 Hungary 13 India 27 Ireland 26 Israel 46 Mexico 14 New Zealand 26 Norway 37 Poland 24 Portugal 39 Rep. of Korea 18 Russia 13 Singapore 18 Slovenia 10 South Africa 14 Taiwan 16

Japan 71

China 56

Malaysia 3 Pakistan 1 Panama 2 Peru 1 Philippines 1 Qatar 3 Romania 3 Saudi Arabia 2

Ukraine 7 Uruguay 3 47

Serbia 6

Slovakia 9

Thailand **2** Trinidad &

Tobago 1

Turkey 8

# Grants by funding category

2016 (EUR million)



#### FWF FUNDS INVESTED IN INTERNATIONAL PROGRAMMES (2016)



#### PUBLICATION FUNDING IN 2016 - OVERVIEW (EUR million)

Stand-alone publications	0.5
Peer-reviewed publications	2.7
<ul> <li>Hybrid open access</li> </ul>	2.0
<ul> <li>Gold open access</li> </ul>	0.4
<ul> <li>Other publication costs</li> </ul>	0.2
Total	3.2
Open access share	3.0

For many years now, the FWF has maintained one of the most effective open access policies of all funding agencies worldwide. Of the qualityassured publications listed in FWF final reports in 2016, 92 per cent

#### PEER-REVIEWED PUBLICATIONS



# Countries of origin





## **GENERAL ACTIVITY REPORT**

GENERAL ACTIVITY REPORT

49





## New grants approved

in 2015/2016 by research institution

	New grants approved in 2016 (EUR million)	New grants in 2016: Share of overall FWF funding budget	Ratio of new FWF grants to university's basic budget in 2016	New grants approved in 2015 (EUR million)	New grants in 2015: Share of overall FWF funding budget	Ratio of new FWF grants to university's basic budget in 2015
a) University research institutions <sup>1</sup>						
University of Vienna	35.5	19.3%	10.1%	50.3	25.3%	14.5%
Vienna University of Technology	19.7	10.7%	9.8%	19.2	9.6%	9.4%
Medical University of Vienna	19.0	10.3%	5.4%	19.0	9.5%	6.2%
University of Innsbruck	18.1	9.8%	10.0%	19.1	9.6%	10.7%
University of Graz	10.7	5.8%	6.6%	11.0	5.5%	7.0%
University of Veterinary Medicine Vienna	7.7	4.2%	7.7%	2.3	1.2%	2.4%
University of Natural Resources and Life Sciences Vienna	7.2	3.9%	6.9%	8.4	4.2%	8.2%
Graz University of Technology	6.8	3.7%	5.5%	6.7	3.4%	5.7%
Medical University of Innsbruck	6.6	3.6%	5.8%	5.1	2.6%	5.0%
University of Linz	6.5	3.5%	5.4%	8.3	4.2%	8.4%
University of Salzburg	6.0	3.3%	5.5%	5.5	2.7%	5.1%
Medical University of Graz	3.1	1.7%	2.4%	4.7	2.3%	4.5%
University of Klagenfurt	1.7	0.9%	3.3%	1.5	0.7%	2.9%
Vienna University of Economics and Business	1.3	0.7%	1.1%	0.1	0.1%	0.1%
Academy of Fine Arts Vienna	0.7	0.4%	2.7%	0.3	0.2%	1.3%
University of Applied Arts Vienna	0.7	0.4%	1.9%	2.0	1.0%	6.1%
Montanuniversität Leoben	0.7	0.4%	1.4%	1.4	0.7%	3.2%
University of Music and Performing Arts Vienna	0.2	0.1%	0.3%	0.3	0.2%	0.4%
University of Art and Design Linz	0.2	0.1%	1.1%	0.7	0.3%	3.9%
University of Music and Performing Arts Graz	0.2	0.1%	0.4%	0.4	0.2%	0.9%
Total (universities)	152.3	82.9%	6.2%	166.4	83.5%	<b>7.2</b> %
b) Non-university and other research institutions						
Austrian Academy of Sciences	14.4	7.8%		17.8	8.9%	
Institute of Science and Technology Austria	4.0	2.2%		2.4	1.2%	
Research Institute of Molecular Pathology	2.0	1.1%		2.2	1.1%	
Other research institutions <sup>2</sup>	11.1	6.0%		10.6	5.3%	
Total for non-university and other research institutions	31.5	17.1%		33.0	16.5%	
Total new grants (including extensions)	183.8	100.0%		199.3	100.0%	
Supplementary grants	4.3			5.4		
Total new grants	188.1			204.7		

1 Universities subject to the Austrian Universities Act 2002 (UG 2002)

2 Including research institutions abroad

in 2015/2016 by research institution

a) University research institutions<sup>1</sup>

University of Vienna
Vienna University of Technology
Medical University of Vienna
University of Innsbruck
University of Graz
Medical University of Innsbruck
University of Natural Resources and Life Sciences Vienna
Graz University of Technology
University of Linz
University of Salzburg
Medical University of Graz
University of Veterinary Medicine Vienna
Vienna University of Economics and Business
University of Applied Arts Vienna
Montanuniversität Leoben
University of Klagenfurt
Academy of Fine Arts Vienna
University of Music and Performing Arts Graz
University of Music and Performing Arts Vienna
University of Art and Design Linz
Total (universities)
b) Non-university and other research institutions
Austrian Academy of Sciences
Institute of Science and Technology Austria
Research Institute of Molecular Pathology
Other research institutions <sup>2</sup>
Total for non-university and other research institutions

Total

2 Including research institutions abroad

3 Not including overhead payments

52

## APPENDIX

Amounts paid out in 2016 (EUR million) <sup>3</sup>	Ratio of FWF grant amounts paid out to university's basic budget in 2016	Amounts paid out in 2015 (EUR million) <sup>3</sup>	Ratio of FWF grant amounts paid out to university's basic budget in 2015
37.4	10.6%	37.1	10.7%
20.5	10.1%	20.7	10.1%
17.3	4.9%	16.4	5.3%
14.8	8.2%	14.3	8.1%
12.1	7.4%	12.9	8.2%
8.7	7.7%	9.2	9.0%
7.9	7.5%	7.1	7.0%
7.6	6.2%	6.9	5.8%
7.1	5.9%	8.3	8.4%
7.0	6.4%	6.6	6.2%
4.1	3.2%	4.1	3.9%
3.6	3.6%	4.3	4.5%
1.5	1.3%	1.8	2.1%
1.3	3.8%	1.3	4.0%
1.2	2.7%	1.1	2.5%
1.1	2.2%	1.2	2.3%
0.7	2.7%	0.6	2.4%
0.5	1.1%	0.3	0.6%
0.4	0.5%	0.4	0.5%
0.2	1.2%	0.1	0.4%
155.1	6.3%	154.7	6.7%
14.2		13.1	
2.0		1.5	
1.6		1.3	
15.8		17.9	
33.6		33.9	
188.8		188.6	

<sup>1</sup> Universities subject to the Austrian Universities Act 2002 (UG 2002)

# New grants approved

by research institution, 2012 to 2016 (EUR million)

#### UNIVERSITY RESEARCH INSTITUTIONS<sup>1</sup>

















NON-UNIVERSITY AND OTHER INSTITUTIONS



	Total for uni	versities	Total for non-unive	
	(U	G 2002)	research insti	tutions <sup>2</sup>
	EUR million	% <sup>1</sup>	EUR million	% <sup>1</sup>
2012	153.1	80.5	37.0	19.5
2013	169.0	85.0	29.9	15.0
2014	172.9	84.9	30.7	15.1
2015	166.4	83.5	32.9	16.5
2016	152.3	82.9	31.5	17.1

1 Share of new grants approved

2 Including research institutions abroad

1 Universities subject to the Austrian Universities Act 2002 (UG 2002)

### APPENDIX

### APPENDIX



institutions abroad)

Total new FWF grants approved EUR million 190.1 198.9 203.7 199.3 183.8

## New grants approved

by research discipline, 2015/2016 (EUR million)

#### HUMANITIES AND SOCIAL SCIENCES

Total €40.2 million (20.2%)

- **8.8** Linguistics and literature (4.4%)

- **3.4** Philosophy, ethics and religion (1.7%) Other social sciences (1.4%)
- 2.7 Psychology (1.0%) 2.1
- 2.0 Business and economics (1.0%)
- Sociology (0.9%) 1.9
- Political science (0.8%) 1.7
- 1.2 Law (0.6%)
- **1.2** Other humanities (0.6%)
- Human geography, regional geography, urban planning (0.2%) 0.5
- Education science (0.2%) 0.4
- 0.3 Media and communication sciences (0.2%)
- <0.1 Not indicated (<0.1%)

#### **BIOLOGY AND MEDICINE**

#### Total €70.5 million (35.4%)

- **43.2** Biology (21.7%)
- 20.8 Theoretical medicine, pharmacology (10.4%)
- Clinical medicine (2.5%) 5.1
- Health sciences (0.3%) 0.6
- Other human medicine and health sciences (0.2%) 0.5
- **0.2** Veterinary medicine (0.1%)

## 0.1 Medical biotechnology (0.1%)

#### NATURAL SCIENCES AND ENGINEERING Total €88.6 million (44.5%)

- **33.6** Physics, astronomy (16.8%)
- **18.4** Mathematics (9.2%)
- **11.4** Chemistry (5.7%)
- Computer science (4.4%) 8.8
- Geosciences (3.0%) 6.0
- Construction engineering (0.8%) 1.7
- Electrical engineering, electronics, information technology (0.8%) 1.6
- Agriculture and forestry, fisheries (0.7%) 1.5
- Other natural sciences (0.7%) 1.4
- Other agricultural sciences (0.6%) 1.2
- 0.8 Other engineering disciplines (0.4%)
- Environmental engineering, applied geosciences (0.4%) 0.7
- 0.6 Nanotechnology (0.3%)
- Mechanical engineering (0.2%) 0.4
- 0.2 Medical technology (0.1%)
- **0.2** Industrial biotechnology (0.1%)
- **0.1** Livestock breeding, animal husbandry (<0.1%)
- <0.1 Chemical process engineering (<0.1%)
- <0.1 Agricultural biotechnology, food biotechnology (<0.1%)



## Total €36.8 million (20.0%)

- 5.8
- 5.3
- 3.8 2.7
- Sociology (1.4%) 2.6
  - Law (0.8%)
- **0.8** Education science (0.4%)
- Political science (0.4%) 0.7
- 0.5 04

### **BIOLOGY AND MEDICINE**

Total €69.7 million (37.9%)

1.5

1.2

0.9

- 36.8 Biology (20.0%) 21.8 8.1 Health sciences (0.9%) 1.6 0.9 0.4

#### NATURAL SCIENCES AND ENGINEERING Total €77.2 million (42.0%)

<u> </u>	26.0	Mathematics (14.1%)
	19.9	Physics, astronomy (1
	8.1	Computer science (4.4
	8.0	Chemistry (4.4%)
	6.1	Geosciences (3.3%)
	1.9	Nanotechnology (1.0%
	1.5	Electrical engineering,
	1.1	Materials science (0.6
	0.9	Construction engineer
	0.7	Livestock breeding, an
	0.6	Other natural sciences
	0.5	Agriculture and forest
	0.4	Environmental enginee
	0.4	Industrial biotechnolog
	0.4	Medical technology (0
	0.3	Other engineering disc
	0.1	Environmental biotech
븨	<0.1	Mechanical engineerir
	<0.1	Agricultural biotechno
	<0.1	Chemical process eng

APPENDIX

2015: €199.3 million	
in new grants approved	



#### HUMANITIES AND SOCIAL SCIENCES

6.2 History, archaeology (3.4%) Business and economics (3.2%) Linguistics and literature (2.9%) **4.4** Philosophy, ethics and religion (2.4%) Art and art history (2.1%) Psychology (1.5%)

> Other humanities (0.7%) Human geography, regional geography, urban planning (0.5%) Other social sciences (0.3%) Media and communication sciences (0.2%)

Theoretical medicine, pharmacology (11.9%) Clinical medicine (4.4%) Veterinary medicine (0.5%) Medical biotechnology (0.2%) <0.1 Other human medicine and health sciences (<0.1%)

ronomy (10.8%) cience (4.4%) 4.4%) s (3.3%) logy (1.0%) ngineering, electronics, information technology (0.8%) cience (0.6%) n engineering (0.5%) eeding, animal husbandry (<0.4%) al sciences (0.3%) and forestry, fisheries (0.3%) tal engineering, applied geosciences (0.2%) otechnology (0.2%) hnology (0.2%) eering disciplines (0.2%) tal biotechnology (0.1%) engineering (<0.1%) biotechnology, food biotechnology (<0.1%) ocess engineering (<0.1%)



## Vienna €108.8 million / **59.2%**

Burgenland €0.0 million / **0%** 

## Styria €23.1 million / **12.6**%

ERC grants

by host country since 2008 (ranked by number of grants per million inhabitants)<sup>1</sup>

# Bibliometric data

Top 30 countries, 2006 to 2016<sup>1</sup> (ranked by number of citations per 1,000 inhabitants)

Rank	Rank Country Population		Grants	Grants	
			approved	per million inhabitants	
1	Switzerland	8,179,294	503	61.50	
2	Israel	8,174,527	407	49.79	
3	Netherlands	17,016,967	653	38.37	
4	Sweden	9,880,604	248	25.10	
5	Denmark	5,593,785	138	24.67	
6	UK	64,430,428	1,568	24.34	
7	Belgium	11,409,077	257	22.53	
8	Austria	8,711,770	190	21.81	
9	Finland	5,498,211	115	20.92	
10	Ireland	4,952,473	77	15.55	
11	France	66,836,154	918	13.74	
12	Germany	80,722,792	1,082	13.40	
13	Norway	5,265,158	65	12.35	
14	lceland	335,878	4	11.91	
15	Cyprus	1,205,575	14	11.61	
16	Luxembourg	582,291	6	10.30	
17	Spain	48,563,476	440	9.06	
18	Italy	62,007,540	406	6.55	
19	Portugal	10,833,816	70	6.46	
20	Hungary	9,874,784	55	5.57	
21	Estonia	1,258,545	6	4.77	
22	Greece	10,773,253	48	4.46	
23	Malta	415,196	1	2.41	
24	Czech Republic	10,644,842	25	2.35	
25	Slovenia	1,978,029	3	1.52	
26	Croatia	4,313,707	3	0.70	
27	Poland	38,523,261	25	0.65	
28	Latvia	1,965,686	1	0.51	
29	Bulgaria	7,144,653	3	0.42	
30	Turkey	80,274,604	18	0.22	
31	Romania	21,599,736	4	0.19	
32	Slovakia	5,445,802	1	0.18	
33	Serbia	7,143,921	1	0.14	

(a) The term "host country" refers to the country of the host institution which provided a recommendation at the time of application.
 (b) In the case of Synergy Grants, only the project coordinator's host country is taken into account. Sources: (1) Grants: European Research Council (ERC), https://erc.europa.eu/projects-figures/statistics; (2) Population figures: *CIA World Factbook*, July 2016, https://www.cia.gov/library/publications/the-world-factbook

Rank	Country	Publications	Citations	Ø Population	Citations	Publications	Citations
				('000)	per publication	per 1,000 inhabitants	per 1,000 inhabitants
1	Switzerland	265,290	5,422,721	8,179	20.4	32.4	663.0
2	lceland	9,063	195,542	335	21.6	27.1	583.7
3	Denmark	149,962	2,799,815	5,593	18.7	26.8	500.6
4	Sweden	241,992	4,189,656	9,880	17.3	24.5	424.1
5	Netherlands	363,912	7,038,046	17,016	19.3	21.4	413.6
6	Finland	119,202	1,919,387	5,498	16.1	21.7	349.1
7	Norway	113,559	1,772,929	5,265	15.6	21.6	336.7
8	Australia	499,845	7,384,715	22,992	14.8	21.7	321.2
9	UK	1,146,964	20,676,839	64,430	18.0	17.8	320.9
10	Singapore	109,774	1,763,937	5,781	16.1	19.0	305.1
11	Belgium	200,243	3,477,934	11,409	17.4	17.6	304.8
12	Canada	631,546	10,260,167	35,362	16.2	17.9	290.1
13	New Zealand	84,790	1,205,836	4,474	14.2	19.0	269.5
14	Israel	136,777	2,092,770	8,174	15.3	16.7	256.0
15	Austria	137,089	2,207,643	8,711	16.1	15.7	253.4
16	Ireland	74,004	1,221,688	4,952	16.5	14.9	246.7
17	USA	3,888,852	69,891,821	323,995	18.0	12.0	215.7
18	Germany	1,023,131	16,724,449	80,722	16.3	12.7	207.2
19	Slovenia	37,310	384,561	1,978	10.3	18.9	194.4
20	Estonia	15,538	224,891	1,258	14.5	12.4	178.8
21	France	719,590	11,212,302	66,836	15.6	10.8	167.8
22	Spain	525,006	7,174,087	48,563	13.7	10.8	147.7
23	Italy	611,045	8,989,061	62,007	14.7	9.9	145.0
24	Greece	113,779	1,485,071	10,773	13.1	10.6	137.9
25	Portugal	116,600	1,452,307	10,833	12.5	10.8	134.1
26	Taiwan	269,005	2,687,201	23,464	10.0	11.5	114.5
27	Czech Republic	107,673	1,172,763	10,644	10.9	10.1	110.2
28	South Korea	484,879	4,711,994	50,924	9.7	9.5	92.5
29	Hungary	66,339	819,118	9,874	12.3	6.7	83.0
30	Japan	846,667	10,350,608	126,702	12.2	6.7	81.7

 Sources: (1) "The Essential Science Indicators" database by Clarivate Analytics; includes a period of 10 years plus 12 months, 1 January 2006 to 31 December 2016, as updated on 9 March 2017; (2) Population figures: *CIA World Factbook*, July 2016, https://www.cia.gov/library/publications/the-world-factbook

## APPENDIX

# FWF participation in ERA-NETs

ERA-NET	Subject area	Start	Duration	FWF's role Calls		FWF
						projects
ERA-Chemistry	Chemistry	2004	5 years	Work package leader	4 (2005-09)	6
Pathogenomics	Pathogenomics	2004	8 years	Partner	3 (2006-10)	10
NORFACE	Social sciences	2004	5 years	Associate partner (since 2007)	1 (2008) <sup>1</sup>	2
NanoSciERA	Nanosciences	2005	3 years	Work package leader	2 (2006-08)	3
EUROPOLAR	Polar research	2005	4 years	Task leader	1 (2009)	2
HERA	Humanities	2005	4 years	Partner	1 (2009) <sup>1</sup>	10
BioDivErsA	Biodiversity	2005	4 years	Partner	1 (2008)	2
ASTRONET	Astronomy	2005	4 years	Associate partner (since 2007)	1 (2008)	2
Plant Genomics	Plant genomics	2006	4 years	Call participation (2008)	1 (2008)	4
E-Rare	Rare diseases	2006	4 years	Call participation (2009)	1 (2009)	3
NEURON	Neurosciences	2007	5 years	Work package leader	4 (2008-11)	4
New INDIGO	India <sup>2</sup>	2009	4 years	Call participation (2011)	1 (2011)	1
CHISTERA	Information technology	2010	2 years	Task leader	4 (2010-13)	11
E-Rare-2	Rare diseases	2010	4 years	Partner	4 (2010-13)	8
BioDivErsA2	Biodiversity	2010	4 years	Partner	4 (2010-13)	14
TRANSCAN	Cancer research	2010	4 years	Partner	3 (2011-13)	15
NORFACE II (CSA)	Social sciences	2011	2 years	Partner	1 (2012)	4
HERA JRP	Humanities	2011	3 years	Partner	1 (2012) <sup>1</sup>	0
CHISTERA 2	Information technology	2012	4 years	Partner	2 (2014-15)	2
ERA-CAPS	Plant sciences	2012	3 years	Partner	2 (2012-14)	6
M-ERA	Material sciences	2012	4 years	Partner		
NEURON II	Neurosciences	2012	4 years	Partner	3 (2012-14)	3
Infect-ERA	Infectious diseases	2012	4 years	Partner	3 (2013-15)	11
ERASynBio	Synthetic biology	2012	3 years	Call participation	1 (2013)	1
INNO INDIGO	India <sup>2</sup>	2013	3 years	Partner		
FLAG-ERA	Future emerging technologies	2013	3 years	Associate partner (since 2013)	1(2014)	0
RUS Plus	Russia <sup>2</sup>	2013	3 years	Call participation 2014	1 (2014) <sup>1</sup>	1
HERA JRP	Humanities	2014	3 years	Partner	1 (2015) <sup>1</sup>	
E-RARE 3	Rare diseases	2014	5 years	Partner	2 (2014-15)1	6
ERA CoSysMed	Systems medicine	2015	5 years	Partner	1 (2015) <sup>1</sup>	2
TRANSCAN 2	Cancer research	2015	5 years	Partner	1 (2015) <sup>1</sup>	3
ERA-CVD	Cardiovascular diseases	2015	5 years	Partner	1 (2015) <sup>1</sup>	1
NORFACE DIAL	Social sciences	2015	4 years	Partner	1 (2015) <sup>1</sup>	0
BioDivErsA3	Biodiversity	2015	5 years	Partner		
NEURON III	Neurosciences	2016	5 years	Partner		
FLAG-ERA II	Future emerging technologies	2016	3 years	Partner		
QuantERA	Quantum technology	2017	5 years	Partner		

1 Co-funded by the EU

2 Open to all fields / topics

Biology and medicine		
BIRD Adrian	Wellcome Trust Centre for Cell Biology, University of Edinburgh, UK	Genetics, epigenetics, neurosciences
CROCE Carlo	Human Cancer Genetics Program, Ohio State University, USA	Biochemistry, molecular biology, immunology, genetics
FOYER Christine	Centre for Plant Sciences, Faculty of Biological Sciences, University of Leeds, UK	Plant sciences
Humanities and social sciences	3	
NIJKAMP Peter	Faculty of Economics and Business Administration, Department of Spatial Economics, University Amsterdam, NL	Business and economics
VAN DOMMELEN Peter	Joukowsky Institute for Archaeology and the Ancient World, Brown University, USA	Archaeology, anthropology
WOLFF Janet	School of Arts, Languages and Cultures, University of Manchester, UK	Cultural sociology, gender studies
Natural sciences and engineeri	ng	
BECKERMANN Christoph	Department of Mechanical and Industrial Engineering, College of Engineering, University of Iowa, USA	Engineering sciences
BEENAKKER Carlo W. J.	Instituut-Lorentz, Leiden University, NL	Theoretical physics
HELL Stefan	Max Planck Institute for Biophysical Chemistry, Department of Nano Biophotonics, Germany	Experimental physics
KUTYNIOK Gitta	Institute of Mathematics, Technische Universität Berlin, Germany	Mathematics
REBEK Jr., Julius (Chair)	Skaggs Institute for Chemical Biology and Department of Chemistry, Scripps Research Institute, La Jolla, USA	Chemistry
WING Jeannette	Computer Science Department, Carnegie Mellon University, Pittsburgh, USA	Computer science
PEEK BOARD		
BROCH KNUDSEN Cecilie	Academy of Art and Design, Bergen, Norway	Arts & media
	Foncecnico di Miliano, Italy University of Dundee UK	Architecture, design Arts & media
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Vienna, May 2017





Cutting off fundamental, curiositydriven science is like eating the seed corn. We may have a little more to eat next winter, but what will we plant so we and our children will have enough to get through the winters to come?

> CARL SAGAN, ASTRONOMER AND AUTHOR 1934–1996

