Research Fund



Impact Report 3rd mandate

2018-2022



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Foreword

We stand at a critical moment in the history of humanity.

A quick scan of global media shows that we are confronted with a growing range of challenges: poverty, inequity, biodiversity loss, climate change, and pollution, among others. Some of these are existential crises, especially for the poor and vulnerable.

In this increasingly complex and interconnected world, everyone has a role in seeking solutions that improve the well-being of society and our planet. Key to the bold and transformative action required is our ability to anticipate, understand, and adapt to the range of risks and impacts that we face now and in the future. Science in all its forms – social, natural, and physical – has always been an important way of understanding the world, from when we first looked to the skies to better understand the changing seasons, to the use of genomic sequencing to track the evolution of a pandemic. This is why supporting science is paramount in creating a more just and sustainable world for everyone, and that is the reason we are here.

Over the past five years, the AXA Research Fund has been at the forefront of a transdisciplinary exploration of emerging risks, strengthening the connections between academic experts, industry, and the public sector around major societal issues and launching innovative formats for the dissemination of scientific knowledge. Science must be relevant to people's needs and be able to meaningfully inform public actions if it is to change the world.

As a biodiversity and climate change scientist from Africa, I am deeply committed to connecting science with decision-making and action to advance the public good. In my role as the President of the Scientific Board, I have the privilege of witnessing the Fund engage with the broad range of challenges we face and play a critical role in encouraging transformations of knowledge, while also facilitating new connections between the public and private sectors. I have also witnessed the Fund's unwavering dedication to the values of transparency, excellence, relevance, and diversity. It is with great pride that I have accompanied the Fund's growth in creating a supportive and forward-thinking environment that nurtures researchers who are asking some of the biggest and most difficult questions of our time, and who are dedicated to building a better future for all people and the planet.

This impact report, I believe, stands as a testament to the achievements of the past five years and shows the significance of what can be accomplished through collective efforts that build bridges between science, scientists, the community, society, and the ecosystems we inhabit and strive to protect.

While five years may seem fleeting in the grand scope of scientific development, I firmly believe that the future of science lies in the sort of progressive advancement that has been realised during the last five years of the Fund's work. There is still much to be done, of course, but given the commitment of all involved with the AXA Research Fund, I have no doubt that as we move into the new mandate period, we will continue to see the development of innovative and impactful knowledge that will help build a more equitable and sustainable world.

We stand proudly as contributors to this ongoing journey.



Professor Debra Roberts President of the AXA Research Fund Scientific Board



Science lies at the heart of human progress. We aspire to understand the world around us and thus make better decisions through its study. This is at the heart of the AXA Research Fund. For more than fifteen years, the AXA Research Fund has been striving to realize its mission of accelerating science to protect what matters. By supporting and disseminating scientific research, we aim to contribute to a better understanding of major risks and help society address them. With over €250 million since 2008 dedicated to research in the fields of health, the environment, and socioeconomics, the Fund has successfully evolved into one of the largest corporate science philanthropy initiatives.

The past five years (2018-2022) mark the third mandate of the Fund. With its steady support for science, it has yielded impressive results: 135 research projects funded, resulting in 1,317 academic articles, with an impressive 322 published in top 10% journals. The research outcomes address diverse and critical areas such as biodiversity, climate change adaptation, chronic illness, healthcare access, social inclusion, and more.

In this report, we share with you not only the remarkable numbers, but also the real-life stories of our funded researchers and AXA collaborators. Through their words, a picture emerges of how our everyday action transforms into tangible progress: through active media outreach, increasing the visibility of academic institutions from Global South, collaborating with AXA, and policymaking to facilitate knowledge exchanges. These diverse paths exemplify our support: we actively engage with researchers, providing them with opportunities to expand their networks within the academic and corporate realms and maximize the impact of their work. As we navigate the ever-evolving landscape of scientific research, we remain steadfast in our dedication to support groundbreaking projects and nurture emerging talent. We firmly believe that by accelerating science and promoting interdisciplinary collaboration, we can generate solutions that address the most pressing challenges of our time.



Preface

This impact report offers a comprehensive reflection of the role the Fund plays in supporting science, scientists, the scientific community, and society at large. Time and monetary support from the Fund has proven its potential in catalyzing exciting progress in a variety of arenas.

I invite you to embark on this journey with us, celebrating the achievements we have made and milestones we have reached over the past five years, as well as reflecting on the opportunities that lie ahead.

Ulrike Decoene

- Group Chief Communication,
- Brand and Sustainability Officer

I. Executive Summary: Five years at a glance

Research

Scope

135 funded research projects across

107 academic institutions

Publications

1,3K+ research documents

Citations

15K+ citations, with

77% of documents cited and an average of

12 citations per document

Researcher

People

124 funded researchers

Honors

64 academic awards and €270M in subsequent funding from external organizations Diversity

34 nationalities

Career development

64 career opportunities including

tenured professorships

Hiring 250 additional positions created

Gender parity

50% of funded projects led by women

Media

6,5K+ news appearances 445K engagements 20bn potential reaches

Appearance in "The Conversation"

39 articles 978K audience

Scientific Community





The AXA Research Fund channel YouTube 5 M views 5 O C played 1,4 C subscribers X(ex. Twitter) 7 K + tweets 16 K interactions 126 M potential audience 423 % followers Technology transfer 7 patents 14 spinoffs created

II. Introduction

A - The AXA Research Fund: Accelerating science to protect what matters

The AXA Research Fund is a 16-year-old scientific philanthropic initiative by AXA Group committed to financing top-tier research with the goal of better understanding and managing major risks and informing decision-making. Over the years, the Fund has grown into one of the largest private initiatives to support independent scientific research, with a total commitment of €250 million to date. In line with AXA's purpose to act for human progress by protecting what matters, more than 700 research projects have been funded in three key areas: health, climate & environment, and socioeconomics & new technologies.

The past five years (2018-2022) mark the third mandate of the Fund, during which a total of 135 research projects were funded. This report documents the financial, scientific, and societal impact of the Fund during this latest mandate: it underscores how the supported research projects and researchers jointly contribute to address the major challenges faced by our society and inform better policy and decision-making through an examination of the holistic impact of funding on the research, the researcher, the scientific community, and society.

The methodology combines research and analysis conducted by tracking funded projects using both quantitative and qualitative methodologies. A systematic review was completed yearly, and additional evaluations were developed to measure the various impacts of the funding initiative: 1) a bibliometric analysis, with the objective of measuring scientific impact; 2) a web scraping analysis to measure media impact; and 3) a dedicated assessment survey distributed to funded researchers. The report seeks to illuminate how the multifaceted support from the Fund helps improve academic career outcomes and benefits the greater community.

B - Overview of the funded research projects

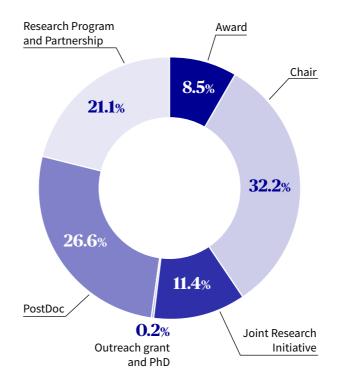
Supporting researchers throughout their careers...

The AXA Research Fund supports outstanding researchers working on transformative projects in their fields. By providing grants for all stages of a research career, the Fund's inclusive funding strategy aims to ensure a sustainable future for the academic world. Between 2018 and 2022, in total 135 research projects, 124 researchers, and 107 academic institutions were directly supported across a wide range of funding schemes and disciplines:

- The flagship grants of the Fund, AXA Chairs are targeted at senior researchers of the highest caliber with significant research achievements and aim to fill research gaps and that will have real impacts on society. Over the past five years, 11 chairs have been awarded to outstanding researchers in their field.
- Post-doctoral Fellowships are at the heart of the Fund's mission of supporting scientific research. They aim to support young, promising researchers with a high potential for innovation on a topic aligned with AXA's priority risk areas. From 2018 to 2022, 64 postdoctoral projects were funded.
- AXA Awards are funding vehicles rewarding midcareer, rising academics with a proven track record of transformative research in their area. In total, the Fund has awarded 16 prizes to researchers working on topics such as climate change and the Covid-19 pandemic. More recently, in 2021, the AXA Research Fund partnered with AXA Investment Managers to launch a joint award focused on the climate transition. The goal of the award is to drive solutions to overcome sustainability problems and enable a green and just transition. Following the success of this initiative, the AXA Research Fund decided to develop a second edition of the Award for 2022.

• AXA Joint Research Initiatives (JRIs) are collaborative scientific projects developed jointly by senior researchers and AXA teams to investigate a specific area that is both relevant to AXA's activity and to the research field. With AXA Research Fund's efforts in fostering these two-way collaborations, 17 JRIs were created for the period 2018 to 2022.

• Other types of fundings were also developed to complete the funding ecosystem. Research Partnerships aim at fostering collaborations between AXA, other private sectors, and research-oriented institutions on a broad level to address corporate and societal challenges through increased thought leadership. Outreach grants support dissemination projects from AXA research community members addressing a broad non-academic audience. From 2018 to 2022, 6 grants were awarded to researchers in India, Italy, France, Spain, and Nigeria.

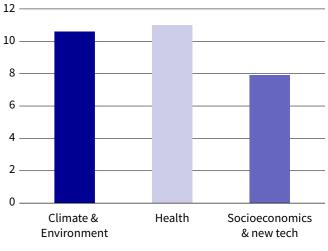


Graph 1: Allocation of funding by scheme

... and focusing on various topics to ensure a fair and better future

The funded research encompasses three key fields: health, climate & environment, and socioeconomics & new technologies.

Aligned with insurance's mission of protecting people, the Fund supports research that promotes advancements in health and universal access to healthcare. Between 2018 and 2022, a total of 50 research projects focused on health-related topics, addressing crucial issues including mental health, women's health, chronic and non-communicable diseases, aging, and longevity. Recognizing the pressing challenges of climate change and biodiversity loss, the Fund also aims to contribute to sustainable solutions in light of environmental concerns. 52 programs concentrated on climate and environmental subjects, ranging from coastal resilience to climate change to biodiversity preservation. Finally, the AXA Research Fund actively endeavors to comprehend the challenges and opportunities arising from new technologies and societal transformations. Over the past five years, it has funded 33 initiatives examining socioeconomic- and new technology-related questions, such as financial inclusion, artificial intelligence, and geopolitics.



Graph 2: Allocation of funding by risk (in Million €)

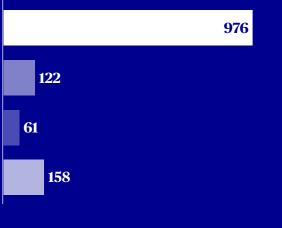
III. Impact Analysis

A - The Research

AXA Research Fund grantees in scientific journals

The bibliometric analysis provides a precise overview of the AXA Research Fund grantees' publications¹. Recipients of grants published a growing amount of scientific research showing high performance results.

Over the past five years (2018-2022), the 135 funded research projects led to an impressive output of 1,317 research publications². These publications consisted of 976 research articles (74%); 122 reviews (9%); 61 proceedings papers (5%); and book chapters, book reviews, notes, and data papers (12%).



 Article
 Review
 Proceedings paper
 Other including book chapters, book reviews, and data papers

Graph 3: Number of publications by type

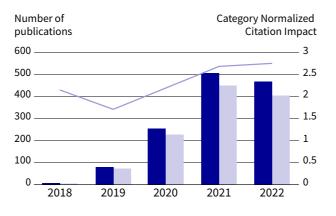
¹ In this report, research publication and research documents refer to academic articles, reviews, and proceedings papers.
² The actual bibliometric indicator has the potential to be higher than reported, as the study was carried out in early 2023 and some of the funded projects included in the report are still in their early stages, the latest having been selected by the Scientific Board in December 2022.

A promoter of open science

As a firm supporter and promoter of open science, the open access publishing rates of the funded researchers are higher compared to their national peers, with 901 documents in open access, accounting for 69% of publications.

Measuring the impact of scientific publications through citation metrics

To better understand the scientific impact of publications, a citation analysis was conducted to determine the importance of the work in the scientific community. 76.77% of the documents are cited one or more times, altogether generating 15,390 citations. To compare citations across subjects, Category Normalized Citation Impact³ was used to assess the quality of publications. Here (see graph 4), the results show that funded work is highly cited, reaching nearly 3 times the normalized impact in 2022.



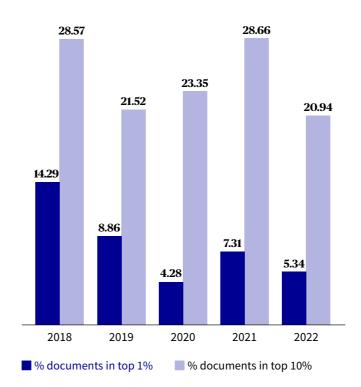
Number of publications
 Number of papers
 Category Normalized Citation Impact

Graph 4: Number of publications and citation impact by year

Among scientific papers, 322 rank within the top 10% in terms of significance, representing 24% of the sample.

³ Citations per paper normalized by subject, year, and document type

Furthermore, 81 papers achieved the exceptional distinction of being in the top 1% of highly cited documents (6.1%). These outstanding citation metrics demonstrate the high quality of AXA Research Fund project outcomes and the attention they are receiving from the scientific community.



Graph 5: Top 1% and top 10% publications funded by AXA Research Fund Grants over the third mandate



The AXA post-doc grant was a game changer for me, as it led to me being able to focus on my research which eventually led to high-impact publications and an offer for my dream academic job.





Dr. Jasmin Wertz, Postdoc - 2019 Duke University, United States of America

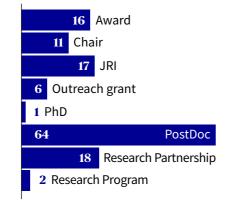
The AXA Research Fund support has allowed me to provide key scientific findings that form the basis of ongoing funding applications and that have allowed me to obtain a permanent research position – I am very grateful for the support.



Dr. Marion Rouault, Postdoc - 2019 École Normale Supérieure, France

B - The Researcher

For the period 2018 to 2022, 124 researchers in total received support from the AXA Research Fund through its various funding schemes.



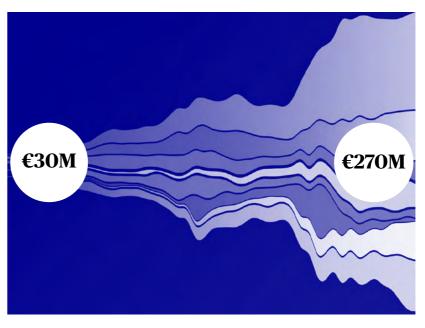
Graph 6: Number of funded research projects by scheme

A catalyst in research careers

The support has paved the way for career advancements and expanded opportunities for the grantees both within and outside academia. Among them, 22 researchers attained tenured professorship at renowned universities like Nanyang Technological University in Singapore, the National Center for Scientific Research (CNRS) in France and the University of Rome; 8 have been appointed director or leaders in research institutions such as the University of California Santa Cruz Center for Coastal Climate Resilience, the European Molecular Biology Laboratory, and the International Society on Thrombosis and Haemostasis; 4 have been appointed senior research fellows, and 3 have secured short-term fellowships and postdoctoral positions. Additionally, 20 researchers have received academic promotions, exemplifying their contributions to their respective research fields.

Grants, awards, and honors

The recipients of our support have witnessed a remarkable ripple effect in terms of grants, awards, and promotions. Facilitated by the financing from the AXA Research Fund (€30 million over the mandate), 50 researchers have secured a total of more than €270 million in subsequent funding from external prestigious national and international organizations and governments.



Graph 7: Subsequent funding received from external organizations and governments

This substantial support has not only fueled their ongoing research but also propelled remarkable awards and prizes. Among the 124 researchers funded during the last five years, 38 have received awards and prizes, totaling 64 accolades. That number includes prestigious international awards like the Young Scientist Award from the European Society of Cognitive and Affective Neuroscience and national awards such as the Robert H. Goddard Award from NASA, highlighting exceptional contributions in the academic and scientific community.



Dr. Kyle Morgan Postdoc - 2019 Nanyang Technological University, Singapore

Securing tenure-track positions is an arduous and competitive process, often requiring researchers to demonstrate the ability to lead research teams, drive independent inquiries, and envision longterm plans in their field. The AXA Research Fund Postdoc fellowship prepares promising young researchers for future endeavors and advancement in their respective areas.

Dr. Kyle Morgan received an AXA Research Fund Postdoc Fellowship in 2019 for his research on the impact of environmental changes on coral reefs in the Southeast Asia region (SEA) and their effect on coastal reef functioning. Today, he holds

Spotlight story

the positions of Assistant Professor and National Research Foundation Fellow at Nanyang Technological University, along with being a Principal Investigator at the Earth Observatory of Singapore. The support provided by the AXA Research Fund helped Dr. Morgan to carry out his research in the best conditions, and notably to acquire smart wave buoys to enable real-time monitoring of water quality and ocean temperature, thereby enriching the experimental work conducted for his project.

Dr. Morgan's research, originally funded by the AXA Research Fund, has expanded and evolved into an ongoing, larger-scale

project spanning multiple countries in significance of the grant in his career trajectory, he emphasizes, "The AXA Research Fund set me up and made me a more desirable candidate for tenuretrack positions. I greatly appreciate the degree of autonomy and liberty of the Fund as it allowed me to lead a research team independently. From budgeting and logistics to establishing partnerships and collaborations with institutions in SEA, this experience has undoubtedly given me a head start in applying for tenuretrack positions and securing additional research grants."

Building an equitable and inclusive global research network

In addition to fostering academic growth, the AXA Research Fund is committed to promoting diversity and inclusion within the researcher community. This commitment is exemplified by the diverse range of nationalities among our grantees. Over the past five years, the AXA Research Fund has supported 124 researchers from 34 different countries across five continents. This global representation enriches our extensive research community while strengthening cross-cultural collaboration and the exchange of ideas.

I am thrilled with the kind support of the AXA **Research Fund, and particularly appreciate the value** the fund places on the development of scientists and institutions in low- and middle-income countries.



Dr. Gerard Killeen, AXA Chair - 2019 University College Cork, Ireland



Prof. Mohammed Amidu AXA Award - 2020 University of Ghana Business School, Ghana

The COVID-19 pandemic was a wake-up call for crisis anticipation and the preparedness of vulnerable populations in Ghana.

Dr. Mohammed Amidu of the University of Ghana Business School received an AXA Research Fund Award for COVID-19 research in 2020. His project focused on addressing the ramifications of pandemics on vulnerable populations in Ghana.

With the support of the AXA Research Fund, Dr. Amidu collaborated with various stakeholders to identify effective and innovative strategies for improving social and economic wellbeing during and after pandemics. Focused in particular



Graph 8: Map of the funded researchers' nationalities (in white)

Spotlight story

on women, one of the most vulnerable social groups in Ghana, the research shed light on the disproportionately heavy burden they faced during the pandemic, exacerbating their vulnerability compared to men. It reevaluated the cost-effectiveness of lockdown measures, examined the profound socioeconomic repercussions on different demographic groups, and emphasized equitable application of policies and strategies.

"If we want a credible policy, it should be supported by evidence from research. The funding allowed us to gather real-life experiences from the community, significantly contributing to future policies and strategies." Over the course of three years, their efforts bore fruit, resulting in the first policy paper on the topic submitted to the Gender Ministry of the government of Ghana. The research, he believes, will pave the way for a more inclusive and resilient future, not only in Ghana, but also in other developing countries facing similar challenges.

C - The Scientific Community

Encouraging talent diversity in scientific research

1. Stimulate the development of a younger generation of researchers

The AXA Research Fund's dedication to promoting diversity is also exemplified by its support for junior researchers. Early career researchers are the future of the research ecosystem. During the last mandate, the 64 fully funded postdoc projects resulted in 362 publications, with 18.5% being part of the top 10%. The funding provided also incentivizes subsequent hiring and fostering talent development. As a result of the granted projects, a remarkable 250 researchers have benefited from these opportunities. Specifically, 115 Bachelor and Master students, 86 PhD students, and 49 postdoctoral and senior researchers have been actively involved in the projects supported by the AXA Research Fund (see Table 1).

2. Gender equality and the empowerment of women in science

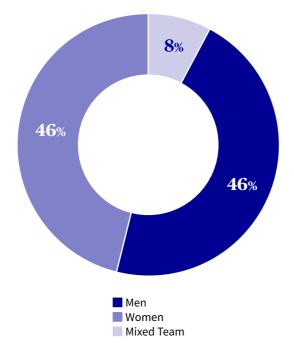
Gender equality is critical not only for inclusivity, but also to foster a more equitable research environment for academic innovation and advancements. Unfortunately, the current state of gender equality in academia leaves much to be desired. Globally, only 33.3% of researchers are women, and they often receive smaller grants compared to their male counterparts⁴. Women remain underrepresented in key sectors of science as skilled workers, professionals, and decisionmakers, and the glass ceiling continues to impede their progress.

The AXA Research Fund believes that gender equity should be more than a statement on paper: it should be actively implemented. The previous mandate has achieved significant milestones in gender parity among funded researchers. Out of the 135 projects, 62 were led by female researchers (46%) and 62 were led by male researchers (46%)⁵, showcasing a true balance and representation of both genders (see graph 9).

The AXA Research Fund also recognizes the importance of science-based solutions in addressing issues that have long been neglected concerning women. In 2018, the Fund launched a dedicated call for research focusing on women's health issues and

RESEARCHER	Number
Bachelor and Master students	115
PhD students	86
Postdoctoral and senior research positions	49
Total	250

Table 1: Additional researchers funded indirectly by supported projects



Graph 9: Gender distribution of directly funded researchers

women's access to healthcare. Convinced that scientific research is key in helping to improve women's health through adapted healthcare, the AXA Research Fund committed €1 million for transdisciplinary research on women's health and funded 8 Postdoc scientists⁶.

Further, women's wellbeing beyond the realm of health and gender equality should be addressed through science-based research and evidence. To that end, in partnership with AXA Italy and Bocconi University, the AXA Research Lab on Gender Equality was founded to promote research in social sciences related to gender, such as gender economics, gender policies, and gender diversity management, with a strong policy impact. These theoretical perspectives are also being complemented by real-life empowerment.

Doctor Anne Boring of Sciences Po Paris aims to break down the barriers to women's leadership and entrepreneurship by conducting a review of the main reasons why there are so few women in entrepreneurship and leadership positions, in order to gain an understanding of the skills necessary for women to acquire in higher education to enable their advancement. Such initiatives exemplify our efforts to unleash women's potential for a more productive and inclusive future for everyone.

Collaborations through a global research institution network

The commitment to diversity is also embodied in the global reach of the funded research projects, involving academic institutions from 26 countries across five continents (see graph 10). This extensive research community network facilitates collaborations between academic institutions, transcending geographical boundaries. As a result, a significant 965 research documents, accounting for 73.27% of the total publications from the funded research, are the outcome of international collaborations.

⁶ The AXA Research Fund commits €1M to scientific research dedicated to women's health. (2019, June 26). https://www.axa-research.org/en/news/women-health

The support of the AXA **Research Fund has enabled** not only an extraordinary quantitative output, but also the possibility to change the research qualitatively, allowing me to pursue quite different ways of doing research with collaborators, with more ambitious and risky projects, most of which were successful!





Dr. Franck Courchamp, AXA Chair - 2019 Université Paris-Saclay, France

^{(2023,} February 11). https://news.un.org/en/story/2023/02/1133367

⁵ The remaining 8% accounts for collaborations with institutions

A snapshot of partnership activities in 2022

- To be deeply linked into societal needs, the AXA Research Fund partnered with a variety of institutions:
- With Biodiversity and Ecosystem Services (IPBES): launching a multi-year financial contribution to support early-career researchers examining the interlinkages between biodiversity, water, food, and health.
- With UNESCO's Intergovernmental Oceanographic Commission: funding 8 innovative postdoctoral research studies aiming to strengthen science-based interventions in the area of coastal livelihood preservation and resilience in the context of the Ocean Decade.
- With the Geneva Health Forum (GHF): launching the Grand Jet d'Or de Genève Prize granting CHF 50.000 to a team working on improving health through a "One Health" or "Planetary Health" approach.

D - Society

Connecting science with society through triple helix collaborations

The transformative potential of these projects extends beyond academia. By fostering collaboration and knowledge exchange among academia, industry, and the public sector, the funded research sheds light on the intricate and rapidly evolving challenges and risks that our society faces. Over the past five years, a total of 42 collaborations with companies were formed across different sectors, including technology startups, investment banks, and consulting firms. These collaborations have resulted in 33 publications coauthored with the private sector. The funded researchers have also partnered with 22 organizations or associations in fields like Antarctic research, marine research, and wildlife conservation, and 63 national and international public departments.

I've learned a lot from our AXA contact about the priorities of the insurance industry and methods used in catastrophe loss modelling, and have really enjoyed the collaborative, open, friendly, and flexible nature of this research. We are both striving towards improved risk quantification with open-access data and the methods have been very rewarding and valuable. I really appreciate the opportunities provided by this grant.



Graph 10: Map of where funded institutions are located (in blue)

Dr. Susanna Jenkins, Joint Research Initiative with AXA Group Risk Management Team - 2018 Nanyang Technological University, Singapore

Spotlight story



Prof. Lode Godderis Joint Research Initiative with AXA Belgium - 2021 University of KU Leuven, Belgium

Health at work represents both a research topic and a tangible challenge confronted by the private sector. Common mental health issues, like depression and burnout, are among the most frequent reasons for long-term absence from work due to illness. The AXA Research Fund, AXA Belgium, and KU Leuven joined forces in a Joint Research Initiative (JRI) in 2021 to help sustain return to work after a depression or burnout episode.

Dr. Lode Godderis is a full professor in Occupational Medicine and Toxicology on the faculty of medicine at KU Leuven. "I'm a researcher in occupational health, so by definition I need to work together with industry. This collaboration struck me as a unique entry into the field in the aftermath of the COVID crisis, but the potential it holds is more far-reaching than I expected." Partnering with AXA Belgium, the research outputs aim to fill gaps in existing literature concerning employees' return to work after experiencing common mental health issues, with the anticipated outcome to be presented at the International Conference on Occupational Health (ICOH). Notably, this project also holds promise for engagement with the public sector and policy creation at various levels, as it involves close collaboration with the Minister of Labor and the Minister of Public Health in Belgium. Dr. Lode Godderis attributes the achievements of the research, to some extent, to the independence and guidance provided by AXA Belgium and the AXA Research Fund: "When carrying out the work of the project, I feel like I was working with AXA, rather than for AXA. I truly appreciate the trust and the guidance from the Fund." The synergy between academia and industry has translated into practical applications. AXA Belgium, recognizing the importance of facilitating reintegration, has implemented a reintegration program within its disability cover. This initiative not only enhances existing business operations, but also supports employees returning to work. As part of their prevention strategy, AXA Belgium has incorporated a multidisciplinary training approach in their reintegration services, ensuring a more sustainable transition back to the workplace. The collaborative efforts between academia and industry have yielded fruitful outcomes, enriched the thought leadership of AXA, and reinforced its role as a proactive force in mental health. Marie Hallet, the JRI representative for AXA Belgium, states, "The academic-backed knowledge once again affirms our position not only as a reimbursement provider but as an empowering partner deeply involved in people's everyday lives, addressing the concrete challenges they face. Collaborating with esteemed institutions like KU Leuven exemplifies our shared commitment to creating a positive impact on health and working towards human progress."

Promoting excellent science beyond the scientific community

Through the AXA Research Fund, science is connected with the general public through effective communication channels. Each year, the Fund publishes reports featuring a thematic challenge faced by our society, from biodiversity to societal resilience. In five years, six reports were published, featuring a total of 89 experts.

Unleashing amplified potential through social media

Through the @AXA ResearchFundLive YouTube channel, the Fund shares informative videos that highlight key research findings and showcase the impact of funded projects. Over the period of 2018 to 2022, the channel has garnered more than 1,400 subscribers and accumulated over 5.1 million views. The total watch time on the channel has reached an impressive 50,564 hours.

X (ex. Twitter) is also an essential social media channel in disseminating up-to-date research findings and connecting a diverse range of stakeholders. The AXA Research Fund recognizes the importance of engaging with the Twitter community to amplify the impact of its grantees. During the previous mandate, the Fund's grantees were mentioned in a total of 6,682 tweets, generating 16,228 interactions, including comments, likes, and retweets. This level of activity surrounding the grantees on Twitter indicates significant interest and engagement from users, with an audience reach of approximately 126.4 million people. In addition to the engagement around grantees, the AXA Research Fund's own Twitter account has also experienced growth in its follower base. Over the previous mandate, the number of followers increased by 23%, rising from 8,100 to 9,900 followers.

Paths to accompany expert opinion and scientific analysis

Apart from AXA channels, grantees also leverage other outlets to amplify the communication impact of their research outcomes. During the last mandate, the AXA Research Fund partnered with The Conversation, an independent, non-profit, global media outlet that provides a platform for academics to share their knowledge with a wide audience. With the aim of bringing together academic rigor and journalistic flair to create informative and accessible articles on various topics, funded researchers had a strong presence and engagement in The Conversation.

From 2018 to 2022, a total of 17 funded researchers published 39 articles, collectively reaching an audience of 977,745 readers. These articles cover a diverse range of topics including air pollution, COVID-19, domestic violence, and more, offering expert perspectives and contributing to informed public discourse. Highlighted articles include "An exclusive (and imaginary) interview with the coronavirus" by Franck Courchamp and "Why are we so divided on the issue of hydroxychloroquine?" by Eve Fabre.

Equipping researchers with media training #ShareYourAXAResearch

Getting science out of the lab to make scientific knowledge accessible to a broad audience is an essential step in supporting better decision-making. The AXA Research Fund offers specialized guidance to Postdoc researchers to better communicate their research in social media and nonscientific publications. In total 53 Postdoc researchers have received the training, with the theme spanning from utilizing social media for science communication to honing writing skills to reach a broader audience.

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Dr. Lamonaca's research focuses on how trade and regulations allow regions with different levels of economic growth to adapt to climate change. With its broad scope, bridging environmental issues and economic transition, this research holds transformative potential in policymaking and public communication. Recognizing the pertinence and importance of conveying her research to nonscientific audiences, Dr. Lamonaca embraced the challenge of employing different "languages" to maximize outreach. "I believe the research I am conducting should not be confined within the walls of academia. Climate change affects each and every individual. I am trying to adapt the language according to the audience. As a researcher, I am used to the 'technical language' [and specific media], but to convey the message to a non-academic audience and maximize outreach, it is essential to turn it into accessible narratives. It is almost like learning a new language. Thankfully, the social media training provided by the AXA Research Fund has been incredibly helpful in that regard." Active posts on social media platforms like LinkedIn and Twitter have served as vehicles for disseminating her research findings, engaging with diverse stakeholders, and amplifying the impact of her work.

Building a robust network has been paramount in Dr. Lamonaca's communication endeavors, not only restricted to social media. The impact of communication efforts extends beyond raising awareness: they directly influence policymaking processes and shape discussions on trade patterns and regulations. As a vital part of the global expert networks on The MedECC (Mediterranean Experts on Climate and Environmental Change), Dr. Lamonaca participated in drafting a special report on climate change issues related to economic aspects in the Mediterranean. "When I reached out to the public sector, I discovered that the AXA Research Fund itself serves as an amplifier of impact. When a project is supported by the AXA Research Fund, it conveys a clear message to policymakers and communities of its relevance for society as a whole and the potential it encompasses."

Advancing in parallel the policy architecture and public discourses, Dr. Lamonaca's work stands as a testament to the power of effective communication and outreach in driving positive change, with the funding not only propelling her research endeavors but also amplifying the impact of her work in the policy landscape and public discourse.

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The support I received from AXA catapulted my career. The media training we had at the beginning introduced me to media engagement and social media work, and so I now do a lot of work on social media, raising awareness on nutrition issues tailored towards Africans in the UK and beyond. I have also developed skills in the methodologies I used such as photovoice and community readiness model, which I will then be able to use to support postgraduate students in their projects. I am currently co-supervising a PhD student using these methodologies.



Dr. Hibbah Osei-Kwasi, Postdoc (2019) at University of Sheffield

Spotlight story



Dr. Emilia Lamonaca Postdoc - 2020 Outreach - 2022 University of Foggia, Italy

Spotlight story



Dr. Marina Sanz-

Martín Postdoc - 2022 Spanish Institute of Oceanography, Spanish National Research Council (IEO - CSIC), Spain

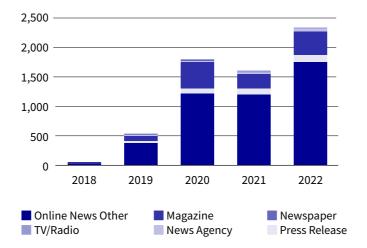
Dr. Marina Sanz-Martín received funding through a joint call launched by the AXA Research Fund and UNESCO's Intergovernmental Oceanographic Commission as part of the Ocean Decade. Her research on climate-smart strategies to develop resilience in artisanal fisheries has been endorsed with the aim of strengthening science-based interventions for coastal livelihood preservation and resilience. This funding not only signifies monetary support but also opportunities for collaboration with established researchers.

Upon the announcement of her funding, Dr. Sanz-Martín received connections from fisheries stakeholder associations in the Mediterranean, which had long been her target for collaboration. They have become a highly relevant and crucial sponsor for the project's success. Engaging in networking programs, which are also an integral aspect of the Ocean Decade, has further expanded Dr. Sanz Martín's research partnerships.

The network and exposure resulting from funding have also had a tangible effect on the research's scope. While Dr. Sanz-Martín's project initially focused on the Western Mediterranean region, the Fund's established network of researchers opens the possibility of implementing initiatives at a global scale. "It is important for research to incorporate both regional and local research knowledge to contribute to global discussions and impact. Only in this way can effective adaptive measures across various geographical and temporal scales be developed. And I would say the valuable contacts received from stakeholders are undoubtedly a result of the funding and the visibility of the funding," Dr. Sanz-Martín observes.

AXA Research Fund grantees in the media landscape

The funded researchers have also remained visible in the general media landscape. Over the course of the last mandate, they have been featured in a total of 6,510 news stories, with 12% mentioning the AXA Research Fund. This coverage has resulted in an impressive 444,560 engagements across various platforms and countries. Furthermore, the potential reach of these news items is an estimated audience of over 20,440,225,000 readers.



Graph 11: Number of items and media type per year

Developing innovations and solutions for a better future

Multiple pathways link research to industry. In addition to direct collaborations, the supported researchers also leverage the fruits of their research to file patents and launch startups. The grant recipients funded over the mandate have reported 7 patent applications or granted patents. Moreover, 14 startups and spin-offs have been created.⁷ Commercialization enables the translation of scientific discoveries into real-world solutions, empowering industries to tackle pressing challenges.

⁷ In comparison, according to the 2020 AUTM (Association of University Technology Managers) Annual Licensing Activity Survey, in the US the annual research expenditures totaling \$83.1 billion led to the establishment of 996 startups and the creation of 8,085 patents. Thus, for an expenditure of \$10M, 2.13 new patent applications are filed, and 0.15 startups are formed.

The AXA Research Fund is an exemplary model for research support. It gives researchers the freedom to fully unleash their potential to carry out the research. In my case, I have been able to conduct highly applicable research in biomedical imaging, which is now used worldwide. I have also conducted upstream research into wave behavior, all of which, I believe, will be the seeds of new future applications. This has been possible, of course, thanks to the financial support of the Fund, but also to the precious philosophy of the Fund, based on steady trust and support.



Prof. Emmanuel Fort, AXA Chair - 2012 Outreach - 2022 École Supérieure de Physique et de Chimie Industrielles de la Ville de Paris (ESPCI), France





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