The AXA Research Fund Awards 10 New Projects within EUR 5 Million Special Funding for COVID-19 Research

- EUR 2.2 million allocated to 10 projects for a science-based response to Covid-19, with a focus on vulnerable populations, mental health and crisis monitoring
- EUR 2.8 million allocated to early Emergency funding for Institut Pasteur, JOGL, JEDI and other major research partners to address crisis-linked health and socio-economic challenges

The AXA Research Fund details 10 selected innovative projects that have received a EUR 2.2 million funding in AXA Award grants. This support completes the allocation of an exceptional EUR 5 million COVID-19 research commitment announced last April and brings the Fund’s total infectious disease and pandemic research funding to EUR 13 million.

These ten innovative projects were selected by the AXA Research Fund Scientific Board out of 513 applications from top-tier universities in 57 countries. The research will examine wastewater testing, blockchain and machine learning to develop new treatments, COVID-19’s impact on vulnerable populations and its effects on mental health. An overview of the scientists and their projects can be found in Annex 1.

In addition to this funding, EUR 1.8 million was deployed as emergency support in early spring 2020 to develop diagnostics, therapy and treatments for the virus through partnerships with the Institut Pasteur COVID-19 Task Force, the OPEN COVID 19 research platform by Just One Giant Lab, the Joint European Disruptive Initiative, the Fondation de Recherche Médicale and Assistance Publique Hopitaux de Paris. A further EUR 1 million is earmarked for a major research project to study the phenomena of contagion in a leading European University and will be unveiled soon. Further details can be found in Annex 2.

"Through the AXA Research Fund, the AXA Group has been able to deploy substantial and accelerated funding to combat Covid-19. These ten new projects are a major part of our effort and will provide valuable responses to current – but also future- crises through a multidisciplinary approach to the manifold effects of CV-19 on society," said Marie Bogataj, Head of AXA Research Fund and Group Foresight.
Annex 1 – Project details

10 AXA AWARDS – COVID RESEARCH PROJECTS

Mari WINKLER
German
University of Washington, USA
Project started: 01/07/2020
Duration: 1 year

Better targeted COVID disease management through wastewaters monitoring

Re-opening the economy and allocating medical resources efficiently requires an unprecedented scaling of our capacity to test, track, and treat COVID-19 infections. To address this challenge, Dr. Mari Winkler, an AXA Research Fund awardee from the University of Washington, U.S.A, intends to monitor wastewater pump stations to detect COVID-19 in communities before individual testing. Pump station monitoring is a valuable tool on multiple fronts in the effort to mitigate COVID-19 spread. It allows us to detect the presence of the virus, track its propagation, and test communities that lack access to individual testing.

#diseasemanagement #detection #tracking #monitoring #vulnerablepopulations #localpolicies

Maria FORASTER
Spanish
Barcelona Institute for Global Health, Spain
Project started: 01/09/2020
Duration: 2 years

The effects of the COVID-19 pandemic on the mental health of mothers and newborns

The situation individuals experience during a pandemic, which may include lockdown, social distancing, and fears surrounding economic insecurity, can have negative effects on mental health that can be particularly harmful for pregnant women, young mothers, and their offspring. Understanding this impact on mental health is crucial for the adequate management of lockdown measures in these vulnerable populations during the current crisis and future epidemics. This is the aim of AXA Research Fund Award recipient Dr Maria Foraster, whose research assesses the effects of the COVID-19 pandemic on the mental health and wellbeing of mothers and newborns.

#mentalhealth #motherhood #newborns #maternalhealth #vulnerablepopulations #healthpolicies
Dr Santiago MAZUELAS  
Spanish  
Basque Center for Applied Mathematics (BCAM), Spain  
Project started: 01/10/2020  
Duration: 3 years

Early Prognosis of COVID-19 Infections via Machine Learning

The 2020 COVID-19 outbreak has revealed infections that result in particularly distinct outcomes: Certain patients remain asymptomatic during the infection, others experience moderate symptoms for a few weeks, while still others suffer acute or even critical complications. This array of outcomes poses a key challenge for COVID-19 containment, since the most effective countermeasures when infections are detected are markedly different for each type of patient. To address this challenge, Dr Santiago Mazuelas, an AXA Research Fund Award at the Basque Center for Applied Mathematics (BCAM) in Spain, will develop machine learning techniques for the early prognosis of COVID-19 infections that predict the future severity of infections using health data obtained at the time the infection is detected.

#infectiousdisease #health #prognosis #infections #technology #machinelearning

Pr Gianluca SERAFINI  
Italian  
University of Genoa, Italy  
Project started: 01/09/2020  
Duration: 1.5 years

Healthy Aging in the Wake of the COVID-19 Pandemic: the Impact of Lockdown on the Health and Social Wellbeing of Elderly and Fragile Populations

To help curb the COVID-19 pandemic, most governments in Europe and across the globe have adopted strict public health and safety policies restricting population movements including so-called ‘lockdown’ measures, ‘stay-at-home’ orders, and other confinement policies. These measures intend to contain infection spread and to protect high risk and vulnerable groups, including the elderly and people with chronic long-term health conditions. Focusing on Italy’s Lombardy region, which was among the first hit in Europe and has so far accounted for more than 50% of all Italian COVID-19 deaths, Pr Gianluca Serafini, an AXA Research Fund supported Researcher at the University of Genoa, aims to quantify the impact of the COVID-19 lockdown measures on the physical and mental health of the elderly and people with chronic diseases, as well as effects on their socioeconomic status.

#economy #mentalhealth #healthcare #pandemic #socialwellbeing #aging #elderly
Dr Joaquim RADUA  
Spanish  
*Institut d'Investigacions Biomèdiques August Pi i Sunyer (IDIBAPS)*, Spain  
Project started: 01/09/2020  
Duration: 2 years

**Coping with the Pandemics: What Works Best to Reduce Anxiety & Depression**

The COVID-19 pandemic and lockdown might increase anxiety and depressive symptoms in individuals. Though health experts recommend several behaviors to cope with such symptoms such as limiting exposure to news about the pandemic too often, scientific evidence of their efficacy is still lacking. To bridge that gap, Dr. Joaquim Radua, an AXA grantee at the Spanish *Institut d’Investigacions Biomèdiques August Pi i Sunyer (IDIBAPS)*, focuses on the associations between coping behaviors and subsequent anxiety and depressive symptoms. His findings will help produce recommendations designed to improve emotional wellbeing during exceptional situations such as the global 2020 public health crisis.

#pandemic #mentalhealth #depression #virus #anxiety #behavior #wellbeing #healthpolicies

Dr Gilles STUPFLER  
French  
*Ecole Nationale de la Statistique et de l’Analyse de l’Information (ENSAI),* France  
Project started: 01/09/2020  
Duration: 2 years

**An extreme value model for the analysis of the current COVID-19 pandemic and its impact, with a view on mitigating future related crises**

Inference and risk prediction are of critical importance – to policymakers, financial and insurance companies, and society as a whole. They are especially important in environments that experience strongly disruptive and typically unprecedented events, such as the current twin shocks of the COVID-19 pandemic and the oil price crash, but also for climate change and related extreme climate episodes. There are few statistical techniques available for analysing extreme events in such a non-stationary, time-dependent world, and they typically have limited applicability. Dr. Gilles Stupfler, AXA Research Fund Award recipient at ENSAI, seeks to push the boundaries of current knowledge by addressing this particular problem. His research project aims to improve data collection and quality in the health field by developing theoretical and applied tools that will allow us to understand and learn from the current COVID-19 pandemic and its impact. With this combination of novel risk measurement techniques and high-dimensional data methods, this research program will provide a diverse toolbox for the assessment and mitigation of extreme risk due to rare events, including a pandemic or a disruptive climate event.

#pandemic #riskmodeling #data #crisis #health #virus #extremeeventsprediction
Adapting Pandemic Management to Vulnerable Populations

Pandemics do not affect all populations equally. Vulnerable populations, such as those in informal settlements or working in the informal economy, are particularly exposed to the adverse economic, social, and sanitary effects of pandemics. Dr. Mohammed Amidu, an AXA Research Fund Award recipient at the University of Ghana, will investigate the impact of global pandemics on vulnerable populations in Ghana and elsewhere and attempt to identify the most effective means of improving their social and economic wellbeing during and after pandemics. The project aims to make a significant contribution to the global pandemic preparedness and mitigation strategies designed to protect highly vulnerable populations in developing countries from the extreme adverse effects of global pandemics such as Covid-19.

#vulnerablepopulation #informalsettlements #socialpolicies #pandemic #crisismanagement

Delivering Social Protection to Informal Workers: Lessons learned from COVID-19

Over 80% of India’s workers participate in the informal economy, which means they are subject to income precarity, operate under non-standard employment contracts, and enjoy limited labor rights. The COVID-19 pandemic and the lockdown across India have shattered these livelihoods. The Indian government has responded by developing a broad range of large-scale relief in the form of food, housing, wages, and repatriation. But the very nature of the work done by informal workers makes efficient delivery of these entitlements difficult.

Dr. Gautam Bhan, recipient of an AXA Research Fund Award at the Indian Institute for Human Settlements, seeks to assess, model, and document state and non-state Covid-19 related relief initiatives in four areas – housing, food security, income and wage transfers, and health systems, for all informal workers across urban India. Dr. Bhan aims to inform how current relief measures for informal workers can be scaled and continued into cycles of recovery, as well as assess how they can become part of an expanded social safety net post-crisis that will protect workers when the next inevitable crisis occurs, whether it is epidemiological, economic, or natural.

#publicpolicy #informaleconomy #vulnerablepopulation #diseasemanagement
Press Release

Dr Andreea MINCA
American Cornely University, USA
Project started: 01/08/2020
Duration: 2 years

Using New Technologies to Fill the Supply Chain Insurance-Reinsurance Gap Post Covid

The collapse of global supply chains following the health emergency posed by Covid-19 and the government-imposed lockdowns have exposed their fragility. Against the backdrop of global interconnection, technological tools are needed to assist public-private partnerships and insurers-reinsurers in developing a coordinated response. It is of critical importance that we develop an adequate understanding of the sensitivity to linkages in the global supply chain network and the dangerous structures that can emerge. To mitigate the impact on vulnerable populations during the next catastrophe, the network of global supply chains should not be shrunk; it must be made more robust. Dr. Andreea Minca, recipient of an AXA Research Fund Award at Cornell University, proposes using new technologies to understand how insurance and insurance-reinsurance markets can promote robustness in global supply chains. The project rests on the development of machine-learning tools to measure systemic risks and the design of reliable data systems. It builds on blockchain technology to provide freight shipment location information that is transparent and verifiable by multiple jurisdictions.

#technology #insurance #supplychain #health #covid19 #crisismanagement #businesscontinuity

Dr Jon QUACH
Australian The University of Melbourne, Australia
Project started: 01/10/2020
Duration: 2 years

Improving the Mental Health of Young Children After COVID-19

Research has shown that the first three years of primary school are key for establishing a firm foundation for long-term student academic, social, and well-being outcomes. Schools around the world shut down during COVID-19 in 2020, and this is likely to have led to poorer child mental well-being due to family stress and anxiety about the situation. Dr Jon Quach, an AXA Research Fund Award recipient from the University of Melbourne, focuses his research on the modifiable determinants of child developmental and mental health inequities. He investigates whether mindfulness interventions at school can lead to improved long-term outcomes for students.

#childhood #mentalhealth #pandemic #school #development #school #childhealth
Annex 2 – Partnership details

The AXA Research Fund has committed EUR 250 million to the support of scientific research around the world since its launch in 2008, with 13 million specifically dedicated to infectious disease and pandemic research.

In 2020, EUR 5.2 million has been committed specifically to combat Covid-19 and its effects, and breaks down as follows:

A) EUR 2 million provided as flexible emergency funding to early-stage response initiatives launched at the onset of the health crisis, including:

1. Foundational contributor to the Institut Pasteur COVID Task Force, an interdisciplinary group of researchers working on test development, treatment and vaccines. By October 2020, 400 Pasteur researchers have been involved in 89 research projects, with 50 publications have completed.

2. Early funder of OpenCovid19, an open research initiative by open source platform Just One Giant Lab. The aim is to design "open source" effective, rapid and low-cost solutions for the prevention, diagnosis and treatment of COVID19, and to address the urgent need for PPE.

3. Corporate funder of the Billion Molecule Challenge by the Joint European Disruptive Initiative to use machine learning for the rapid testing of a massive number of compounds against Covid-19.

4. Support for Fondation pour la Recherche Médicale in its multi-foundation effort with the French Agence Nationale de Recherche to fund multiple cross disciplinary projects from the decryption of immune responses to virus mutation and the infection processes, as well as patient categorization.

5. Early funder of a COVID-19 focused BioBank, sampled from medical workers in contact with high viral loads, to understand and analyze the modes of transmission of the Covid-19 and the causes of resistance or severe symptoms by the Assistance Publique-Hopitaux de Paris.

6. Funding of the French Red Cross Foundation (Fondation Croix-Rouge française) research project investigating the effect of Covid-19 on vulnerable populations, and solutions help them.

B) EUR 3.2 million awarded to innovative research projects on the effects of the crisis and potential mitigation strategies:

1. An exceptional call for research projects resulting in 10 awards for studies to combat COVID-19 and its effects. Details are in Annex 1.
2. Funding commitment for a major research project to study the phenomena of contagion in a health and biological context at a Financial Times top-tier university.
ABOUT THE AXA RESEARCH FUND

The AXA Research Fund was launched in 2008 to address the most important issues facing our planet. Its philanthropic mission is to support scientific research in key areas related to risk and to help inform science-based decision-making in both the public and private sectors.

Since its launch, the AXA research Fund has committed a total of €250M to scientific philanthropy and supported 650 research projects in the areas of Health, Climate & Environment, and Socioeconomics. This makes the AXA Research Fund a unique initiative in the financial sector in terms of mission and level of support to scientific research.

FOR FURTHER INFORMATION:

Read more about the AXA Research fund research projects:
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