



SCIENCE BY WOMEN

VISITING SENIOR RESEARCH FELLOWSHIPS

6th Edition

Rules and Guidelines

1. Overview

In its 6th edition the call of Science by Women, considering the exceptional challenge of the Covid-19 pandemic, will be mainly focused, when possible, on the research and innovation carried out by african women scientists from the diverse and interdisciplinary approaches represented by the associated centers below.

The Science by Women programme will fund a total of 19 six-month visiting senior research fellowships for 19 experienced African women researchers in any of the following international research centres of excellence based in Spain.

Institute of Photonic Sciences (ICFO, www.icfo.eu) is specialised in the science and technology of harnessing light as a pervasive and universal tool that benefits health, energy, information as well as safety, security and environment

Vall d'Hebron Institut de Recerca (VHIR, <http://en.vhir.org>) is a public-sector institution that promotes and develops the research, innovation and biosanitary teaching of the Vall d'Hebron University Hospital inside Vall d'Hebron Barcelona Hospital Campus. Through the excellence of their research, they identify and apply new solutions to the health problems of society contributing to spread them around the world.

Centre for Genomics Regulation (CRG, <http://crg.eu>). The CRG is an international biomedical research institute of excellence whose mission is to discover and advance knowledge for the benefit of society, public health and economic prosperity. The CRG believes that the medicine of the future depends on the groundbreaking science of today. This requires an interdisciplinary scientific team focused on understanding the complexity of life from the genome to the cell to a whole organism and its interaction with the environment, offering an integrated view of genetic diseases. The CRG is integrated with the CNAG, the National Centre for Genomic Analysis, whose mission is to carry out projects in genome analysis that will lead to significant improvements in people's health and quality of life.

Barcelona Graduate School of Economics (Barcelona GSE, <http://www.barcelonagse.eu/>) is an institution for scientific cooperation in research and graduate education in economics and social sciences, and draws on the strengths and noteworthy reputations of its four academic units.

Institute for Neuroscience (IN, <http://in.umh.es/>). The mission of the IN is to investigate the development, structure and function of the nervous system in normal and pathological conditions. The general objective is to improve the understanding of the healthy brain, in order to shed light on dysfunctions leading to disease. This goal is recognized as the main challenge faced by modern biology.

Kronikune (www.kronikune.org/en/) is an Institute for Health Services Research that promotes and carries out management and organization research on health and socio-health services. Its scientific research programme is aligned with the policies of the Basque Department of Health, that pursue the continuous adaptation and transformation of the health system by keeping people at the center of the system and addressing the challenges derived from aging, chronicity and dependency

Biocruces Bizkaia (BC) (<https://www.biocrucesbizkaia.org>) is a Health Research Institute of Bizkaia Region. BBHRI was established in 2008 and it aims to promote, unite and support the research groups to develop a quality translational research and enhance the effective innovation and collaboration with other organizations; all this in order to provide new tools, practices, and knowledge to contribute to the improvement of health care, population health, wealth creation, and economic development. Five important organisations in the Basque Country (Health Department of the Basque Government, Public Health Provider Organization (OSA), Basque Public University and Basque Foundation for Health Innovation and Research (BIOEF) and Foundation BBK.

The legal agreement between BBHRI and the Basque Health System in fact provides the framework for the cooperation between the two institutions, with the goal of translating research results into medical practice. There are close to 900 professionals with complementary basic and clinical profiles divided into more than 60 research groups. BBHRI is taking part in close

to 150 clinical trials and offers a long-running close relationship with the University of the Basque Country and other hospitals of the Basque Country.

Deusto Institute of Technology (DeustoTech) (<http://deustotech.deusto.es/>) is the Research Institute of Technology at the University of Deusto. It conducts research mainly in the field of Information and Communication Technologies (ICTs), with a special focus on areas of knowledge such as Artificial Intelligence, Internet of Things, Cybersecurity, Cyberphysical Systems, Positioning Systems, Co-Creation and Circular Economy applied to different sectors such as Industry, Mobility, Energy & Environment and Societal Challenges.

Spanish National Cancer Research Centre (CNIO) (www.cnio.es) is an international cancer research centre of excellence with the mission of fostering translation of scientific breakthroughs into novel and more effective ways to prevent, diagnose and treat cancer.

Institute of Health Carlos III (ISCIII) (www.isciii.es) is a public research institution that promotes, funds, manages and develops excellence biomedical research in Spain. As National Public Health Institute, it is focused on providing support to the Spanish National Health System, through the management and development of scientific knowledge in health sciences, on the promotion and development of an excellent and highly competitive research, as well as on training programs in public health and health management.

Donostia International Physics Center (dipc.ehu.es) is a research center located in Donostia – San Sebastián (Spain). The mission of DIPC is to perform and catalyze cutting-edge research in physics and related disciplines, as well as to convey scientific culture to society. DIPC was conceived and planned based on the idea that an advanced society needs advanced scientific research.

Material Physics Center - (MPC-CFM, <http://cfm.ehu.es/>) is a centre created to foster international excellence in advanced materials nanoscience fundamental research. MPC-CFM research activity covers electronic, magnetic, optical and dielectric properties of condensed and soft matter systems, as well as surfaces and nanostructured architectures. Physical and chemical properties of materials and molecular assemblies are addressed by analysing their properties at the nanoscale. This is carried out by following a two-fold strategy, which consists of theoretical and experimental research methods that target the study of nanoscale properties of matter.

Institute of Mathematical Sciences (ICMAT) (www.icmat.es) is a joint research center of the [Consejo Superior de Investigaciones Científicas - CSIC](#) (Spanish National Research Council) and three Madrid universities: the [Universidad Autónoma de Madrid \(UAM\)](#), the [Universidad Carlos III de Madrid \(UC3M\)](#), and the [Universidad Complutense de Madrid \(UCM\)](#). The ICMAT is located on the UAM Campus in Madrid, its facilities are exceptional in the field of mathematical research. Its goal is to generate knowledge in all the areas of mathematics, particularly in

Algebraic Geometry, Mathematical Physics, Differential Geometry, Geometric Mechanics, Mathematical Analysis, Differential Equations and Applications, Number Theory, Group theory, Statistics, Probability, Operations Research and Mathematics of Quantum Information.

Biomedical and Health Research Institute (<https://www.uiibs.ulpgc.es/>) at the **University of Las Palmas de Gran Canaria** (<https://www.ulpgc.es/>) concentrates the University research in the fields of biomedicine, biotechnology, biomedical technology, hospital systems and public health, with the participation of university and hospital research groups and a wide array of external collaborators. Among its many areas of activity, the Institute hosts the **Medical Technology for Sustainable Development** effort (<http://medtec4susdev.org/>), a multidisciplinary program with collaborators across the World to bring affordable advanced medical technology to all.

The **Instituto de Astrofísica de Canarias (IAC)** (<https://www.iac.es/en/>) is a science and technology center dedicated to research in astronomy and astrophysics. It is a public consortium made up of the Central Administration (Ministry of Science, Innovation and Universities), the Canary Islands Autonomous Community, the University of La Laguna and the Higher Council for Scientific Research. The IAC's mission is to perform excellent research and technological developments in astrophysics, securing the appropriate training of graduate students, young researchers and engineers, promoting outreach and technology transfer in many different areas and fostering a fruitful and stable environment of international collaboration. IAC aims to achieve major advances in the understanding of the laws that govern the origin and evolution of the various forms of matter/energy in the Universe. The center aims to use a large variety of cutting edge ground/space facilities and attract new very talented young/senior researchers to develop advances and breakthroughs in physical modelling, computer simulations and technology. The IAC hosts and operates two astrophysical observatories on Tenerife and La Palma islands, where more than 40 telescopes and telescopic installations are run by institutions from a large number of countries, including the world largest optical and infrared telescope currently in operation

PLOCAN (Oceanic Platform of the Canary Islands) is a Unique Scientific-Technical Infrastructure (ICTS) whose mission is to promote the development of knowledge and technologies for the responsible and sustainable use of the ocean. PLOCAN offers offshore and on land infrastructures to test new technologies, materials, concepts or methodologies, providing services to users in the public and private sectors. It comprises a fixed offshore platform with a net area of 2,500 m² located near the coast at a depth of 30 m; a testsite with an area of 23 Km² that offers progressive depths from the coast to 600 meters, and constitutes an optimal ecosystem in terms of data, operational models, logistics, compatible infrastructures and connection to the electricity grid; an electrical and communications infrastructure for evacuation of the energy produced during the experimental tests; a base of autonomous

underwater vehicles; an observatory aimed at monitoring global change processes, ocean health, exploration and environmental monitoring of the marine environment and biodiversity; and an onshore headquarters with workshops and laboratories.

The Basque Center for Applied Mathematics - BCAM (www.bcamath.org) is an international research center in the field of Applied Mathematics that was founded in 2008 by the Basque Government, the UVP/EHU and Ikerbasque. It is also supported by the Provincial Council of Bizkaia and Innobasque. One of its main objectives is to put mathematics at the service of society through the transfer of knowledge, making the results of its research available to sectors such as biosciences, health, energy or advanced manufacturing, and working together with local and international institutions and companies.

Basque Center for Macromolecular Design and Engineering POLYMAT Fundazioa (www.polymat.eu) is a research center of international excellence located in Donostia-San Sebastián linked to the University of the Basque Country UPV/EHU. It is a multidisciplinary research center which includes a wide variety of research teams working in the fields of polymer synthesis, polymerization reaction engineering, membranes, polymers for electronics, energy storage, biomedical applications, rheology and polymer processing. The main objective is to contribute to societal challenges of the 21st century such as energy, sustainability and health. Specifically, it works on the development of polymers to respond to these challenges.

Each centre will host 1 researcher.

The preferred areas of research include:

1. Health and Bio-medicine
2. Energy, Water and Climate Change
3. Sustainable Agriculture and Food Safety

Mathematics, information and communication technologies, as well as physics, astrophysics and materials physics and all STEM disciplines are instrumental to research in the above areas.

2. Eligibility requirements

- Being a woman
- Nationality of an African country.
- PhD with at least 3 years of post-doctoral professional experience
- Contractual relationship with a university or a public or private non-profit organization based in Africa dedicated to significant scientific research in the areas indicated
- Excellent academic record and proven track of relevant research experience
- Solid working knowledge of English

- Proven experience leading a research group

Only for this 6th edition and in consideration of the exceptional circumstances due to Covid-19, African nationals with temporary residence in Europe can be eligible.

Beneficiaries of previous editions are not eligible.

Candidates must have already identified the principal Investigador in the prospective host centre to confirm that the research proposal can be carried out in collaboration with those research groups and their laboratories.

3. General Conditions

In general, the duration of the research stays will be six continuous months. Nevertheless, depending on personal and professional needs, and with approval of the host research center, the planned research may be split in two stays within two years after the fellowship has been awarded.

Successful candidates will have access to the following benefits:

- Return flight from their centre of origin to the host institution
- Living allowance of 2.400 Euros gross per month to cover accommodation, personal expense and health and occupational accident insurance coverage.

Beneficiaries must devote themselves entirely to research at the assigned research centre and may not be beneficiaries of any other fellowship, grant, stipend or regular income during their research stay.

Beneficiaries might be asked to formalise their relationship with the research centre in writing. In compliance with the local laws, the Woman for Africa Foundation or the research centre (as the case may be) will, if so required in each particular circumstance by the tax and/or social security regime, retain or withhold the compulsory amounts from the living allowances.

Women for Africa Foundation, in collaboration with the research centre, will help beneficiaries with the compulsory formalities in order to obtain the visa with Spanish Embassies and Consulates.

The Women for Africa Foundation strongly discourages final beneficiaries to take along their families, since we cannot assure any financial, logistic or administrative support for families.

4. Deadline for applications

Deadline for applications is September 30, 2020.

Only applications submitted in English via the Science by Women microsite at www.mujiresporafrica.es will be accepted. They must include the following documents:

- Letter of Interest (max. 1 page)
- Full curriculum vitae (Europass format is recommended)
- Fully filled form

- Passport or NID
- PhD Diploma
- Research proposal (Brief and clear description of the project to be developed in the Spanish host centre (max. 2 pages))

5. Selection process

Applications will be subjected to a highly competitive selection process by the Women for Africa Foundation's Scientific Committee. The jury will evaluate the following criteria:

- The candidate's research career, curriculum vitae and experience as independent research group leader.
- The project's scientific -technical quality and innovative potential.
- The expected and measurable economic or social impact of the research project.
- The candidate's plan to communicate and disseminate the project's results.
- The proper consideration of ethical issues where appropriate.

Successful applicants will present innovative research projects that respond to the needs of African populations and that are likely to be transferred into products or patents for commercial exploitation, or services and public policies which have a social impact in terms of people's welfare and quality of life, as well as an economic impact in terms of companies' productivity and competitiveness.

6. Research proposals

Research proposals shall cover the following lines:

Institute of Photonic Sciences (ICFO)

- Light for Health: medical optical devices, photonics for clean food and clean water, in particular, portable photonic technologies for quantitative fast diagnosis of COVID and non-invasive management of COVID patients.
- Light for Energy: optical sensors, photovoltaic energies, new materials, graphene
- Light for Information: optical telecommunications, quantum information, optical sensors Laser Technologies: new lasers
- Light-based technologies for industrial processes

Vall d'Hebron Institut de Recerca

- **HIV Translational Laboratory**

The HIV Translational Laboratory is focused on the characterization of the latent HIV reservoir and the development of new therapeutic strategies directed to deplete this latent reservoir with the ultimate goal of curing HIV. The lab is located within the Infectious Disease unit of the Vall

d'Hebrón Hospital, and has access to clinical samples of more than 2100 HIV-infected patients. The priority research lines are: i) Understanding the viral mechanisms involved in the long-term maintenance of viral latency, ii) Assessing the impact of new drugs to purge the latent reservoir, iii) Exploring new synergistic approaches to deplete the latent reservoir with bi-specific nanoparticles, and iv) Targeting specific sites of viral replication. Moreover, we are working with samples from SARS-CoV-2 infected patients in two different lines of research: i) identification of repurposing drugs using lung tissue models, and ii) predicting long-term immunity.

- **Liver Disease/Viral Hepatitis Laboratory /Liver Pathology Unit/Biochemistry and Microbiology Department**

The Liver Disease Viral hepatitis group has a large experience in Deep-sequencing using Next-generation sequencing (NGS) platforms, specifically Illumina equipment that has recently succeed in sequencing the whole genome of SARS-CoV-2, the virus causing COVID-19. The group is involved in several projects, one of them focussing on the deep sequencing study of the gen that codifies the Spike protein, and on molecular epidemiology studies.

Key objectives:

- To train the guest in the basics for RNA and DNA extraction, RT-PCR amplification, and deep-sequencing in NGS Illumina platforms.
- To train the guest in the analysis of deep-sequencing data.
- To perform molecular epidemiological and phylogenetic studies.
- To perform studies on the variability of the SARS-CoV-2 in clinical samples

- **Gynecology**

The gynecology research group is focused on the molecular and translational research of several gynecological cancers (including and mainly those of the endometrium and ovary) and gynecological-related diseases such as endometriosis. Thanks to the close collaboration between clinicians and basic and translational researchers, their projects are focused on unresolved clinical needs. They identify and characterize new molecules, which might play relevant roles in the neoplastic cell transformation, and/or growth, progression, dissemination of those tumors and resistance to current therapies. They also work in the development of new clinical relevant tools, such as the development of new devices to improve the clinical management of the patient, and the generation of patient-derived xenografts (PDX) mouse models that are used in preclinical validation. Its aim is to identify new and valuable molecules and biomarkers to improve diagnosis, prognosis and therapy.

Institute of Health Carlos III (ISCIII)

Research proposals shall be focused on sars-cov-2 and COVID19 pandemic:

<u>Knowledge Area</u>	<u>Centre involved</u>	<u>Overall contents</u>	<u>Investigator in charge and collaborators*</u>	<u>e-mail for contact</u>
A better knowledge of the diseases prevention, diagnosis and treatment	National Microbiology Center	Immune Response to sars-covi-2 and pathogenesis of immunological-based diseases. Transmission of COVID-19. Evaluation of vaccines and methodology for vaccines development. Microbiological diagnosis. Serological antibody detection techniques and validation of new PCR kits for diagnosis. Others...tbd	IP: Pepe Alcamí	ppalcami@isciii.es
Epidemiological surveillance and COVID19 risk factors and health determinants research	National Epidemiology Center	Epidemiological surveillance and research of risk factors and health determinant for COVID19. Sero epidemiology of sars-cov-2 and social determinants. Equity Others issues tbd	IP: Marina Pollan.	mpollan@isciii.es
COVID19 as a Global Health and a intersectorial issue	National School of Public Health	Good practices for COVID research. Methodological challenges. Climate change affecting disease behaviour and comorbidity. International cooperation for better research. COVID Governance. Research dissemination and communication. Social perception of the disease. Others issues tbd	IP: Israel Cruz Mata	cruzi@isciii.es

Centre for Genomic Regulation (CRG)

The CRG covers a wider range of topics. They can offer the successful candidates training and learning of specific skills in one or more the disciplines and research lines outlined below.

- **Bioinformatics and Genomics:** Groups at Bioinformatics & Genomics programme cover a wide range of topics: from computational biology of RNA processing, comparative bioinformatics and comparative genomics to gene function and evolution and genomic and epigenomic variation in disease. The programme also hosts the EGA team at the CRG, which together with EMBL-EBI, manages the European Genome-Phenome Archive (EGA).

- **Cell and Developmental Biology**: The Cell and Developmental Biology programme focuses on the interactions between intercellular signalling systems and the cytoskeleton and how this contributes to the spatial organization and information processing ability of cells and groups of cells. It has an emphasis on systems with strong genetics (*Drosophila* and zebra fish) and uses multidimensional phenotypes grounded in genomics and proteomics.
- **Gene Regulation Stem Cells and Cancer**: The interests of the programme span from mechanisms of gene expression and epigenetic regulation to the molecular basis of cellular decisions involved in tissue homeostasis and cancer. Mechanistic and biological studies of gene regulation span the whole pathway of gene expression, from chromatin organization in the cell nucleus to mRNA translation in the cytoplasm. Transcriptional regulation groups study the chromatin structure and regulation mediated by steroid hormones, effects of dosage imbalance of chromosome 21, epigenetic mechanisms in leukemia and stem cells, single cell epigenomics in lymphomas and epigenetic regulation of cancer metabolism. RNA biology groups study the identification and control of RNA modifications, the regulation of alternative splicing and the regulation of cytoplasmic polyadenylation and mRNA translation.
 Cell reprogramming studies include differentiation and transdifferentiation in the hematopoietic system, and somatic cell reprogramming and tissue regeneration by cell fusion and epigenetic reprogramming in embryogenesis and the germline.
- **Systems Biology**: The research groups in the Systems Biology program cover a wide range of topics: from dynamic gene regulatory networks to systems neuroscience, and employ a wide range of model systems to address these issues, including prokaryotes, cell lines, *C. elegans*, *Drosophila* and mice. Underlying this diversity, however, are the common goals of combining systematic and quantitative data collection, using computational models, going beyond molecular descriptions and arriving at a deeper dynamic understanding of complex biological processes.
- **CNAG**: CNAG-CRG is one of the major genome analysis centres in Europe, covering next-generation sequencing and data analysis. Activities cover whole-genome, targeted, transcriptome, epigenome and single cell sequencing applied to human and non-human species. Projects are supported from study design, through the laboratory, sequencing and data analytical procedures to the interpretation of results. CNAG-CRG has participated to multiple international initiatives such as the International Cancer Genome Consortium (ICGC), the International Human Epigenome Consortium (IHEC) and the International Rare Disease Research Consortium (IRDiRC). CNAG-CRG has a dedicated Single Cell Team which is involved in the Human Cell Atlas (HCA), a Population Genomics Group and a *de novo* Assembly and Annotation Team. CNAG has developed the RD-Connect platform for rare disease research (platform.rd-connect.eu) and actively participates in the MatchMaker Exchange (GA4GH) and Beacon initiatives (GA4GH) and recently started work on the Solve-RD project.

- **Core Facilities:** The programme of Core Facilities offer services and training in advanced technologies such as light microscopy (including super-resolution microscopy), proteomics, genomics, tissue engineering, FACS, biomolecular screening and protein technologies.
- **COVID19 Projects:** Several CRG groups and facilities have started focusing on projects to navigate the uncharted territories posed by the recent coronavirus pandemic. CRG researchers are collaborating with several partners partners, both locally in Barcelona and further afield, to understand the virus and explore novel treatments. They also contributed by donating supplies, equipment and other items to local hospitals, and by coordinating a diagnostic platform at research institutes (the [ORFEU programme](#)).

Barcelona Graduate School of Economics (Barcelona GSE)

- Macroeconomic & Microeconomic Challenges for Development
- Economics and politics of conflict
- Private and social returns to education and education policies
- Financial markets and regulation.
- Firm structure, innovation and growth
- International trade and globalization
- Fiscal policy, tax structure and infrastructure investment.
- Economic impact of health and health policies
- Migration flows and migration policies

Institute for Neuroscience (IN)

- **General principles underlying the connectivity** of specific classes of neurons within defined neural circuits, how these rules emerge during development, and pathological consequences of deviating from the normal developmental programmes.
- **Neural activity influence on brain wiring**, connectivity alteration by manipulation of neuronal activity, and alter compensation of sensory loss by activity modulation in the spared circuits.
- **Brain maturation and behaviour** shaping by early stress, intestinal flora and hormones in puberty. Alteration of the neuronal epigenome as a result of these experiences.
- **Activity-driven gene expression and chromatin modification** influence on brain function, and dynamic modulation of cortical interneurons properties by network activity.
- **Synaptic gain of information transfer** imposed by the strategic distribution of presynaptic and postsynaptic receptors, and the importance of genes related to synaptic function in brain disease.
- Propagation of the activity of specific populations of cells in **long-range neuronal circuits**, cellular mechanisms underlying information streams in the brain, and effects of these processes in animal models of psychiatric disorders.
- Formation of **primary brain tumors and metastases**. The potential of cell plasticity in normal development and pathological programmes of adult tissues.

Kronikgune Research Center

Kronikgune's area of expertise comprises the development and implementation ICT enabled solutions for integrated care and evaluation of health services.

Integrated healthcare systems

- Healthcare organisational models and pathways innovation
- Healthcare implementation and scaling up strategies and methodologies
- Patient empowerment strategies and interventions

e-Health systems

- ICT systems and services requirements for integrated care.
- Design, deployment and evaluation of ICT enabled personalized care plans.
- Risk stratification models, to predict patients' and population needs and resource's allocation.
- Innovative ways of using ICTs and digital technologies to enhance knowledge management and knowledge transfer among stakeholders to accelerate efforts towards achieving targets and indicators for SDG3 (on ensuring healthy lives and promoting well being for all at all ages).

Healthcare evaluation

- Healthcare Process and Outcome evaluation
- Patient Reported Outcomes"-PROMs
- Healthcare maturity assessment
- Budget impact analysis

BioCruces Bizkaia Health Research Institute

Biocruces HRI is constituted by different research groups integrated in 7 research scientific areas. Each research group and area are supervised by a coordinator, being Dr Castaño, the Scientific Director of Biocruces, the scientific areas are the following:

- **Covid 19** : Research on the molecular/genetic aspects, both of the virus itself and of genetic polymorphisms associated with clinical evolution. The approach is epidemiological, but also diagnostic and therapeutic.
- **Primary Health Care, Prevention and Chronic Diseases:** Primary healthcare provides a unique opportunity for clinical research at the population level focused on the promotion of health and primary, secondary and tertiary prevention of the chronic

illnesses that are most common and which have the most effect on health, including cancer, cardiovascular diseases and mental disorders. The research groups in this area design and evaluate innovative interventions to address the main determinants of health, including lifestyle and other risk factors associated with these illnesses. Primary care researchers focus on how to improve the quality of life of patients, their adaptive capacity and their self-care ability.

- **Cancer:** All aspects of all types of solid malignant tumours and blood cancers, from epidemiological characteristics to biological and clinical features are included. The aim of the different research units is to carry out research on cancer at the basic, applied and clinical levels. Given the nature of our institution as a healthcare provider, most of the activity is to be focused on translational research, promoting a rich and productive interaction between basic biomedical sciences and applied oncology, in order that results directly benefit patients and society as a whole.
- **Endocrinology, Metabolism, Nutrition and Renal Diseases:** Different research groups work together on the characterisation of the etiopathogenesis and the epidemiology of these conditions and the identification of new diagnostic and therapeutic strategies, seeking to translate scientific progress to patients. Diabetes, obesity, and coeliac disease are key areas in endocrinology and nutrition, and we focus on the genetic and environmental causes and on disease control, as well as new therapeutic approaches including prevention, new drugs and technologies, and cell therapy.
- **Autoimmune, Inflammatory and Infectious Diseases:** we focus on tend to have an inflammatory basis and an environmental, infectious, metabolic, or autoimmune cause, and be chronic in nature. Translation of our results to clinical practice should be immediate, the main objective being to improve the prognosis and quality of life of our patients. Further, clinical research in this area should contribute to ameliorating the growing social and economic impact of these medical conditions
- **Nervous Systems Diseases:** Neurodegenerative diseases, epilepsy, demyelinating diseases (multiple sclerosis), stroke, and other neurological diseases account for a significant percentage of mortality and disability, with severe social consequences. Research groups will pursue in-depth work along established research lines such as the study of the causes of diseases, their genetic nature, clinical and behavioral profiles of patients, and the epidemiology of diseases. Research on clinical and pathological correlates by means of neuroimaging techniques that enable the assessment of brain functioning in normal and diseased states, as well as more detailed analysis of biological markers.
- **Maternal Child Healthcare and Assisted Reproduction:** The objective is to innovate and provide answers to the fertility problems, to improve the health of pregnant women and to increase the safety of the mother and child at birth. We focus our efforts on caring for foetal health, the analysis of congenital, and improving the diagnosis of certain genetic disorders, especially in relation to intellectual disability and diseases linked to

the X chromosome. We aim to improve our understanding of paediatric cancer, especially brain tumours and genetic predisposition to cancer, and some rare diseases to develop better diagnostic methods and new treatments. Health problems of children and adolescents, in particular conditions related to prematurity and those associated with severe conditions or requiring urgent intervention.

Deusto Institute of Technology (DeustoTech)

Energy & Environment:

This application area aims to design ITC-based solutions that will allow to move towards more sustainable and efficient environments and cities, working collaborately with companies and public administrations. Our scientific-technological capabilities include: environment, smart grids for the supply and management of urban services, and advanced maintenance and operation systems.

Mobility:

This application area focuses on ITC research applied to transport, mobility of people and logistics. Our transfer activity related to the development ITS Intelligent Transport Systems and Smart Mobility Platforms, contributes to making the mobility of individuals and objects more sustainable, smarter and more comfortable. Our scientific-technological capabilities include: soft computing applied to ITS, smart mobility and seamless positioning systems

Industry:

This application area is focused on transformation into a digital, smart and safe industry. We question the state of the art in order to meet the challenges faced by industry in its transformation towards a more sustainable and competitive model. Our scientific-technological capabilities include: data analytics and cyberphysical systems.

CCM:

The Chair of Computational Mathematics of DeustoTech aims to develop an active research, training and outreach agenda in Applied Mathematics. It is committed with the development of ground-breaking research in the areas of Partial Differential Equations, Control Theory, Numerical Analysis and Scientific Computing; key tools for technological transfer and for the interaction of mathematics with other scientific disciplines such as biology, engineering, social, earth and climate sciences.

Societal Challenges:

This application area aims at using basic and applied research to make ITCs available to society and citizens, and contribute to building a better world. Our scientific/technological capabilities are: heterogeneous data management, intelligent environment enablement and user-driven computing. This year the COVID19 boosts us to look for solutions focused on fostering older adults to live safely and independently at home for longer.

Spanish National Cancer Research Centre (CNIO)

- Basic Research – As the main activity of the CNIO, basic research is carried out in two Research Programmes: Molecular Oncology and Structural Biology. At least three groups of the Molecular Oncology Programme are also involved developing projects related with SARS-COV-2, such as 1) SARS-COV-2 diagnostic test by phi 29 polymerase amplification, aimed to develop novel detection kit (COVI-PHI) for the diagnosis of SARS-CoV-2 infection. 2) Study of the potential role of short telomeres in the pulmonary fibrosis associated to COVID-19 infection 3) Systematic evaluation of ACE2 modulation by drugs approved for medical use.

Research proposals in basic research should be focused on generating knowledge and discoveries that can advance the fields of molecular oncology, structural biology and biocomputing.

- Patient-oriented Translational Research – the Clinical Research Programme of the CNIO aims to bring together the bench and the bedside by directing research efforts towards translating advances in cancer research for the prevention, diagnosis, and treatment of patients. Research proposals can include conducting early clinical trials with novel drugs; discovering biomarkers for drug response and disease outcome, and implementing a strategy for personalized medicine. The Human Cancer Genetics Programme focuses on areas related to genetics, genomics, pharmacogenetics, molecular cytogenetics and the environmental bases of human cancer, working in close collaboration with the clinical community. Two Units of the Programme are involved also in a COVID-related project on Host genetics. The Mouse Genome Editing Unit of the Biotechnology Programme is working on Preclinical mouse models for the study of COVID-19 and the test of therapeutic strategies

Research proposals should be focused on any of these areas.

- Innovation– the CNIO has an Experimental Therapeutics Programme (ETP) to develop drug discovery and development research projects to identify novel drug targets and to validate them as potential therapeutic opportunities for the treatment of cancer; and a Biotechnology Programme that supports the development of novel biotechnological tools and reagents for cancer research.

Research proposals in these scientific disciplines should be oriented at these two aspects of innovation in applied cancer research.

Research proposals oriented in molecular aspects, patient-oriented or drug discovery related with SARS-Cov-2 may also be accepted.

- **Nursing and Healthcare Research Unit (Investén-isciii):** Research in aging, frailty and falls prevention; Sleep quality and circadian rhythm using sensors, pain management (mainly in children with cancer) and implementation of best practice guidelines in daily clinical practice through the Best Practice Spotlight Organizations International Program.
- **National Centre for Environmental Health:** Scientific-technical support in environmental health matters. Research and technological innovation on: - Air Quality (it is the Spanish National Reference Laboratory for Air Quality), - Toxicological research including human biomonitoring to evaluate human exposure to chemicals, and risk assessment of environmental chemicals on human health, - Water Quality including ecotoxicological evaluation, -Research on ionizing and nonionizing radiation (radioactive pollution on food and environmental samples and Radiation dosimetry in humans).

Donostia International Physics Center

Scientific activity at DIPC addresses fundamental topics that take place on very different length scales, from elementary particles to atoms, nanostructures, mesoscopic systems, and galaxies. DIPC's research activity will be structured in three thematic areas, QUANTUM, NANO, and COSMOS, that are representative of the problems and domains in which DIPC is currently active. Specific areas of research in which the applicants can work follow:

The three research areas that will drive DIPC's research effort in the period 2019-2022 are:

QUANTUM

The QUANTUM area includes research activity on systems in which quantum effects determine the electronic, optical, and magnetic properties. Research is performed on quantum systems, quantum information, topological materials, tensor networks, theoretical and computational quantum chemistry, attosecond physics and electronic excitations and dynamics, among other topics.

NANO

The NANO area includes research activity on nanoscale systems for which emergent properties arise and interdisciplinary approaches are needed. Research is performed on the experimental characterization of self-assembled and low-dimensional systems, on nano-photonics and nano-optics, on the photoactivation of nanosystems, on the theory of electronic transport in the nanoscale and on nanoconfined polymers, among other topics.

COSMOS

The COSMOS area includes research activity on very fundamental problems linked to the origin, composition, structure, and evolution of the Universe. Research is performed on matter-antimatter asymmetry through experimental particle physics, neutrino physics, computational cosmology and the nature of dark energy and dark matter.

Material Physics Center (MPC-CFM)

MPC-CFM research activity covers electronic, magnetic, optical and dielectric properties of condensed and soft matter systems, as well as surfaces and nanostructured architectures. Theoretical and experimental research methods are combined for the study of nanoscale properties of matter. MPC-CFM research activities are grouped into four (4) main lines, although the organisational structure remains fully horizontal and cross-linked, since multidisciplinary research is actively pursued:

I. CHEMICAL PHYSICS OF COMPLEX MATERIALS

The research line “Chemical Physics of Complex Materials” addresses the structural and electronic properties of complex nanostructured materials, particularly in the presence of molecules. Both experimental and theoretical efforts are combined to understand the properties, formation and dynamics of different molecules and nanostructures at surfaces.

The experimental laboratories are equipped with:

- Angle Resolved Photoemission Spectroscopy (ARPES) system combined with atomic-resolved microscopy (Scanning Tunneling Microscope, STM)
- Ultra High Vacuum chamber combining different surface characterisation techniques: X-Ray Photoemission Spectroscopy (XPS), Ultraviolet Photoelectron Spectroscopy (UPS), Low Energy Electron Diffraction (LEED) and Scanning Tunnel Microscope (STM) (with the possibility to use in Atomic Force Microscope (AFM) mode)
- Magneto Optic Kerr Effect (MOKE) set-up
- Atomic Force Microscopy (AFM) / Scanning Tunnel Microscope (STM) operable at 1K

Within this research line, there is a new thematic area related to *nanomedicine*. The experimental research group ‘Nanophysics Lab’ at MPC-CFM is contributing with know-how in surface physics and nanotechnology in the development of optical detectors that allow detecting the presence of molecules that are part of specific viruses, for example the proteins that coat *coronaviruses*.

II. ELECTRONIC PROPERTIES AT THE NANOSCALE

The research line “Electronic Properties at the Nanoscale” focuses on the theoretical investigation of electronic properties of solids, surfaces, nanostructures, and low-dimensional

systems, including spintronics, nanomagnetism, or attosecond dynamics in solids. The activity within this research line covers the study of a wide range of advanced materials at microscopic and mesoscopic scales, such as materials under high pressure or ceramics and cement-based materials. This latter are also studied experimentally, using equipment for synthesizing ceramics and cements.

III. PHOTONICS

The research line “Photonics” deals with the experimental and theoretical study of the interaction of radiation with matter from different and complementary approaches: (i) the interaction of light with metallic and semiconductor nanostructures to confine and engineer electromagnetic fields in the nanoscale, (ii) the optical properties of new materials and elements that provide improved properties in a variety of lasing effects, as well as the design of novel photonic structures that provide laser confinement for bioimaging, (iii) spectroscopy and photonic applications of nano-scale functional units, including different types of low-dimensional systems, and (iv) the development of hybrid quantum devices based on the interaction of light and matter at the nanoscale.

The experimental laboratories are equipped with:

- Different spectroscopy systems with high spectral resolution in the ultraviolet-visible-infrared (UV-VIS-IR) radiation domains
- Confocal time-resolved photoluminescence (TRPL) set-up
- Optical tables for studying photon states
- Laser systems

The experimental research groups within Photonics research line are recently working on a new thematic area related to *biomedicine*. Among other projects, they are contributing with know-how in optics and nanotechnology in the development of optical detectors that allow detecting the presence of molecules that are part of specific viruses, for example the proteins that coat *coronaviruses*.

IV. POLYMERS AND SOFT MATTER

The research line “Polymers & Soft Matter” deals with the experimental and theoretical study of polymers and soft condensed matter materials, focusing mainly on the investigation of the structure and dynamics of polymers and glass-forming complex systems (multi-component, nano-structured and biopolymer materials) at different length and time scales (micro, nano, meso, macro). The following specific objectives have been targeted: (i) understanding of the interplay of geometry and topology in polymeric materials, (ii) the characterisation of interfacial features, and (iii) the study of the dynamics at the interfacial level, the new confinement effects and the way local friction arises in crowded environments.

The experimental effort are developed in a set of laboratories that are equipped, among others:

- Several spectrometers, covering a wide dynamical range and different sample environments
- Optical Confocal Microscopy, Scanning Electron Microscopy (SEM) and Atomic Force Microscopy (AFM)
- Equipment for the characterisation of physicochemical properties and stability of molecular and supramolecular chemical compounds
- Differential Scanning Calorimeter (DSC), Thermogravimetric analyser (TGA), Dilatometer (DIL), etc. for thermal characterisation
- Rheometers
- Small Angle X-Ray Scattering (SAXS) and Wide Angle X-Ray Scattering (WAXS) techniques
- etc.

Overall, within this scientific structure, the applicant could collaborate with the different MPC-CFM research groups working on the following main strategic topics at MPC-CFM: Nanophotonics; Two-dimensional materials; Topological materials; Soft matter; Ab-initio characterization of nanostructured materials; Surface Nanophysics; Nanodevices; Quantum Technologies; and Ceramics and Cement-based materials.

Institute of Mathematical Sciences (ICMAT) (www.icmat.es) Our goal is to generate knowledge in all the areas of mathematics, particularly in Algebraic Geometry, Mathematical Physics, Differential Geometry, Geometric Mechanics, Mathematical Analysis, Differential Equations and Applications, Number Theory, Group theory, Statistics, Probability, Operations Research and Mathematics of Quantum Information. More detailed information can be found in <https://www.icmat.es/research/lines>.

Research groups are divided in three main areas: Algebraic Geometry, Mathematical Analysis and Differential Equations, and Applied Mathematics.

Algebra and Geometry. The main lines can be grouped in:

- **Algebraic Geometry and Mathematical Physics.** Moduli spaces of vector bundles involving techniques from algebraic geometry, differential geometry, topology, Lie theory, geometric analysis and theoretical physics.
- **Differential Geometry, Symplectic Geometry and Geometric Mechanics.** Differential and contact topology, differential and riemannian geometry, geometric mechanics with applications to control theory, dynamical systems and the geometry of PDEs.
- **Group Theory.** Several areas of group theory with applications to other fields, such as ring theory, topology, dynamics, and logic.

- **Arithmetic Geometry:** The research in this line is devoted to problems at the core of arithmetic geometry, like the equivariant Tamagawa number conjecture or the development of Arakelov geometry, as well as its interplay with related fields like complex and non-Archimedean analysis, algebraic geometry and even theoretical physics.

Mathematical Analysis and Differential equations. With two sublines:

-**Mathematical Analysis.** Classical problems around the Kakeya conjecture and Bochner-Riesz multipliers, the Schrödinger and wave equations, elliptic PDE in rough domains and connections with geometric measure theory, harmonic analysis and geometric group theory for nonamenable groups, classical and abstract Calderón-Zygmund theory and problems around the invariant subspace problem. Other fields such as operator theory, geometry of Banach spaces, complex analysis, quantum probability and analytic number theory are also well represented.

-**Differential Equations and Applications.** Differential equations arising in fluid mechanics, spectral theory, mathematical physics and mathematical biology. This is an interdisciplinary subject, with significant applications to engineering, biology and physics.

Applied Mathematics. With the following research lines:

-**Mathematics of Quantum Information Theory.** Quantum technologies are nowadays one of the most promising technologies for the near future. They exploit quantum effects to develop new techniques in fields like cryptography, metrology, material science, pharmacology and many others, which have the potential to go far beyond the current (classical) state of the art. The group "Mathematics and Quantum Information" at ICMAT works in a wide variety of mathematical problems which are motivated by quantum technologies. Some of the topics considered in this line are: condense matter and many body systems, quantum control, foundational aspects of quantum mechanics and the theory of operator algebras.

- **Machine Learning and Data Science.** Machine learning and Data Science are disciplines that are at the core of many current significant societal developments. Embedded in the disciplines of Statistics, Probability, Optimization and Algebra, with strong support from Computer Science developments, this line emphasizes, methodological developments focusing on providing efficient Bayesian approaches to the treatment of large scale inference and prediction problems and methods to deal with the presence of adversaries ready to perturb the data and structure in a problem though adversarial risk analysis and adversarial machine learning. Moreover, it also emphasizes dealing with complex applied problems mainly in the areas of security and cybersecurity, with the aid of its DataLab. In particular, and with respect to the COVID-19, this group has been working with the tracking of fake news.

- **Mathematical Modelling and Simulation.** This covers a wide spectrum ranging from the multidisciplinary mathematical approach to the problems, with emphasis in numerical computation, to the promotion of applications by means of collaborations with other departments such as engineering, biology, physics and earth sciences all around the world. Research include topics such as microfluidics modelling and technological applications, geophysical fluid dynamics, etc..

Spanish National Center of Biotechnology (CNB)

SARS-CoV-2 virus interdisciplinary platform.

(<http://www.cnb.csic.es/index.php/en/research/sars-cov2-research>). CNB scientific groups dedicated to virology and immunology from different scientific approaches have joined forces and developed different strategies to offer responses to the current pandemic of COVID-19 caused by the SARS-CoV-2 virus. Our lines of action comprise more than fifteen projects led by researchers from the center with the aim of: development of different types of SARS-CoV-2 vaccine; screening and generation of antiviral treatments against SARS-CoV-2; computational models for the design of therapeutic interventions against SARS-CoV-2; or characterization of the immune response to the virus.

Structural Biology. The CNB stands out for its critical mass of research in 3D-electron and X-Ray microscopy, ranging from cryo-electron microscopy to 3D single particle reconstruction, tomography and correlative methods, together with in-house development of imaging software. Groups focusing on X-Ray crystallography, functional proteomics and biophysics complete the coverage of key areas in structural biology. Research in this area is transversal and connects with biochemists and cell biologists who apply leading-edge biophysical approaches to resolve biological questions, such as the molecular mechanisms of virus assembly, DNA repair, cell division or protein homeostasis.

Cellular and Molecular Biology. Research groups in this area cover two broad but closely interwoven topics. The first topic is molecular virology and comprises multidisciplinary efforts to dissect viral replication mechanisms and structural studies of key viral proteins, as well as virus-host interactions of relevant human and veterinary pathogens. The second topic is regulation of gene expression, with a focus on the networks that control the function of mammalian genes with critical roles in normal and pathological processes, including developmental defects, cognitive disorders, neurodegeneration and rare diseases.

Microbial Biotechnology. Microbiologists at the CNB aim at gaining knowledge on key aspects of microbial biology with environmental, clinical or biotechnological relevance through approaches that include molecular genetics, genomics, proteomics, metagenomics and synthetic biology. The subjects studied include environmental microbiology, microbial responses to hostile environments, microbial pathogens, microbial engineering, microbial resistance to antibiotics and search for new antimicrobials.

Plant Molecular Genetics. Research in this area aims at elucidating signaling pathways in growth and adaptive responses of plants to environmental changes and pathogenic diseases. Besides the intrinsic fundamental interest in understanding key biological processes in plants, the ultimate goal is to develop new tools and methods to improve crop production and quality. Biotechnological applications such as the use of plants as biopharmaceutical factories or as tools

to fight environmental problems arising from spillages and the accumulation of toxic substances are also being studied.

Immunology and Oncology. Biomedical research groups in this area address various key aspects of innate and adaptive immunity, with special emphasis on characterizing the molecular mechanisms that underlie inflammation, the processes that drive tissue-specific tumor development, as well as tumor immunology and the relationships among stem cells, inflammation and cancer. A broad and multidisciplinary approach to study these diseases integrates knowledge ranging from cell biology and immunology to nanomedicine and stem cell biology, as well as input from clinical research through a network of collaborations with hospitals and pharmaceutical companies.

Systems Biology. A more recent focus of research at the CNB is on the application of emerging concepts and tools in the fields of systems biology, evolutionary biology, computational biology and synthetic biology to biologically relevant questions. The biotechnological side of this approach includes novel strategies to re-program bacteria for the efficient production of chemicals, biodegradation of toxic pollutants or as biosensors to monitor the presence of given chemicals. Metagenomics, metatranscriptomics and mathematic modeling techniques are used to evaluate changes in composition, function and activity of bacteria in response to environmental perturbations, as well as to determine the conditions that favor combinations of species for specific tasks in biotechnological, clinical and ecological scenarios.

Biomedical and Health Research Institute (IUIBS) at the University of Las Palmas de Gran Canaria (ULPGC)

- Medical image computing for COVID-19 screening and diagnosis. Possible topics include but are not limited to multimodal (eg. Computed Tomography, X-Ray, Ultrasound,...) chest image analysis using artificial intelligence, data annotation for algorithm training, infrared thermal imaging, etc. Computer vision for social-distancing monitoring.
- Construction of digital anatomy atlases for patient information, medical education and therapy planning. Advanced visualization. Use of the digital atlases in remote training and telemedicine applications.
- Affordable image guided therapy (IGT) systems based on point-of-care ultrasound (POCUS). Percutaneous procedures. Deployment of training systems. Virtual surgical simulation for minimally invasive surgery.
- Digital content creation for medical and biomedical engineering remote education and training. Management of remote education technology platforms.

IAC (Instituto de Astrofísica de Canarias)

Research program addresses key problems on:

- very high energy phenomena in the early Universe and around black holes

- the genesis of cosmic and gamma-rays
- the formation and evolution of galaxies
- the life cycles of stars, the physics under strong gravity fields, the physics of magnetic fields in the Sun, and the detection and characterization of Earth-like planets around nearby stars.

PLOCAN (Oceanic Platform of the Canary Islands)

- Acoustics thematic area: "To process, document and prepare acoustic data for noise and bioacoustic measurements" (Matlab or python language very good skills required)
- Ocean sensor thematic area: "To optimise real-time embedded processing algorithm for event detection on an ocean sensor" (very good C language expertise required)
- Ocean data management thematic area: "To develop algorithms in Python for the preparation and formatting of oceanographic data and metadata" (python language skills required)

Basque Center for Applied Mathematics (BCAM)

- **Computational Mathematics (CM):** We analyse modern numerical methods such as advanced Finite Element (AFE) and Finite Volume (FV) techniques applied to stationary and time-dependent problems. In addition, we develop new meshless multi-scale methods such as Smoothed Particle Hydrodynamics (SPH) or Dissipative Particle Dynamics (DPD) applied to complex fluids and mesoscopic flow problems.
- **Mathematical Modelling with Multidisciplinary Applications (M3A):** We push the boundaries of mathematics and develop analytical frameworks, multiscale parsimonious models, advanced algorithms and novel measuring techniques to extract invariant patterns hidden within the multi-spatial-temporal scales involved in biological and physical systems. A closed loop between hypothesis testing, HPC, high throughput data and data management, enable quantitative and qualitative knowledge discovery.
- **Mathematical Physics (MP):** We study several questions of classical physics that although long known, are still not understood from the mathematical perspective, microscopic origin of macroscopic laws (like in electricity) and natural phenomena of front motion embedded into random environments. More theoretically, we study the geometry of Singularities appearing in Algebraic Geometry.
- **Analysis of Partial Differential Equations (APDE):** The attempt to efficiently describe real-life phenomena leads to mathematical models, often expressed in terms of PDEs, capturing the essential features of the phenomena. Solving these equations implies the use and development of sophisticated techniques of analysis together with the realisation of numerical simulations to eventually determine the validity of the models.
- **Data Science (DS):** In the applied statistics field, the main topics of our research are semi-parametric regression, multidimensional smoothing, (Bayesian) hierarchical models, computational statistics... Regarding Machine learning, we work on supervised and unsupervised classification of massive data, probabilistic graphical models, time

series, Bayesian optimisation, etc. In optimisation we pursue the developments of efficient metaheuristics methods.

- **Model building and data analysis for COVID:** prediction-evolution models, analysis of RX images, pronostic prediction, traceability analysis.

POLYMAT is a multidisciplinary research center with different research lines that include:

- **Polymer synthesis.** Research groups in this area cover different activities such as organic catalysis, polymer hybrids and robust, efficient and orthogonal synthesis of polymers. They study the most distinctive characteristics of the polymers: the chemical composition distribution (functionality) and the architecture of the polymer chain.
- **Assembly and processing.** Assembly has played a key role in the development of the polymer industry. Thus, high impact polystyrene and semicrystalline polyolefins are based on the assembly of in-situ produced graft copolymers and that of polymer chains by dispersed forces, respectively. Nature shows that more complex interactions (dispersive, polar and charged) can be used to produce hierarchical structures. Biological systems serve as example to extract the basic principles and then develop other materials with functionalities that cannot be achieved otherwise and that are not attainable by the current polymers.
- **Theory and simulations.** Theory and simulations are used to provide understanding of the observed phenomena and to guide the activities in polymer synthesis and assembly. Simulations of polymeric materials and their properties expands over three scale domains, according to the system size to be modeled and to the time scale of the phenomena sought.
- **Energy.** Generation of energy from renewable and CO₂-neutral sources is one the greatest 21th Century's challenges. The groups involve in this area work in polymer photovoltaics cells and organic batteries
- **Waterborne dispersed polymers.** The current research topics include Knowledge-based processes for high-performance dispersed polymers, structured nanoparticles and bio and smart materials
- **Tuneable and stimuli responsive membranes.** Within this research area, activities are focused on membranes for gas and vapor separations, stimuli-responsive/biomimicking membranes and membranes in water treatment processes.
- **Polymers for biomedical applications.** This line is focusing on the development of biocompatible and biodegradable polymers from natural resources able to replace synthetic polymers based on non-renewable monomers for biomedical applications such as tissue regeneration, polymer drugs, bio—absorbable materials for vascular stents, polymer carriers for drug and gene delivery, etc. In addition, this research area also studies the multifunctional polymer-drug conjugates, self-assembling amphiphiles for the controlled delivery of bioactives, new diagnostic technologies as theranostic approaches, and environment-responsive nanogels.
- **Polymer physics.** This research line is devoted to understanding structure, morphology, functionality and properties of semi-crystalline multiphasic polymers: Effects of confinement on polymer nucleation, crystallization and morphology, How polymer topology affects crystallization, Melt memory effects on the crystallization of homopolymers and copolymers, etc.

7. Decision

The jury's final decision, which shall be dictated by the strictest criteria of meticulousness and transparency, will be published by November 20, 2020

Successful candidates are expected to start their research projects at the assigned host institutions not earlier than February 2021, provided that health measures and border restrictions allow so.

8. Successful applicants' commitments

The beneficiaries of the visiting research fellowships agree to respect and comply with the internal academic and legal regulations of the host research centre. The award of fellowships does not generate any statutory or labour relation with FMxA, and candidates commit themselves to return to their places of origin in Africa once they have finalized their research stay.

9. Monitoring of the project

Fellowship recipients are obliged to submit within 2 months after finalization of their research stay to the Women for Africa Foundation a final report containing the results of their research projects as well as propositions to deepen collaboration between the host center and the one of origin.

10. Results and dissemination of the research projects

The Intellectual and Industrial Property (IP) generated by the Beneficiaries throughout the term of the stay at the Host Entity will be regulated by the same terms and conditions which apply to the IP generated by the research personnel of the Host entity.

Submission of applications implies that the fellowship recipients grant to FMxA and the host center, in consideration of the benefits set forth in Section 3, the right to publish and disseminate the results of the chosen research projects in all forms (including, but not limited in form of working papers, electronic documents and books) and in all territories, with no detriment to the publications in scientific journals chosen by the researchers, which should in any case mention the support received by FMxA and the collaborating research centre.