



International
**Human Frontier
Science Program**
Organization

HFSP AWARDS 2022

RESEARCH GRANTS

Research Grants, Program and Early Career (previously Young Investigators), provide 3 years of support for international teams involving at least two countries. Preference is given to intercontinental collaborations (rather than all N. American or all European teams). All team members are expected to broaden the character of their research compared to their ongoing research programs and interact with teams bringing expertise that is very different from their own so as to create novel approaches to problems in fundamental biology. All members of an Early Career team must be within 5 years of establishing their independent research group and no more than 10 years from their doctoral degree. Program Grant teams may consist of team members at any stage of their career as independent investigators.

Program and Early Career Grants are listed separately, alphabetically. The first named for each award is the Principal Investigator. Nationality is in parentheses when different from country in which the laboratory is located.

RESEARCH GRANTS-PROGRAM

Mapping gut-to-brain transmission of prion protein

AGUZZI Adriano	Dept. of Neuropathology University of Zurich (UZH)	SWITZERLAND (ITALY)
THAISS Christoph	Dept. of Microbiology Perelman School of Medicine, University of Pennsylvania Philadelphia	USA (GERMANY)

Spatial and deep neurolipidomics to reveal synapse diversity

AHRENDTS Robert	Dept. of Analytical Chemistry University of Vienna	AUSTRIA (GERMANY)
ELLIS Shane	Dept. of Molecular Horizons/SCMB University of Wollongong	AUSTRALIA
KREUTZ Michael R.	Dept. of Neuroplasticity Leibniz Institute for Neurobiology Magdeburg	GERMANY
VERHELST Steven	Dept. of Cellular & Molecular Medicine Catholic University of Leuven (KU Leuven)	BELGIUM (THE NETHERLANDS)

Good vibes: how do plants recognise and respond to pollinator vibroacoustic signals?

BARBERO Francesca	Dept. of Life Sciences and Systems Biology University of Turin (UNITO)	ITALY
MATUS Tomas	Dept. of SysBio -Molecular Interactions and Regulation Institute for Integrative Systems Biology Valencia	SPAIN
OBERST Sebastian	School of Mechanical and Mechatronic Engineering University of Technology, Sydney	AUSTRALIA

A bottom-up approach to understand how enzyme structural fluctuations accelerate multistep reactions

CHICA Roberto	Dept. of Chemistry and Biomolecular Sciences University of Ottawa	CANADA
GREEN Anthony	Dept. of Chemistry University of Manchester	UK
THOMPSON Michael	Dept. of Chemistry and Biochemistry University of California, Merced	USA

RESEARCH GRANTS-PROGRAM

Assembly, mechanics and growth of plant cell walls

COEN Enrico	Dept. of Cell and Developmental Biology John Innes Centre, Norwich, UK	UK
COSGROVE Daniel	Dept. of Biology Pennsylvania State University Port Matilda	USA
DURAND-SMET Pauline	Dept. of Matter and complex systems Université Paris Diderot - Paris 7	FRANCE
SVAGAN (HANNER) Anna	Dept. of Fibre and Polymer technology KTH Royal Institute of Technology Stockholm	SWEDEN

Dynamics of multilayer epithelial structures: Integrative mechanical characterization of epidermis

DAS Tamal	TIFR Centre for Interdisciplinary Sciences Tata Institute of Fundamental Research Hyderabad	INDIA
BI Dapeng	Dept. of Physics Northeastern University Boston	USA
SERWANE Friedhelm	Dept. of Physics University of Munich (LMU)	GERMANY

The walking fish: Integrating biomechanics, energetics and robotics to study water-land transition

DI SANTO Valentina	Dept. of Zoology Stockholm University	SWEDEN (ITALY)
IIDA Fumiya	Dept. of Engineering University of Cambridge	UK (JAPAN)
SHUBIN Neil	Dept. of Organismal Biology and Anatomy University of Chicago	USA

Bacterial genome editing systems as a driver of cancer mutations

GALUN Eithan	Dept. of Gene Therapy The Hadassah Medical Center Jerusalem	ISRAEL
DAGAN Tal	Institute of General Microbiology Kiel University (CAU)	GERMANY

RESEARCH GRANTS-PROGRAM

Trichomes: uncovering principles of forming complex 3-dimensional shapes by cellular morphogenesis

GROSSNIKLAUS Ueli	Dept. of Plant and Microbial Biology University of Zurich (UZH)	SWITZERLAND
KONDO Shigeru	Dept. of Frontier Bioscience Osaka University Suita	JAPAN

Molecular determinants of evolutionary conservation in disordered protein regions

HOLEHOUSE Alex	Dept. of Biochemistry and Molecular Biophysics Washington University, School of Medicine St. Louis	USA (UK)
LEE Hyun	Dept. of Biochemistry University of Toronto, Faculty of Medicine	CANADA (KOREA)
WEIJERS Dolf	Lab. of Biochemistry Wageningen University	THE NETHERLANDS

Physical regulation of the genome

HOLT Liam	Dept. of Biochemistry and Molecular Pharmacology New York University School of Medicine	USA
LEVY Emmanuel	Dept. of Structural Biology Weizmann Institute of Science Rehovot	ISRAEL
TAKINOUE Masahiro	Dept. of Computer Science Tokyo Institute of Technology Yokohama	JAPAN

The evolution of sperm cell shape and motion

HUMPHRIES Stuart	Dept. of Life Sciences University of Lincoln	UK
FAUCI Lisa	Dept. of Mathematics Tulane University - SSE New Orleans	USA
SNOOK Rhonda	Dept. of Zoology Stockholm University	SWEDEN (USA)

RESEARCH GRANTS-PROGRAM

Social origins of rhythm

KING Stephanie	School of Biological Sciences University of Bristol	UK
COOK Peter	Dept. of Psychology New College of Florida Sarasota	USA
MADSEN Peter	Dept. of Biology Aarhus University	DENMARK
RAVIGNANI Andrea	MPI for Psycholinguistics Nijmegen	THE NETHERLANDS (ITALY)

Using Dracula ants and multi-omic models to unravel the evolution of distributed metabolism

LEBOEUF Adria	Dept. of Biology University of Fribourg	SWITZERLAND (USA)
FISHER Brian	Dept. of Entomology California Academy of Sciences San Francisco	USA
TEUSINK Bas	Amsterdam Institute for Life and Environment Vrije University Amsterdam (VU)	THE NETHERLANDS

Unravelling the code of mitochondrial-nuclear communication

LEFKIMMIATIS Konstantinos	Dept. of Molecular Medicine University of Pavia	ITALY (GREECE)
DASKALAKIS Nikolaos	Dept. of Psychiatry McLean Hospital Belmont	USA (GREECE)
STADLER Brigitte	Interdisciplinary Nanoscience Center (iNANO) University of Aarhus	DENMARK (SWITZERLAND)

Regulation of neuronal physiology by the electromechanical effects of the action potential

LOIS Carlos	Dept. of Biology and Biological Engineering California Institute of Technology Pasadena	USA (SPAIN)
ROYLE Stephen	Dept. of Biomedical Sciences University of Warwick Coventry	UK
SEZGIN Erdinc	Women's and Children's Health Karolinska Institute Solna	SWEDEN (TURKEY)

RESEARCH GRANTS-PROGRAM

Super-resolution multifunctional scanning ion conductance microscopy: tapping the cell's energy grid

MACHESKY Laura	Institute of Cancer Sciences Cancer Research UK Beatson Institute Glasgow	UK
SASAKI Atsuo	Dept. of Internal Medicine University of Cincinnati	USA (JAPAN)
TAKAHASHI Yasufumi	Nano Life Science Institute Kanazawa University	JAPAN

Unravelling the mechanisms of brain and behavioral elaboration in ecologically diverse butterflies

MONTGOMERY Stephen	School of Biological Sciences University of Bristol	UK
BACQUET Caroline	Dept. of Biotechnology Universidad Regional Amazónica IKIAM Tena	ECUADOR (CHILE)
EL JUNDI Basil	Biocenter University of Würzburg (JMU)	GERMANY
MARTIN Arnaud	Dept. of Biological Sciences The George Washington University Washington	USA (FRANCE)

Intracellular voltage control of directional cell migration

SÁEZ Pablo	Dept. of Biochemistry and Molecular Cell Biology University Medical Center Hamburg-Eppendorf Hamburg	GERMANY (CHILE)
GOV NIR	Dept. of Chemical and Biological Physics Weizmann Institute of Science Rehovot	ISRAEL
KRISHNAN Yamuna	Dept. of Chemistry University of Chicago	USA (INDIA)

New ways to generate color: light manipulation by crystal-forming pigments

STUART-FOX Devi	School of BioSciences University of Melbourne	AUSTRALIA
PALMER Benjamin	Dept. of Chemistry Ben-Gurion University of the Negev Beer-Sheva	ISRAEL (UK)
TZIKA Athanasia	Dept. of Genetics and Evolution University of Geneva	SWITZERLAND (GREECE)

RESEARCH GRANTS-PROGRAM

Bridging biophysics and evolution: impact of intermediate filament evolution on tissue mechanics

TOMANCAK Pavel	Tomancak lab MPI of Molecular Cell Biology and Genetics (MPI-CBG) Dresden	GERMANY (CZECH REPUBLIC)
EXTAVOUR Cassandra	Dept. of Organismic & Evolutionary Biology, Molecular & Cellular Biology Harvard University, Cambridge	USA (CANADA)
HEISENBERG Carl-Philipp	Dept. of Life Sciences Institute of Science and Technology Austria Klosterneuburg	AUSTRIA (GERMANY)
HEJNOL Andreas	Dept. of Biological Sciences University of Bergen	NORWAY (GERMANY)

Bridging robotics and pollination: Reconstructing a bee's buzz through micro-robots

VALLEJO-MARIN Mario	Dept. of Biological and Environmental Sciences University of Stirling	UK (MEXICO)
JAFFERIS Noah	Dept. of Electrical and Computer Engineering University of Massachusetts, Lowell	USA

Mental 3D space-time travel in fission-fusion animal societies

WAHLBERG Magnus	Dept. of Biology University of Southern Denmark (SDU) Odense M	DENMARK (SWEDEN)
MOSS Cynthia	Dept. of Psychological and Brain Sciences Johns Hopkins University Krieger School of Arts & Sciences Baltimore	USA
PEREMANS Herbert	Dept. of Engineering Management University of Antwerp	BELGIUM
VON BAYERN Auguste	Dept. of Behavioural Ecology. & Evolutionary Genetics MPI for Ornithology (MPIO) Seewiesen	GERMANY

Modeling electric fields at the heart of enzyme catalysis and function

WUTTKE Stefan	BCMaterial Basque Center on Materials, Applications and Nanostructures Leioa	SPAIN (GERMANY)
BOXER Steven	Dept. of Chemistry The Stanford University	USA

RESEARCH GRANTS-PROGRAM

Deciphering the link between brain development and aging

ZOU Yimin	Dept. of Neurobiology The University of California, San Diego La Jolla	USA
BOURNE James	Australian Regenerative Medicine Institute Monash University Clayton	AUSTRALIA
FUJIYAMA Fumino	Lab. of Histology and Cytology Hokkaido University Sapporo	JAPAN
HJERLING-LEFFLER Jens	Dept. of Medical Biochemistry and Biophysics Karolinska Institute Solna	SWEDEN

RESEARCH GRANTS- EARLY CAREER

Cellular and molecular basis of behavioural manipulation by viral infection

CRAVA Maria Cristina	Universitary Institute of Biotechnology and Biomedicine University of Valencia	SPAIN (ITALY)
GAMIR Jordi	Dept. of Agricultural and Environmental Sciences Universitat Jaume I de Castello Castello De La Plana	SPAIN
PRIETO-GODINO Lucia	Neural Cirtuis and Evolution Lab The Francis Crick Institute (UK Centre for Medical Research and Innovation) London	UK (SPAIN)
YON Felipe	Instituto de Medicina Tropical Universidad Peruana Cayetano Heredia Lima	PERU

Reconstructing water to land transitions in arthropod evolution combining atoms, genes and fossils

FERNANDEZ Rosa	Institute of Evolutionary Biology CSIC Barcelona	SPAIN
MUÑOZ-GARCIA Ana Belen	Dept. of Physics University of Naples, Federico II	ITALY (SPAIN)
ORTEGA-HERNANDEZ Javier	Dept. of Organismic and Evolutionary Biology Harvard University, Cambridge	USA (MEXICO)

Biofilm heterogeneity as an evolutionary mechanism for resilience to complex environments

FUSCO Diana	Dept. of Physics University of Cambridge	UK (ITALY)
RUIZ PESTANA Luis	Dept. of Civil and Architectural Engineering University of Miami Coral Gables	USA (SPAIN)
TROPINI Carolina	Dept. of Microbiology and Immunology and School of Biomedical Engineering University of British Columbia Vancouver	CANADA

RESEARCH GRANTS- EARLY CAREER

The atmosphere: a living breathing ecosystem?

GOORDIAL Jackie	School of Environmental Sciences University of Guelph	CANADA
BRADLEY James	School of Geography Queen Mary University of London	UK
GREENING Chris	Dept. of Microbiology Monash University Clayton	AUSTRALIA
TREMBATH-REICHERT Elizabeth	School of Earth and Space Exploration Arizona State University, Tempe	USA

How fishes use historical hydrodynamic motion cues in search and navigation tasks

HERBERT-READ James	Dept. of Zoology University of Cambridge	UK
FAN Dixia	Dept. of Mechanical and Material Engineering Queen's University at Kingston	CANADA (CHINA)
JODIN Gurvan	Dept. of Mechatronics SATIE UMR CNRS, Bruz	FRANCE

Crossing the barrier: horizontal gene transfer in synergistic protocells

O'FLAHERTY Derek	Dept. of Chemistry University of Guelph	CANADA
BONFIO Claudia	Supramolecular Science and Engineering Institute Centre International pour la Recherche aux Frontières de la Chimie Strasbourg	FRANCE (ITALY)
SPRUIJT Evan	Dept. of Physical Organic Chemistry Radboud University Nijmegen Medical Centre	THE NETHERLANDS

How do ecological network dynamics mediate the response of organisms to novel environments?

PILOSOF Shai	Dept. of Life Sciences Ben-Gurion University of the Negev Beer-Sheva	ISRAEL
DE DOMENICO Manlio	Digis - Digital Society Fondazione Bruno Kessler Trento	ITALY
HALL James	Dept. of Evolution, Ecology and Behaviour University of Liverpool	UK