



International
**Human Frontier
Science Program**
Organization

HFSP AWARDS 2023

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

When the going gets tough: Trans-kingdom spore dormancy and revival mechanisms across scales

BALASUBRAMANIAN Mohan	Warwick Medical School University of Warwick Coventry	UK (India)
BEN YEHUDA Sigal	Dept. of Microbiology and Molecular Genetics The Hebrew University of Jerusalem	Israel
JANSHOFF Andreas	Dept. of Chemistry University of Göttingen	Germany
O'SHAUGHNESSY Ben	Dept. of Chemical engineering Columbia University New York	USA (UK)

SELF-CURE: Evolutionary and cognitive processes underlying self-medication of immune-challenged bats

BECKER Daniel	Dept. of Biology University of Oklahoma Norman	USA
PAGE Rachel	Gamboia Labs Smithsonian Tropical Research Institute Ancón	Panama (USA)
SIMON Ralph	Behavioural Ecology and Conservation Lab Nuremberg Zoo	Germany

Autonomous evolution of synthetic cells under non-equilibrium conditions

BRAUN Dieter	Dept. of Physics Ludwig Maximilian University Munich (LMU)	Germany
GÖPFRICH Kerstin	MPI for Medical Research Heidelberg	Germany
MATSUURA Tomoaki	Earth-Life Science Institute Tokyo Institute of Technology Meguro-Ku	Japan

New Kids on the Block: how DeNovo emerged micropeptides rewired cellular networks

CARVUNIS Anne-Ruxandra	Dept. of Computational and Systems Biology University of Pittsburgh	USA (France)
BORNBERG-BAUER Erich	Faculty of Biology University of Münster	Germany (Austria)
BRUN Christine	Dept. of Theories and Approaches of Genomic Complexity, Inserm - Provence Côte d'Azur Marseille	France

Physics goes wild: studying the evolution of iridescence and its perception in Amazonian butterflies

DEBAT Vincent	Origins and Evolution National Museum of Natural History, MNHN Paris	France
BELUŠIČ Gregor	Dept. of Biology University of Ljubljana	Slovenia
BRISCOE Adriana	Dept. of Ecology and Evolutionary Biology University of California, Irvine Irvine	USA
GIRALDO Marco	Institute of Physics University of Antioquia Medellin	Colombia

From disorder to order: mechanism of specialised assemblies formation essential for muscle function

DJINOVIC-CARUGO Kristina	Dept. of Structural and Computational Biology, Max Perutz Labs, University of Vienna	Austria (Slovenia)
HINSON John	Dept. of Medicine University of Connecticut, Farmington	USA
ODA Toshiyuki	Dept. of Anatomy and Structural Biology University of Yamanashi	Japan
RIES Jonas	Dept. of Cell Biology and Biophysics EMBL-Heidelberg	Germany

Nuclei as mechanical sensors and actuators in epithelial folding

ERZBERGER Anna	Dept. of Cell Biology and Biophysics EMBL-Heidelberg	Germany
WANG Yu-Chiun	Laboratory for Epithelial Morphogenesis RIKEN Center for Biosystems Dynamics Research (BDR) Kobe	Japan (Taiwan)

The role of lipid physical properties for the multifunctionality of insect cuticular hydrocarbons

FEDERLE Walter	Dept. of Zoology University of Cambridge	UK (Germany)
KANEKO Fumitoshi	Dept. of Macromolecular Science Graduate School of Science, Osaka University Toyonaka	Japan
MENZEL Florian	Institute of Organismic and Molecular Evolution Johannes Gutenberg University of Mainz	Germany

RESEARCH GRANTS - PROGRAM

Evolution of protein multifunctionality

FEUDA Roberto	Genetics and Genome Biology University of Leicester	UK
CHANG Belinda	Dept. of Ecology & Evolutionary Biology Dept of Cell & Systems Biology University of Toronto	Canada
GOEPFERT Martin	Dept. of Cellular Neurobiology University of Göttingen	Germany
MENON Anant	Dept. of Biochemistry Weill Medical College of Cornell University New York	USA (India)

The Architecture of Photosynthesis

GEITMANN Anja	Dept. of Plant Science The Royal Institution for the Advancement of Learning McGill University Sainte-Anne-de-Bellevue	Canada
BRODERSEN Craig	School of the Environment Yale University New Haven	USA
DEAR John	Dept. of Mechanical Engineering Imperial College of Science, Technology and Medicine London	UK
PEZZULLA Matteo	Dept. of Mechanical and Production Engineering Aarhus University	Denmark (Italy)

Understanding fundamental mechanisms governing insect cell membrane deformability

GEROLD Gisa	Dept. of Biochemistry University of Veterinary Medicine Hannover	Germany
ARIOTTI Nicholas	Institute for Molecular Bioscience Brisbane	Australia
PERRIMON Norbert	Dept. of Genetics Harvard Medical School Boston	USA

Evolution at the plant apex: identifying steps enabling a major organismal radiation.

HARRISON Jill	Dept. of Biological Sciences University of Bristol	UK
BEECKMAN Tom	Dept. of Plant Biotechnology and Bioinformatics Flanders Institute for Biotechnology (VIB) Gent	Belgium
FUJINAMI Rieko	Dept. of Science Kyoto University of Education	Japan
HETHERINGTON Alexander	Institute of Molecular Plant Sciences University of Edinburgh	UK

Bacterial targeting of the host epitranscriptome

HARTLAND Elizabeth	Dept. of Molecular and Translational Science Monash University Clayton	Australia
ALLAIN Frédéric	Dept. of Biology Swiss Federal Institute of Technology in Zurich (ETHZ)	Switzerland (France)
HELM Mark	Institute of Pharmaceutical and Biomedical Sciences (IPBS), Johannes Gutenberg University of Mainz	Germany

Social immunity in honeybee - SoBee

JENSEN Michael	DTU Center for Biosustainability Technical University of Denmark Lyngby	Denmark
FIEHN Oliver	Genome Center University of California, Davis	USA (Germany)
GALIZIA C Giovanni	Dept. of Biology University of Konstanz	Germany

Deciphering the role of dynamics in vascular network remodeling and determination

KATIFORI Eleni	Dept. of Physics and Astronomy University of Pennsylvania Philadelphia	USA (Greece)
CORNELISSEN Annemiek	Dept. of Physics – MSC Lab Paris Diderot University	France (The Netherlands))
JONES Elizabeth	Dept. of Cardiovascular Sciences Catholic University of Leuven (KU Leuven)	Belgium

Mapping structural and functional connectivity of the distributed sensory system in chiton armor

LI Ling	Dept. of Mechanical Engineering Virginia Polytechnic Institute and State University Blacksburg	USA (China)
BAUM Daniel	Visual and Data-Centric Computing Zuse Institute Berlin (ZIB)	Germany
SPEISER Daniel	Dept. of Biological Sciences University of South Carolina - USC Columbia	USA

Electrogenetic control of bacterial metabolism, communication, and biofilm formation

MALVANKAR Nikhil	Dept. of Molecular Biophysics and Biochemistry Yale University West Haven	USA (India)
CRAIG Lisa	Dept. of Molecular Biology and Biochemistry Simon Fraser University Burnaby	Canada
FRANCETIC Olivera	Dept. of Structural Biology and Chemistry Institut Pasteur, Paris	France
SALGUEIRO Carlos	Dept. of Chemistry Faculdade Ciências e Tecnologia, Universidade Nova de Lisboa Caparica	Portugal

Exploring the evolution and physiology of the olfactory-immune system connection

MUKHERJEE Tina	Regulation of Cell Fate Institute for Stem cell science and Regenerative Medicine (inStem) Bangalore	India
MATTHEWS Ben	Dept. of Zoology University of British Columbia Vancouver	Canada (USA)
RECKER Mario	Centre for Ecology and Conservation University of Exeter Penryn	UK (Germany)
TRINDADE MARQUES João	Dept. of Biochemistry and Immunology Universidade Federal de Minas Gerais, Instituto de Ciencias Biologicas Belo Horizonte	Brazil

Uncovering the real paleo diet: Novel isotope analytics of amino acids from fossil hominin teeth

RESEARCH GRANTS - PROGRAM

NEUBAUER Cajetan	Institute of Arctic and Alpine Research (INSTAAR) University of Colorado Boulder	USA (Germany)
BAKKOUR Rani	Chair of Analytical & Water Chemistry Technical University of Munich (TUM) Garching	Germany (Syria)
LÜDECKE Tina	Emmy Noether Group for Hominin Meat Consumption MPI for Chemistry Mainz	Germany

Unraveling the mechanism of schistosome egg migration in a complex host environment

OKEYO Kennedy	Dept. of Biosystems Science Kyoto University	Japan (Kenya)
OCHOLA Lucy	Dept. of Tropical and Infectious Diseases Institute of Primate Research Nairobi	Kenya

Intracellular selection and dynamics of mitochondrial ageing

OSMAN Christof	Dept. of Biology Ludwig Maximilian University Munich (LMU) Planegg-Martinsried	Germany
KRIEG Michael	Dept. of Neurophotonic and Mechanical Systems Biology, ICFO – The Institute of Photonic Sciences Castelldefels	Spain (Germany)
SHRAIMAN Boris	Kavli Institute for Theoretical Physics University of California, Santa Barbara	USA

Cellular and molecular basis of bilaterian symmetry

PAVLOPOULOS Anastasios	Dept. of Evolution, Development & Cell Biology FORTH Institute of Molecular Biology and Biotechnology (IMBB-FORTH) Heraklion	Greece
GUIGNARD Léo	Laboratoire d'Informatique et Systemes Université D'aix Marseille	France
XIE Liangqi (Frank)	Dept. of Cancer Biology, Infection Biology Cleveland Clinic Foundation	USA (China)

Shiny signalling: the production, detection and neurobiological processing of brilliant colours

VAN DER KOOI Casper J.	Groningen Institute for Evolutionary Life Sciences Rijksuniversiteit Groningen	The Netherlands
KEMP Darrell	School of Natural Sciences Macquarie University Sydney	Australia
KINOSHITA Michiyo	Dept. of Evolutionary Studies of Biosystems The Graduate University for Advanced Studies, SOKENDAI, Kanagawa	Japan

From diffuse to localised signalling: The origin of synaptic neurotransmission in animals

WATANABE Shigeki	Dept. of Cell Biology Johns Hopkins University School of Medicine Baltimore	USA (Japan)
IKMI Aissam	Developmental biology unit EMBL-Heidelberg	Germany (Morocco)
MUSSER Jacob	Dept. of Molecular, Cellular and Developmental Biology Yale University New Haven	USA

Decoding the gelatinous origins of brain evolution

WOLF Fred	Dept. of Physics of Biological Systems University of Göttingen	Germany
BURKHARDT Pawel	Sars International Centre University of Bergen	Norway (Germany)

RESEARCH GRANTS – EARLY CAREER

Encoding motion in an interface: the shape-morphing armored skin of pufferfish

AMINI Shahrouz	Dept. of Biomaterials MPI of Colloids and Interfaces Potsdam	Germany (Iran)
CAMP Ariel	Musculoskeletal and Ageing Science University of Liverpool Liverpool	UK (USA)
RAFSANJANI Ahmad	The Maersk Mc Kinney Moller Institute University of Southern Denmark Odense	Denmark (Iran)

Exploration of the structure-function space of prebiotic to biological proteins – RENEWAL APP

FUJISHIMA Kosuke	Earth-Life Science Institute (ELSI) Tokyo Institute of Technology	Japan
FREELAND Stephen	Interdisciplinary Studies Program University of Maryland Baltimore	USA (UK)
FRIED Stephen	Dept. of Chemistry Johns Hopkins University Baltimore	USA
HLOUCHOVA Klara	Dept. of Cell Biology Charles University Prague	Czech Republic

Experimentally evolving budding yeast cell size to test scaling laws in cell biology

FUMASONI Marco	Genome Maintenance and Evolution Lab Instituto Gulbenkian de Ciencia Oeiras	Portugal (Italy)
GIOMETTO Andrea	School of Civil and Environmental Engineering Cornell University Ithaca	USA (Italy)

Understanding the neural basis of early language development

MARESCA David	Dept. of Imaging Physics Delft University of Technology	The Netherlands (France)
TSUJI Sho	International Research Center for Neurointelligence (IRCN), The University of Tokyo	Japan
WEHBE Leila	Dept. of Machine Learning Carnegie Mellon University Pittsburgh	USA (Lebanon)

Uncharted ocean currents: Exploring the electrical behavior of marine phytoplankton.

McCLELLAND Dept. of Structural and Molecular Biology UK
Harry University College London (UCL)

McCLENAGHAN Dept. of Pharmacology USA
Conor Rutgers, The State University of New Jersey (UK)
Piscataway

Decoding the sulfation codes in the glycocalyx

MILLER Dept. of Cellular and Molecular Medicine Denmark
Rebecca University of Copenhagen, UCPH (UK)

ANGGARA Dept. of Nanoscale Science Germany
Kelvin MPI for Solid State Research (Indonesia)
Stuttgart

Switchable immunomodulation of mRNA transport and local translation in microglia by bioactive RNAs

MILOVANOVIC Dept. of Molecular Neuroscience Germany
Dragomir German Center for Neurodegenerative Diseases (DZNE) (Serbia)
Berlin

FU National Institute of Neurological Disorders and Stroke USA
Meng-Meng NIH NINDS
Bethesda

L. J. BROERE Dept. of Chemistry The Netherlands
Daniël Universiteit Utrecht

LEPPEK Institute of Clinical Chemistry and Clinical Pharmacology Germany
Kathrin Rheinische Friedrich-Wilhelms-University Bonn

Unraveling the multi-layer relationship between archaeal symbionts and their viruses

QUAX Dept. of Molecular Microbiology The Netherlands
Tessa Rijksuniversiteit Groningen

GHOSAL Dept. of Biochemistry & Pharmacology Australia
Debnath University of Melbourne (India)

GOOD Dept. of Applied Physics USA
Benjamin The Leland Stanford Junior University
Stanford

SAKAI Science and Engineering for Sustainable Innovation Japan
Hiroyuki Soka University
Tokyo

RESEARCH GRANTS – EARLY CAREER

Dark oxygen production: Assessing an overlooked microbial process in Earth's hidden ecosystems

RUFF S. Emil	Ecosystems Center / Bay Paul Center Marine Biological Laboratory Woods Hole	USA (Germany)
HEMINGWAY Jordon	Dept. of Earth Sciences Swiss Federal Institute of Technology in Zurich (ETHZ)	Switzerland (USA)
KRAFT Beate	Dept. of Biology University of Southern Denmark (SDU) Odense	Denmark (Germany)