



HFSP AWARDS 2024

RESEARCH GRANTS

as approved by the Board of Trustees (March 2024)

Research Grants, Program and Early Career, 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.

Trapped in ice

BABIN Marcel	Dept. of Biology Takuvik International Research Laboratory Laval University, Quebec	Canada
FRIPIAT Francois	Dept. of Geosciences, Environment and Society Université libre de Bruxelles	Belgium
MARÉCHAL Eric	Cell and Plant Physiology Lab. University of Grenoble – Alpes	France
PRAKASH Manu	Dept. of Bioengineering Stanford University	USA (India)

Discovering the chemical space of bioactive modified nucleotides and their enzymatic repertoire

BELTRAO Pedro	Dept. of Biology ETH Zürich	Switzerland
CORREIA-MELO Clara	Dept. of Microbiome in Ageing Leibniz Institute on Aging Fritz Lipmann Institute, Jena	Germany (Portugal)
FUGGER Kasper	Dept. of Cancer Biology University College London Cancer Institute	UK (Denmark)

Probing the evolutionary ecology of cognition through High-Density Diffuse Optical Tomography

BOTERO Carlos	Dept. of Integrative Biology The University of Texas at Austin	USA
CULVER Joseph	Dept. of Radiology Washington University in St.Louis	USA
GÜNTÜRKÜN Onur	Dept. of Psychology and Institute for Cognitive Neuroscience Ruhr University Bochum	Germany

Deciphering the role of ion distribution in mitochondria for long-term memory formation

BUSCH Karin	Dept. of Biology University of Münster	Germany
JONAS Elizabeth	Dept. of Internal Medicine Yale University New Haven	USA
TOMKINSON Nicholas	Dept. of Pure and Applied Chemistry University of Strathclyde Glasgow	UK

3D-bioprinting meets machine learning: a novel tool to decipher the determinants of viral tropism.

CASTRILLO Gabriel	Plant Sciences building, School of Biosciences University of Nottingham	UK (Spain)
STEGMAYER Georgina	Dept. of Informatics National University of the Littoral Santa Fe Capital	Argentina
VALLI Adrian	Dept. of Plant Molecular Genetics National Center of Biotechnology (CSIC) Madrid	Spain (Argentina)

Unambiguous Biosignatures for Life Detection

CLEAVES Henderson	Dept. of Chemistry The Howard University Washington	USA
MCMAHON Sean	School of Physics and Astronomy University of Edinburgh	UK
VAN ZUILEN Mark	Laboratoire Geo-Ocean Institut National des Sciences de l'Univers (INSU) CNRS Plouzané	France

Illuminating Microbial Communication Networks: The Phycosphere lab

COUDRET Christophe	Softmat Lab. Université Toulouse III	France
RAINA Jean-Baptiste	Climate Change Cluster University of Technology Sydney	Australia (France)
TUVAL Idan	Mediterranean Institute for Advanced Studies CSIC Esporles	Spain
WHEELER Glen	Marine Biological Association of the UK (MBA) Plymouth	UK

Decoding invisibility: from genome evolution to tissue optical properties in transparent fish

DEL BENE Filippo	Dept. of Developmental Biology Institut de la Vision Paris	France (Italy)
JOHNSEN Sonke	Dept. of Biology Duke University Durham	USA
RAMIALISON Mirana	Stem Cell Medicine Murdoch Childrens Research Institute Parkville	Australia (Madagascar)

Cross-talk between the skin microbiome, immunity and sensory innervation in neurophysiology

DI GIOVANNI Simone	Dept. of Brain Sciences Imperial College of Science, Technology and Medicine London	UK (Italy)
ELINAV Eran	Dept. of Systems Immunology Weizmann Institute of Science Rehovot	Israel
FAN Rong	Dept. of Biomedical Engineering Yale University New Haven	USA

Optogenetic control of organelle “chatter” and effects on calcium dynamics in human cardiomyocytes

ENTCHEVA Emilia	Dept. of Biomedical Engineering The George Washington University Washington	USA
COLMAN Michael	Dept. of Biomedical Sciences The University of Leeds	UK
SATO Moritoshi	Dept. of Life Sciences The University of Tokyo	Japan

Mechanisms and origins of glycosylation in giant viruses

FISCHER Matthias	Dept. of Biomolecular Mechanisms MPI for Medical Research Heidelberg	Germany
DE CASTRO Cristina	Dept. of Chemical Sciences University of Naples Federico II Napoli	Italy
OGATA Hiroyuki	Institute for Chemical Research Kyoto University, Uji Campus	Japan

Deciphering the Impact of Viral Infections on Human Neurocognitive Functions ex vivo

GAUDIN Raphael	Institut de Recherche en Infectiologie de Montpellier (IRIM) University of Montpellier	France
GOWRISHANKAR Ganesh	Laboratoire d'Informatique, de Robotique et de Microelectronique de Montpellier (LIRMM) CNRS Languedoc-Roussillon	France (India)
IKEUCHI Yoshiho	Institute of Industrial Science The University of Tokyo	Japan

Elucidating physico-chemical forces setting the limit of bacterial growth

HWA Terence	Dept. of Physics and Biology University of California, San Diego La Jolla	USA
FRITZ Georg	School of Molecular Sciences University of Western Australia (UWA) Perth	Australia (Germany)
PILIZOTA Teuta	School of Biological Sciences University of Edinburgh	UK
VAN TEEFFELEN Sven	Dept. of Microbiology, Infection and Immunology University of Montreal	Canada (Germany)

Functional ecology of flagellates sheds new light on early eukaryotic evolution

KIORBOE Thomas	Centre for Ocean Life, DTU Aqua Technical University of Denmark Kgs. Lyngby	Denmark
SIMPSON Alastair	Dept. of Biology Dalhousie University Halifax	Canada (Australia)
WAN Kirsty	Living Systems Institute University of Exeter	UK

Mechanisms and evolutionary consequences of stress-induced mutagenesis

KUPIEC Martin	The Shmunis School of Biomedicine and Cancer Research Tel Aviv University	Israel
TRAUlsen Arne	Dept. of theoretical Biology MPI for Evolutionary Biology Plön	Germany

Vibrational information transfer between living cells in the extracellular matrix

LESMAN Ayelet	School of Mechanical Engineering Tel Aviv University	Israel
GENIN Guy	McKelvey School of Engineering Washington University in St.Louis	USA
MORTIMER Beth	Dept. of Biology University of Oxford	UK
ZAERA POLO Ramon	Continuum Mechanics and Structural Analysis Carlos III University of Madrid Leganes	Spain

Cognitive convergence: Vertebrate carnivore-like predatory planning behaviors in jumping spiders

LI Chen	Dept. of Mechanical Engineering Johns Hopkins University JHURA Baltimore	USA
LI Daiqin	School of Life Sciences Hubei University Wuhan	China (New Zealand (Aotearoa))
MACIVER Malcolm	Dept. of Biomedical Engineering Northwestern University - Evanston Campus	USA (Canada)
NELSON Ximena	School of Biological Sciences University of Canterbury Christchurch	New Zealand (Aotearoa)

Scaling the impact of viruses from single cells to the global methane cycle

MALIK Ashish	School of Biological Sciences University of Aberdeen	UK (India)
ANANTHARAMAN Karthik	Dept. of Bacteriology University of Wisconsin Madison	USA
EMERSON Joanne	Dept. of Plant Pathology University of California Davis	USA
NICOL Graeme	Laboratoire Ampère CNRS – Ecole Centrale de Lyon Ecully	France (UK)

UV opsin as the sensor for magneto-sensation in animals

SCHAPIRO Igor	Institute of Chemistry The Hebrew University of Jerusalem	Israel (Germany)
KATO Hideaki	Dept. of Life Sciences The University of Tokyo	Japan
KOSLOFF Mickey	Dept. of Human Biology University of Haifa	Israel
MERLIN Christine	Dept. of Biology Texas A&M University College Station	USA (France)

From nano to organismal scale: structural regulation of regenerating jellyfish

SINIGAGLIA Chiara	Integrative Biology of Marine Organisms (BIOM) CNRS Languedoc-Roussillon Banyuls sur mer	France (Italy)
MODES Carl	Center for Systems Biology Dresden (CSBD) MPI of Molecular Cell Biology and Genetics Dresden	Germany (USA)
SHIMANOVICH Ulyana	Dept. of Materials and Interfaces Weizmann Institute of Science Rehovot	Israel

Temporal structures in complex deep-sea versus surface marine life: from molecules to communities

TESSMAR-RAIBLE Kristin	Dept. of Microbiology, Immunobiology and Genetics University of Vienna	Austria (Germany)
MATABOS Marjolaine	Mineral Resources and Deep-Sea Ecosystems (REM) French Research Institute for Exploitation of the Sea (IFREMER) Plouzané	France
OAKLEY Todd	Dept. of Ecology Evolution and Marine Biology The University of California, Santa Barbara	USA
PELEG Orit	Computer Science Dept. and BioFrontiers Institute University of Colorado Boulder	USA (Israel)

Physical forces and mechanotransduction during mouse embryo implantation

TREPAT Xavier	Dept. of Integrative Cell and Tissue Dynamics Fundacio Institut de Bioenginyeria de Catalunya Barcelona	Spain
HIIRAGI Takashi	Dept. of Multi Cellular Coordination Hubrecht Institute Utrecht	The Netherlands (Japan)

Understanding the molecular basis of animal cold thermosensation

VIANA Felix	Dept. of Cellular and Systems Neurobiology Instituto de Neurociencias de Alicante Sant Joan d'Alacant	Spain
DALEN Love	Dept. of Zoology Stockholm University	Sweden
DOMENE Carmen	Dept. of Chemistry University of Bath	UK
SOBOLEVSKY Alexander	Dept. of Biochemistry and Molecular Biophysics Columbia University in the City of New York	USA (Russia)

Hormone-like Bacterial Signaling Molecules as Mediators of Gut-Brain Dialogues

XAVIER Karina	Bacterial Signalling Lab. Fundacao Calouste Gulbenkian Oeiras	Portugal
MEIJLER Michael	Dept. of Chemistry Ben-Gurion University of the Negev Be'er-Sheva	Israel
NEEDHAM Brittany	Stark Neurosciences Institute; Dept. of Anatomy Indiana University Indianapolis	USA

Mechanoradicals as a novel form of mechanosensing: from protein stretching to animal aging

ZAIDEL-BAR Ronen	Dept. of Cell and Developmental Biology Tel Aviv University	Israel
DUNN Alexander	Dept. of Chemical Engineering Stanford University	USA
GRÄTER Frauke	Dept. of Molecular Biomechanics Heidelberger Institut für Theoretische Studien	Germany

Quantifying the 4-dimensional microenvironment to explain the coexistence of social insects

BISHOP Tom	Dept. of Organisms and Environment Cardiff University	UK
DAVIES Andrew	Dept. of Organismic and Evolutionary Biology Harvard University Cambridge	USA (South Africa)
JANION-SCHEEPERS Charlene	Dept. of Biological Sciences University of Cape Town	South Africa
SENIOR Rebecca	Dept. of Biosciences School of Biological and Biomedical Sciences Durham University	UK

Resurrecting the Multiple Origins of Tyrosine Kinase Activity and Phosphotyrosine Recognition

CREIXELL Pau	CRUK Cambridge Institute The University of Cambridge	UK (Spain)
METZGER Brian	Dept. of Biological Sciences Purdue University West Lafayette	USA

S3: Securing shifting sands – from genes to geoengineering

DUNNING Luke	School of Biosciences University of Sheffield	UK
REIJERS Valerie	Dept. of Physical Geography Utrecht University	The Netherlands
WENGROVE Meagan	School of Civil and Construction Engineering Oregon State University Corvallis	USA

Deciphering the evolution, cellular biology and biogeochemistry of symbioses in anaerobic eukaryotes

HUSNIK Filip	Okinawa Institute of Science and Technology Graduate University Onna-son, Okinawa	Japan (Czech Republic)
BEINART Roxanne	Graduate School of Oceanography University of Rhode Island Narragansett	USA
STAIRS Courtney	Dept. of Biology Lund university	Sweden (Canada)

How predictable is evolution? Eco-evolutionary dynamics of fungi across biological scales

MANHART Michael	Dept. of Biochemistry and Molecular Biology Rutgers Biomedical and Health Sciences Piscataway	USA
CHARLEBOIS Daniel	Dept. of Physics The University of Alberta Edmonton	Canada
WORTEL Meike	Dept. of Microbiology University of Amsterdam	The Netherlands

Mechanical control of hidden embryonic boundaries

MONGERA Alessandro	Dept. of Cell and Developmental Biology University College London	UK (Italy)
ALMUEDO-CASTILLO Maria	Dept. of Gene Regulation and Morphogenesis Centro Andaluz de Biología del Desarrollo/ CSIC Sevilla	Spain
SERRA Mattia	Dept. of Physics University of California, San Diego	USA (Italy)

A novel approach to tropical dendroclimatology using hyperspectral imaging and deep learning [ATHIL]

RANNESTAD Meley	Faculty of Environmental Sciences and Natural Resource Management Norwegian University of Life Sciences Ås	Norway
SIYUM Zenebe	Dept. of Climate and Society Mekelle University, Institute of Climate and Society	Ethiopia

The Emergence of Collective Intelligence: Understanding Human Behavior through AI Agents

RUIZ-GARCIA Miguel	Depto de Estructura de la Materia, Física Térmica y Electrónica Universidad Complutense de Madrid	Spain
SAXE Andrew	Gatsby Computational Neuroscience Unit and Sainsbury Wellcome Centre University College London	UK (USA)
SPITZER Markus	Dept. of Psychology Martin Luther University Halle-Wittenberg	Germany
TEICH Erin	Dept. of Physics Wellesley College	USA

A tale of tails – reconstructing evolutionary transition between archaeal and eukaryotic chromatin

TAKEMATA Naomichi	Dept. of Synthetic Chemistry and Biological Chemistry Kyoto University	Japan
DODONOVA Svetlana	Structural and Computational Biology Unit EMBL-Heidelberg	Germany (Russia)