ERC Advanced Grants 2024

List of Principal Investigators selected for funding

The statistics and list of successful candidates are provisional. The European Commission and the Swiss Government have concluded negotiations on the association of Switzerland to Horizon Europe. The signature of the agreement is expected to take place in 2025. However, since the scope of the association agreement does not cover award procedures implementing the 2024 budget, no grant agreements will therefore be signed with host institutions established in Switzerland under the 2024 Advanced Grant call. Switzerland-based applicants may only receive EU funding if they transfer their proposed project to an eligible host institution.

Last name	First name	Host Institution name	Host Institution local name	Host country	Acronym	Title	Panel
HAIMAN	Zoltan	Institute of Science and Technology Austria	Institute of Science and Technology Austria	AT	Bright BHBs	Enabling multi-messenger science with black hole binaries	PE9
HAUSEL	Tamas	Institute of Science and Technology Austria	Institute of Science and Technology Austria	AT	ViaFiPoS	Representation theory, equivariant topology and Langlands duality via fixed point schemes	PE1
HELD	Karsten	Vienna University of Technology	Technische Universität Wien	AT	RealSuper	Realistic modeling of unconventional superconductors	PE3
NAEGERL	Hanns-Christoph	University of Innsbruck	Universität Innsbruck	AT	COOLIO	Controlled Dynamics in Cold Quantum Matter	PE2
DE VOS	Dirk	KU Leuven	KU Leuven	BE	CaZeo	Cascade reactions with Zeolites in compartmentalized settings	PE5
D'HOOGE	Dagmar	Ghent University	Universiteit Gent	BE	POLY-DESIGN	Interactively connecting our polymer production design	PE8
HADERMANN	Joke	University of Antwerp	Universiteit Antwerpen	BE	REACT	Resolving Evolving Aspects of Crystal Structure Transformations	PE4
KERSCHEN	Gaetan	University of Liege	Université de Liège	BE	ENTIRE	Experimental Continuation in Nonlinear Dynamics: Aerospace Engineering and Beyond	PE8
MEYERS	Johan	KU Leuven	KU Leuven	BE	REALTOWIND	Real-time optimal control of wind-farm atmosphere interaction	PE8
VAN SPEYBROECK	Veronique	Ghent University	Universiteit Gent	BE	TIME	Get track of time for all events from the nano- to the crystal particle level in nanoporous materials	PE4
AILAMAKI	Anastasia	Swiss Federal Institute of Technology Lausanne (EPFL)	Ecole Polytechnique Fédérale de Lausanne	CH	Prodasys	A principled approach to resource optimization through declarative data systems	PE6
BRES	Camille-Sophie	Swiss Federal Institute of Technology Lausanne (EPFL)	Ecole Polytechnique Fédérale de Lausanne	CH	CHAGALL	Chip-scale harmonic-generation based narrow-linewidth accordable visible light sources	PE7
FAIST	Jerome	Swiss Federal Institute of Technology Zurich (ETH Zurich)	Eidgenössische Technische Hochschule Zürich	CH	COLLECTIVE	Correlated two-dimensional electronic states via vacuum field	PE3
HENDERSON	James	Idiap Research Institute	Institut de recherche Idiap	CH	BALM	Interpretable Beliefs and Programmable Knowledge with Bayesian Attention in Large Language Models	PE6

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KHAMMASH	Mustafa	Swiss Federal Institute of Technology Zurich (ETH Zurich)	Eidgenössische Technische Hochschule Zürich	CH	CyberGenCells	Generative Cybergenetics for Cell-Based Therapy	PE7
MATIOLI	Elison	Swiss Federal Institute of Technology Lausanne (EPFL)	Ecole Polytechnique Fédérale de Lausanne	CH	POWERD	Polarization-engineered Wide-band-gap Electronic Devices - A ground-breaking semiconductor platform for efficient electronics	PE7
MOSELUND	Kirsten	Paul Scherrer Institute	Paul Scherrer Institut	CH	NEON	Neuromorphic photonics and III-V Electro-Optic modulators for random lasing Networks	PE7
PAYER	Mathias	Swiss Federal Institute of Technology Lausanne (EPFL)	Ecole Polytechnique Fédérale de Lausanne	CH	LEAPS	LEAst Privilege compartmentS	PE6
STELLACCI	Francesco	Swiss Federal Institute of Technology Lausanne (EPFL)	Ecole Polytechnique Fédérale de Lausanne	CH	ProteISM	Engineering Protein Interactions Using Small Molecules	PE11
WARD	Thomas	University of Basel	Universität Basel	CH	BiONiX	Biocatalytic Oxidative Nitrogen Fixation	PE5
WENGER	Oliver	University of Basel	Universität Basel	CH	BREAKING KASHA	Breaking Kasha's rule to boost photochemistry	PE4
ZDEBOROVA	Lenka	Swiss Federal Institute of Technology Lausanne (EPFL)	Ecole Polytechnique Fédérale de Lausanne	CH	SPASM-net	Statistical Physics of Attention and Sequence Modelling with Neural Networks	PE6
PRATSINIS	Sotiris E.	The Cyprus Institute	The Cyprus Institute	CY	PLANET	Pushing the Limit of Aerosol Nanoscale Engineering with Tiny nanoparticles	PE8
BAUM	Peter	University of Constance	Universität Konstanz	DE	ULMI	Ultrafast All-Electron Microscopy	PE2
BÖRNER	Hans	Humboldt University of Berlin	Humboldt-Universität zu Berlin	DE	IDefix	Digging Deep into the Sequence Space of Electrochemical Debonding of Peptides to Impact Next Generation Polymer Adhesives	PE11
CHEKHOVA	Maria	University of Erlangen-Nuremberg (FAU)	Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU)	DE	MultiFlaQS	Multifunctional Flat Quantum Sources	PE2
DURANTE	Marco	GSI Helmholtz Centre for Heavy Ion Research	GSI Helmholtzzentrum für Schwerionenforschung GmbH	DE	HI-FLASH	Heavy Ion FLASH	PE2

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FORNASIER	Massimo	Technical University of Munich	Technische Universität München	DE	NEITALG	Nonlinear Evolutions and Iterative Algorithms: Optimization and Control	PE1
FRANZ	Michael	Technical University of Berlin	Technische Universität Berlin	DE	REVITALIZE	Assured Recompilation of Vintage Executables via Binary Lifting: Unfreezing Legacy Software from Obsolete Toolchain Dependence	PE6
GASTALDO	Loredana	University of Heidelberg	Ruprecht-Karls-Universität Heidelberg	DE	ECHo-LE	Electron Capture in Ho-163 - Large Experiment	PE2
GRABOWSKI	Blazej	University of Stuttgart	Universität Stuttgart	DE	META-LEARN	Meta-Learned Machine-Learning Interatomic Potentials for Ab initio Engineering of Chemical and Microstructural Complexity	PE11
HARDER	Sjoerd	University of Erlangen-Nuremberg (FAU)	Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU)	DE	MM-ZERO	Main Group Metals in Oxidation State Zero for Bond Activation and Catalysis	PE5
KÄPYLÄ	Petri	Leibniz Institute for SOlar Physics (KIS)	Leibniz-Institut für Sonnenphysik (KIS)	DE	NEOCON	New Paradigm of Stellar Convection	PE9
LIU	Na	University of Stuttgart	Universität Stuttgart	DE	DMoS	Engineered DNA Moiré Superlattices	PE5
MAPELLI	Michela	University of Heidelberg	Ruprecht-Karls-Universität Heidelberg	DE	IMblack	Intermediate-mass black holes in the era of gravitational-wave astronomy	PE9
MOSELER	Michael	Fraunhofer Society	Fraunhofer-Gesellschaft zur Förderung der angewandten Forschung e.V.	DE	LubeTwin	Constructing the continuum-physics core of a digital twin for tribological contacts under boundary and mixed lubrication conditions	PE11
OBERTELLI	Alexandre	Technical University of Darmstadt	Technische Universität Darmstadt	DE	HYPER	When antimatter meets strangeness: a new era for precision hypernuclear physics	PE2
PERNICE	Wolfram	University of Heidelberg	Ruprecht-Karls-Universität Heidelberg	DE	PICNIC	Probabilistic photonic computing	PE7
SCHINNERER	Eva	Max Planck Society	Max-Planck-Gesellschaft zur Förderung der Wissenschaften e.V.	DE	eCMZs	Galaxy Centers: Understanding Star Formation in Extreme Environments	PE9
SCHMIDT	Albrecht	University of Munich (LMU)	Ludwig-Maximilians-Universität München	DE	AI-Twin	AI-Twins of Human Experience: Towards Personal Generative AI-Systems for Amplifying Human Cognition	PE6

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WIDERA	Artur	Technical University Kaiserslautern	Technische Universität Kaiserslautern	DE	QuantumEngine	Quantum Engines in Ultracold Gases	PE2
WUERTHNER	Frank	University of Wurzburg	Julius-Maximilians-Universität Würzburg	DE	SCHWARZITE	Supramolecular Approach to Schwarzite Carbon Materials	PE5
ZAUMSEIL	Jana	University of Heidelberg	Ruprecht-Karls-Universität Heidelberg	DE	SCALE-NT	Scalable and Sustainable Sorting and Processing of Semiconducting Carbon Nanotubes as Functional Materials	PE11
BACHTOLD	Adrian	The Institute of Photonic Sciences	Institut de Ciències Fotòniques	ES	QTube	Synthesising a macroscopic quantum superposition of a nanotube	PE2
GALLART	Carme	The Institute of Astrophysics of the Canary Islands (IAC)	Instituto de Astrofísica de Canarias	ES	ChronoGal	Chronology of our Galaxy from Gaia Color-Magnitude Diagram fitting	PE9
PALLE	Enric	The Institute of Astrophysics of the Canary Islands (IAC)	Instituto de Astrofísica de Canarias	ES	SPEAR	Sub-Neptunes as Predecessors for Earth-like planets Atmospheres Research for Habitability with the ELTs	PE9
SANTAMARÍA	Jesús	University of Zaragoza	Universidad de Zaragoza	ES	ROMEO	Cracking the code on tumor targeting with nanostructures: competitive kinetics and extracellular vesicles	PE8
KASKI	Samuel	Aalto University	Aalto-yliopisto	FI	ODD-ML	ODD-ML: Out-of-Distribution Deployable Machine Learning	PE6
ARMSTRONG	Scott	National Center for Scientific Research (CNRS)	Centre National de la Recherche Scientifique (CNRS)	FR	ReGroStaFT	Renormalization Group and Statistical Field Theory	PE1
BASILE-DOELSCH	Isabelle	INRAE	Institut national de recherche pour l'agriculture, l'alimentation et l'environnement	FR	NANOCLICS	Unveiling organomineral associations at the nanoscale by bridging their structure and dynamics	PE10
BÄUERLE	Christopher	National Center for Scientific Research (CNRS)	Centre National de la Recherche Scientifique (CNRS)	FR	UltraWave	Quantum entanglement with ultrashort charge wavepackets	PE3
BERTET	Patrice	French Alternative Energies and Atomic Energy Commission (CEA)	Commissariat à l'énergie atomique et aux énergies alternatives	FR	ONESPIN	Single-spin magnetic resonance spectroscopy and imaging	PE3

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BONIFATI	Angela	University Claude Bernard Lyon 1	Université Lyon 1 Claude Bernard	FR	GO-Y	Unifying Graph Databases and Causal Models	PE6
CARACAS	Razvan	National Center for Scientific Research (CNRS)	Centre National de la Recherche Scientifique (CNRS)	FR	DAWN	The dawn of the Hadean atmosphere	PE10
CHAUSSIDON	Marc	National Center for Scientific Research (CNRS)	Centre National de la Recherche Scientifique (CNRS)	FR	DUST	From gas to dust: searching for the reactions at the origin of the first solids in the solar system	PE10
DALALYAN	Arnak	GENES	Groupe des Ecoles Nationales d'Économie et Statistique	FR	SAGMOS	Statistical Analysis of Generative Models	PE1
GANGHOFFER	Jean-François	University of Lorraine	Université de Lorraine	FR	BONEREPAIR	Using electromechanical stimulations on bone remodeling to speed-up repair bone damage	PE8
GIUSEPPONE	Nicolas	University of Strasbourg	Université de Strasbourg	FR	SPRING	Supramolecular Integration of Artificial Molecular Motors in Active Systems : Morphing, Adaptation, Propulsion	PE5
KLYMCHENKO	Andrey	National Center for Scientific Research (CNRS)	Centre National de la Recherche Scientifique (CNRS)	FR	CaptuRel	Capture-and-Release Organic Nanomaterials for Optical Sensing and Control of Cells	PE5
KOCIAK	Mathieu	National Center for Scientific Research (CNRS)	Centre National de la Recherche Scientifique (CNRS)	FR	FreeQCC	Free Electrons to Bound Electrons and Photons Quantum Coherent Coupling	PE3
LOGNONNÉ	Philippe	Institute of Earth Physics of Paris (IPGP)	Institut de Physique du Globe de Paris	FR	LISTEN FLASH	Lunar Impact's Seismic and Telescopes European Network for Flash	PE10
RICHARD	Marie-Ingrid	French Alternative Energies and Atomic Energy Commission (CEA)	Commissariat à l'énergie atomique et aux énergies alternatives	FR	REACT	REvolutionising the use of coherent x-ray diffraction for structural crystallography Applied to CaTalysis	PE4
WARDELL	Barry	University College Dublin	University College Dublin	IE	EMRIWaveforms	Waveforms for Extreme Mass Ratio Inspirals	PE9
AHARONOV	Dorit	The Hebrew University of Jerusalem	The Hebrew University of Jerusalem	IL	CCnoisyQC	Computational Complexity of Noisy and Perturbed Quantum Systems	PE6
FRYDMAN	Lucio	Weizmann Institute of Science	Weizmann Institute of Science	IL	SteadyNMR	Unleashing the power of steady-state high-resolution NMR: Methods, Molecules, Metabolism	PE4

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MAREK	Ilan	Technion - Israel Institute of Technology	Technion - Israel Institute of Technology	IL	StereoCPC	Harnessing Non-Classical Carbocations for Stereoselective Synthesis	PE5
PEREZ	Gilad	Weizmann Institute of Science	Weizmann Institute of Science	IL	DM-Dawn	New era in dark matter phenomenology, the dawn of the nuclear clocks	PE2
ZIEGLER	Tamar	The Hebrew University of Jerusalem	The Hebrew University of Jerusalem	IL	DyAddAlg	Dynamics, Additive number theory and Algebraic geometry	PE1
BELLINI	Tommaso	University of Milan	Università degli Studi di Milano	IT	Q-EVO	Quantifying Evolution: a platform for the synthetic evolution of molecular ecosystems.	PE3
CALABRESE	Pasquale	International School for Advanced Studies	Scuola Internazionale Superiore di Studi Avanzati	IT	MOSE	MOnitoring Symmetries with Entanglement	PE2
DELOGU	Lucia Gemma	University of Padua	Università degli Studi di Padova	IT	BIO-MX	Biomedical MXenes as cell labeling and tracking platforms	PE11
GULIA	Laura	University of Bologna	Università di Bologna	IT	FARIA	Forecasting And undeRstanding the seIsmic cycle through b-vAlue	PE10
MAGLI	Enrico	Polytechnic University of Turin	Politecnico di Torino	IT	IntelliSwarm	Satellite imaging swarms with distributed onboard intelligence	PE6
MOLINARO	Antonio	University of Naples Federico II	Università degli Studi di Napoli Federico II	IT	LPS-CODE	The LPS-code: uncovering meta-level chemical structures that establish LPS as friend or foe	PE5
NESTOLA	Fabrizio	University of Padua	Università degli Studi di Padova	IT	MADAM	Discovering Mineral nAnoinclusions in DiAaMonds	PE10
PASCOLI	Silvia	University of Bologna	Università di Bologna	IT	DarkSHunt	Hunting sub-GeV Dark Sectors	PE2
PETROZZA	Annamaria	Italian Institute of Technology	Fondazione Istituto Italiano di Tecnologia	IT	EDO	Electronic Doping of Soft Semiconductors	PE11
PUGNO	Nicola	University of Trento	Università degli Studi di Trento	IT	FRAMEGLOW	Advanced Quantized FRActure MEchanics models of ice and snow for GLObal Warming risk mitigation	PE8
SAVARÉ	Giuseppe	Bocconi University	Università Commerciale 'Luigi Bocconi'	IT	OPTiMiSE	Optimal Transport and Metric Structures for Evolution Problems	PE1
VITIELLO	Miriam Serena	National Research council of Italy	Consiglio Nazionale delle Ricerche	IT	NODE	NanOengineering cutting-edge micro-Devices in the far-infrared through advanced material Embedding	PE7
BERTONE	Gianfranco	University of Amsterdam	Universiteit van Amsterdam	NL	De Tenebris	Dark Matter Phenomenology in Strong Gravity	PE9

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CAZAUX	Stephanie	Delft University of Technology	Technische Universiteit Delft	NL	LeakingOceans	From Buried Ocean to Surface Ice: Spectral Signatures of Leaking Oceans on Icy Moons.	PE9
DE RIJKE	Maarten	University of Amsterdam	Universiteit van Amsterdam	NL	UNITE	Robust Generative Information Retrieval	PE6
DOMINIK	Carsten	University of Amsterdam	Universiteit van Amsterdam	NL	GT4Pebbles	Ground Truth for Pebbles in Planet Formation	PE9
HARUTYUNYAN	Syuzanna	University of Groningen	Rijksuniversiteit Groningen	NL	DansMol	The Dance of Molecules: Rhythmic Systems through Organic Catalysis	PE5
KAMP	Inga	University of Groningen	Rijksuniversiteit Groningen	NL	DISKS-ROCK	Deciphering the building blocks of rocky planets using JWST spectra of planet forming disks	PE9
MORONI	Lorenzo	Maastricht University	Universiteit Maastricht	NL	MECCANO	Directing Stem Cell Activity through Mechanical Stimulation of Metamaterial 3D Scaffolds	PE8
NIEMANN	Helge	Dutch Research Organisation Institutes (NWO-I)	Nederlandse Wetenschappelijk Onderzoek Instituten	NL	NanoMare	The role of microbes in the fate of nanoplastics in the marine realm	PE10
POELMA	Christian	Delft University of Technology	Technische Universiteit Delft	NL	IDeS	Inertial Dense Suspensions (IDeS); Flows in between Laminar and Turbulent	PE8
ROOS	Wouter	University of Groningen	Rijksuniversiteit Groningen	NL	LabFree	Label-free assembly of RNA-containing viruses, one particle at a time	PE3
SCHLANGEN	Erik	Delft University of Technology	Technische Universiteit Delft	NL	MAGICON	MAterials Genome engineering for re-Inventing CONcrete	PE8
FOMIN	Fedor	University of Bergen	Universitetet i Bergen	NO	NewPC	New Horizons of Parameterized Complexity	PE6
MARISALDI	Martino	University of Bergen	Universitetet i Bergen	NO	ENLIGHTEN	ExploriNg Lightning Initiation and Gamma-ray High-energy emission in Thunderstorm ENvironments	PE10
MOSKAL	Paweł	Jagiellonian University, Krakow	Uniwersytet Jagiellonski	PL	POSITRONIUM	Can tissue oxidation be sensed by positronium?	PE2
ZGID	Dominika	University of Warsaw	Uniwersytet Warszawski	PL	Correlated_Disorder	Modeling disorder in crystalline materials using systematically improvable correlated methods	PE4

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EWING	Andrew	University of Gothenburg	Göteborgs universitet	SE	ComOrganellesAnaly t	Nanoscale Analysis of Inter-Organelle Interactions and their Role in Neuronal Plasticity	PE4
MINAHAN	Joseph	Uppsala University	Uppsala universitet	SE	IGTaFT	Integrable gauge theories at finite temperature	PE2
RANTZER	Anders	Lund University	Lunds universitet	SE	DualControl	Dual Control at Scale: Learning-based control for systems with millions of states.	PE7
SHEGAI	Timur	Chalmers University of Technology	Chalmers tekniska högskola	SE	CASAlibra	Casimir Self-Assembly out of Equilibrium	PE3
TJERNBERG	Oscar	KTH Royal Institute of Technology	Kungliga Tekniska Högskolan	SE	COPS	Cooper-pair spectroscopy: A new window into the world of superconductivity	PE3
TORRES COMPANY	Victor	Chalmers University of Technology	Chalmers tekniska högskola	SE	ProSync	Precise optical synchronization of high-speed electronics with microcombs	PE7
AUSTIN	Tim	University of Warwick	University of Warwick	UK	HDPER	High-dimensional probability in ergodic theory and representation theory	PE1
BARKER	Stephen	Cardiff University	Cardiff University	UK	NatClim	Predicting the Natural Future of Earth's Climate	PE10
BREWSTER	Stephen	University of Glasgow	University of Glasgow	UK	BodyElectric	Unlocking the Potential of Electrotactile Haptics	PE6
FRIEND	Richard	University of Cambridge	University of Cambridge	UK	BRIGHTS	Bright High Spin Molecular Semiconductors	PE11
GARCIA-MANYES	Sergi	King's College London	King's College London	UK	ProtMechCell	Single-protein mechanochemical regulation of cell function	PE4
HIGHAM	Desmond	University of Edinburgh	University of Edinburgh	UK	NumAStAI	Numerical Analysis for Stable AI	PE1
HOLLIGER	Philipp	United Kingdom Research and Innovation (Medical Research Council)	United Kingdom Research and Innovation (Medical Research Council)	UK	OrthoScript	Expanded genetic alphabets for orthogonal encoding of genetic information	PE5
JUNIPER	Matthew	University of Cambridge	University of Cambridge	UK	AXIOM	Adjoint-accelerated Inference and Optimization Methods	PE8
KRISHNAN	Madhavi	University of Oxford	University of Oxford	UK	ELECTROSOL	The electrosolvation force: a new physical paradigm in chemistry and biology	PE4
NAKARIAKOV	Valery	University of Warwick	University of Warwick	UK	ACDCSUN	A new look at the solar coronal heating problem	PE9

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O'CONNELL	Donal	University of Edinburgh	University of Edinburgh	UK	ClassicPlus	Classical and Semiclassical Aspects of Amplitudes	PE2
ORR-EWING	Andrew	University of Bristol	University of Bristol	UK	PHAERO	Ultrafast Photochemistry in Organic Aerosols	PE4
OWENS	Roisin	University of Cambridge	University of Cambridge	UK	CODEBREAKER	Conformal Organic Devices for Electronic Brain-gut REAdout and CharactERisation	PE11
SANTHANAM	Rahul	University of Oxford	University of Oxford	UK	METACOMP	Meta-complexity: A Unified Approach to the Complexity of Proofs and Computation	PE6
SAPIENZA	Riccardo	Imperial College of Science, Technology and Medicine	Imperial College of Science, Technology and Medicine	UK	LUMINOUS	Light interaction with synthetically moving metamaterials	PE11
SCHULZE	Felix	University of Warwick	University of Warwick	UK	GENREG	Generic regularity of area minimising hypersurfaces and mean curvature flows	PE1
SIMEONE	Osvaldo	King's College London	King's College London	UK	CONTRACT	Conformal Calibration for Reliable AI-Based Wireless Communications	PE7