

## ERC Starting Grants 2022

### List of Principal Investigators invited for funding from the reserve list

#### Physical Sciences and Engineering domain

*The final list of successful candidates is provisional. The Trade and Cooperation Agreement between the European Union and the United Kingdom allows for associating the UK to the current EU research and innovation funding programme, Horizon Europe, subject to the adoption of a Protocol. As this Protocol has not been adopted so far, the UK is still considered "non-associated" to Horizon Europe. Therefore, the successful proposals of applicants based in a country in the process of associating to Horizon Europe will be eligible for funding only if the relevant Horizon Europe association agreement applies by the time of the signature of the grant agreement. However, successful applicants from UK host institutions can still be funded, provided that they move to a host institution in an eligible country.*

Last name	First name	Host Institution local name	Host Institution name	Host Country	Acronym	Title	Panel
Christakis	Maria	Technische Universität Wien	Vienna University of Technology	AT	MirandaTesting	Testing Program Analyzers Ad Absurdum	PE6
Spyropoulos	Georgios	Universiteit Gent	Ghent University	BE	aTONE	Soft optoelectronics and ion-based circuits for diagnostics and closed-loop neuromodulation of the auditory pathway	PE7
Mpekris	Fotios	University of Cyprus	University of Cyprus	CY	MMSCancer	Mechano-modulation of tumor microenvironment with mechanotherapeutics and sonopermeation to optimize nano-immunotherapy	PE8
Arroyo Rabasa	Adolfo	Rheinische Friedrich-Wilhelms-Universität Bonn	University of Bonn	DE	ConFine	Concentrations and Fine Properties of PDE-constrained measures	PE1
Dai	Angela	Technische Universität München	Technical University of Munich	DE	SpatialSem	Spatial 3D Semantic Understanding for Perception in the Wild	PE6
Defenu	Nicolò	Ruprecht-Karls-Universität Heidelberg	University of Heidelberg	DE	QLR-Net	Quantum Long-Range Networks	PE2
Franken	Tanja	Friedrich-Alexander-Universität Erlangen-Nürnberg	University of Erlangen-Nuremberg	DE	DynaMMO	Tackling limitations of future relevant thermo-chemical reactions by exploiting the dynamic surface behaviour of complex mixed metal oxides	PE8

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Holder	Tobias	Universität Zu Köln	University of Cologne	DE	QuantumCUSP	New Horizons in Quantum Transport: From band structure geometry to emergent curved spacetime	PE3
Kastl	Christoph	Technische Universität München	Technical University of Munich	DE	2DTopS	TOP-down Superlattice engineering of 2D solid-state quantum matter	PE3
Lockhart	Guglielmo Paul	Rheinische Friedrich-Wilhelms-Universität Bonn	University of Bonn	DE	EXTENDED	Extended degrees of freedom in QFT	PE2
Pariso	Francesco	Helmholtz-Zentrum Potsdam Deutsches GeoForschungsZentrum	Helmholtz Centre Potsdam German Research Centre for Geosciences	DE	PhI3	Physics-informed machine learning to forecast injection-induced seismicity	PE8
Pithan	Felix	Alfred-Wegener-Institut Helmholtz- Zentrum für Polar- und Meeresforschung	Alfred Wegener Institute for Polar and Marine Research	DE	A3M-transform	Understanding Arctic amplification of climate change through air-mass transformations	PE10
Tittl	Andreas	Ludwig-Maximilians-Universität München	University of Munich (LMU)	DE	METANEXT	Atomically layered materials for next-generation metasurfaces	PE3
Zhou	You	Københavns Universitet	University of Copenhagen	DK	InitialConditions	Initial Conditions for Quark and Gluon Matter Formation at the LHC	PE2
Liodakis	Ioannis	Foundation for Research and Technology Hellas	Greek Foundation for Research and Technology	EL	BOOTES	Black hOle Optical-polarization TimE-domain Survey	PE9

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Garcia De Marina	Hector	Universidad de Granada	University of Granada	ES	iSwarm	Controlling imperfect robot swarms	PE7
Ibanez Pereda	Jaime	Universidad de Zaragoza	University of Zaragoza	ES	ECHOES	Extracting the Human Motor Null Space from Muscles - A new framework to measure human neural activity	PE7
Muñoz Rojo	Miguel	Agencia Estatal Consejo Superior de Investigaciones Científicas	Spanish National Research Council (CSIC)	ES	THERMO2DEAL	THERmal MOdulators based on novel 2D mxEne materials for nearly isothermAL battery operation	PE8
Perez	Daniel	Universitat Politècnica de València	Polytechnic University of Valencia	ES	LS-Photonics	Large-scale Multicore Smart Photonics: Using advanced design and configuration protocols to develop the largest-scale programmable photonic processor	PE7
Lian	Junhe	Aalto-yliopisto	Aalto University	FI	HIGMAM	Hierarchical gradient metals by additive manufacturing	PE8
Ehrlacher	Virginie	Ecole Nationale des Ponts et Chaussées	Ecole Nationale des Ponts et Chaussées	FR	HighLEAP	High-dimensional mathematical methods for LargE Agent and Particle systems	PE1
Nord	Ashley	Centre National de la Recherche Scientifique (CNRS)	National Center for Scientific Research (CNRS)	FR	PHYBION	Physics of Bacterial Biofilm Nucleation	PE3

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Pisani	Alice	Centre National de la Recherche Scientifique (CNRS)	National Center for Scientific Research (CNRS)	FR	COSMOBEST	COSMOlogy BEyond Standard Techniques: a program to exploit cosmic voids for precision cosmology	PE9
Bartoletti	Stefania	Consiglio Nazionale delle Ricerche	Italian National Research council	IT	FIND-OUT	Federated and distributed inference leveraging sensing and communication in the computing continuum	PE7
Dordevic	Luka	Universita degli Studio di Padova	University of Padova	IT	PhotoDark	Photocatalytic Reactions Under Light and Dark with Transient Supramolecular Assemblies	PE5
Landy	Jack	UiT Norges arktiske universitet	UiT: The Arctic University of Norway	NO	SI3D	Arctic Summer Sea Ice in 3D	PE10
Skowron	Piotr	Uniwersytet Warszawski	University of Warsaw	PL	PRO-DEMOCRATIC	Proportional Algorithms for Democratic Decisions	PE6
Baryshnikov	Glib	Linköping Universitet	Linköping University	SE	LUMOR	Theory and principles of luminescent organic radical materials for OLED and sensor applications	PE4
Majek	Michal	Univerzita Komenského v Bratislave	Comenius University Bratislava	SK	CAPELE	Chemical Catalysis with Piezoelectric Materials	PE5
Bruned	Yvain	University of Edinburgh	University of Edinburgh	UK	LoRDeT	Low Regularity Dynamics via Decorated Trees	PE1

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Byrne	Michael	University of St Andrews	University of St Andrews	UK	GLOBAL-EX	GLOBAL-EX: A GLOBAL theory for EXtreme land temperatures in a changing climate	PE10
Ceppi	Paulo	Imperial College of Science, Technology and Medicine	Imperial College of Science, Technology and Medicine	UK	REFRAME	A new climate feedback framework	PE10
Cochrane	Stephen	Queen's University Belfast	Queen's University Belfast	UK	NEW HOPE	NEW Approaches to Overcome the Problem of Antimicrobial Resistance	PE5
Collins	Sean	University of Leeds	University of Leeds	UK	AMICI	Amorphous Microstructure Imaging at Composite Interfaces in Metal–Organic Frameworks	PE4
Devlin	Jack	Imperial College of Science, Technology and Medicine	Imperial College of Science, Technology and Medicine	UK	APTE	Astroparticle Physics with a Trapped Electron	PE2
Foerster	Jakob	University of Oxford	University of Oxford	UK	SHAIC1	Towards Scalable Human-AI Coordination from First Principles	PE6
Uhlemann	Cora	Newcastle University	Newcastle University	UK	LSS_BeyondAverage	Probing cosmic large-scale structure beyond the average	PE9
Vezzoli	Andrea	University of Liverpool	University of Liverpool	UK	SPUD	Single-Photon Unimolecular Devices	PE4

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Zhou	Rong	University of Cambridge	University of Cambridge	UK	MPGSVA	Mod p geometry of Shimura varieties and applications	PE1