European Research Council

ERC Advanced Grants 2008 - PHYSICAL SCIENCES and ENGINEERING

The first part of the list shows proposals to be invited for funding (alphabetic order).
The last part, in yellow, is the reserve list (rank order)

Rank	Title	First name	Name	Host institution	Host country	Acronym	Project title	Panel
	Prof.	Remi	Abgrall	Institut National de Recherche en Informatique et en Automatique	FR	ADDECCO	Adaptive Schemes for Deterministic and Stochastic Flow Problems	PE1
	Dr.	Serge	Abiteboul	Institut National de Recherche en Informatique et en Automatique	FR	Webdam	Foundations of Web Data Management	PE6
	Prof.	Conny	Aerts	Katholieke Universiteit Leuven	BE	PROSPERITY	Probing Stellar Physics and Testing Stellar Evolution through Asteroseismology	PE9
	Prof.	Noga	Alon	Tel Aviv University	IL	DMMCA	Discrete Mathematics: methods, challenges and applications	PE1
	Prof.	Ignatios	Antoniadis	European Organization for Nuclear Research	CH	MassTeV	Mass hierarchy and particle physics at the TeV scale	PE2
	Prof.	Markus	Antonietti	Max-Planck-Gesellschaft	DE	HYDRA-Chem	Hydrothermal and Ionothermal Chemistry For Sustainable Materials (HYDRA-CHEM)	PE5
	Dr.	Frederique	Battin-Leclerc	Centre National de la Recherche Scientifique	FR	Clean-ICE	Detailed chemical kinetic models for cleaner internal combustion engines	PE8
	Prof.	André, Léon	Berger	Université catholique de Louvain	BE	EMIS	An Intense Summer Monsoon in a Cool World, Climate and East Asian Monsoon during Interglacials with a special emphasis on the Interglacials 500,000 years ago and before	PE10
	Prof.	Flemming	Besenbacher	Aarhus Universitet	DK	VIN	Video-rate Scanning Probe Microscopy Imaging of Nanostructures on Surfaces	PE4
	Prof.	Stephen Alec	Billings	The University of Sheffield	UK	NSYS	Nonlinear System Identification and Analysis in the Time, Frequency, and Spatio-Temporal Domains	PE7
	Prof.	Rainer	Blatt	Universitaet Innsbruck	AT	CRYTERION	Cryogenic Traps for Entanglement Research with Ions (CRYTERION)	PE2
	Prof.	Axel	Brandenburg	Kungliga Tekniska Högskolan	SE	AstroDyn	Astrophysical Dynamos	PE9
	Prof.	Alberto	Broggi	University of Parma	IT	OFAV	Open intelligent systems for Future Autonomous Vehicles	PE6
	Prof.	Silke	Buehler-Paschen	Technische Universitat Wien	AT	QuantumPuzzle	Quantum Criticality - The Puzzle of Multiple Energy Scales	PE3
(*)	Prof.	Michel	Campillo	Universite Joseph Fourier Grenoble 1	FR	Whisper	Towards continuous monitoring of the continuously changing Earth	PE10
	Prof.	Lorenz S.	Cederbaum	Ruprecht-Karls-Universitaet Heidelberg	DE	ICD	Intermolecular Coulombic decay and control of photoinduced processes in physics, chemistry, and biology	PE4
	Prof.	Stefano	Ceri	Politecnico di Milano	IT	SeCo	Search Computing	PE6
	Dr.	Marc	Chaussidon	Centre National de la Recherche Scientifique	FR	CEMYSS	Cosmochemical Exploration of the first two Million Years of the Solar System	PE9
	Prof.	Anthony Kevin	Cheetham	The Chancellor, Masters and Scholars of the University of Cambridge	UK	NEWMATS	New Directions in Hybrid Inorganic-Organic Framework Materials	PE5
	Prof.	Alexander Giles	Davies	University of Leeds	UK	NOTES	New Opportunities in Terahertz Engineering and Science	PE7
	Prof.	Tomasz	Dietl	Instytut Fizyki Polskiej Akademii Nauk	PL	FunDMS	Functionalisation of Diluted Magnetic Semiconductors	PE3
	Prof.	Savas	Dimopoulos	The Chancellor, Masters and Scholars of the University of Oxford	UK	BSMOXFORD	Physics Beyond the Standard Model at the LHC and with Atom Interferometers.	PE2
	Prof.	Boris	Dubrovin	International School for Advanced Studies	IT	FroM-PDE	Frobenius Manifolds and Hamiltonian Partial Differential Equations	PE1
	Prof.	Thomas	Ebbesen	CIRFC - Centre International de Recherche aux frontières de la chimie	FR	PLASMONICS	Frontiers in Surface Plasmon Photonics - Fundamentals and Applications	PE2
	Prof.	Hélène	Esnault	Universität Duisburg-Essen	DE	Rational Points	Fundamental groups, etale and motivic, local systems, Hodge theory and rational points	PE1
	Prof.	Heino	Falcke	Stichting Katholieke Universiteit, Radboud University Nijmegen	NL	LOFAR-AUGER	From Black Holes to Ultra-High Energy Cosmic Rays: Exploring the Extremes of the Universe with Low-Frequency Radio Interferometry	PE9
	Dr.	Olivier Dominique	Faugeras	Institut National de Recherche en Informatique et Automatique	FR	NERVI	From single neurons to visual perception	PE1
	Prof.	Bernard	Feringa	University of Groningen	NL	Molecular motors	Molecular Motors - Controlling movement at the nanoscale	PE4
	Prof.	Sergio	Ferrara	Istituto Nazionale di Fisica Nucleare	IT	SUPERFIELDS	Supersymmetry, quantum gravity and gauge fields	PE2
	Dr.	Hubertus	Fischer	University of Bern	CH	MATRICs	Modern Approaches to Temperature Reconstructions in polar Ice Cores	PE10
	Prof.	Elvira	Fortunato	Faculty of Sciences and Technology of New University of Lisbon	PT	INVISIBLE	Advanced Amorphous Multicomponent Oxides for Transparent Electronics	PE8
	Prof.	Marijn	Franx	Universiteit Leiden	NL	HIGHZ	HIGHZ: Elucidating galaxy formation and evolution from very deep Near-IR imaging	PE9
	Prof.	Daniel	Frenkel	The Chancellor, Masters and Scholars of the University of Cambridge	UK	COLSTRUCTION	Numerical Design of Self Assembly of Complex Colloidal Structures	PE3
	Dr.	Daniel	Frost	Universität Bayreuth	DE	DEEP	Deep Earth Elastic Properties and a Universal Pressure Scale	PE10
	Prof.	Nicola	Fusco	Università di Napoli 'Federico II'	IT	AnTeGeFI	Analytic Techniques for Geometric and Functional Inequalities	PE1
	Prof.	William	Gaver	Goldsmiths' College	UK	ThirdWaveHCI	Third Wave HCI: Methods, Domains and Concepts	PE6
	Prof.	George	Gazetas	National Technical University of Athens	EL	DARE	Soil Foundation Structure Systems Beyond Conventional Seismic Failure Thresholds: Application to New or Existing Structures and Monuments	PE8
	Prof.	Alex	Gershman	Technische Universitaet Darmstadt	DE	ROSE	Robust Sensor Array Processing	PE7
	Prof.	Carlo	Ghezzi	Politecnico di Milano	IT	SMScom	Self-Managing Situated Computing	PE6
	Prof.	Nicolas	Gisin	Université de Genève	CH	QORE	Quantum Correlations	PE2
	Dr.	D. Christian	Glattli	Commissariat à l'énergie atomique	FR	MeQuaNo	Mesoscopic Quantum Noise: from few electron statistics to shot noise based photon detection	PE3
	Prof.	David	Harel	Weizmann Institute of Science	IL	LIBPR	Liberating Programming	PE6
	Prof.	Johan	Håstad	Royal Institute of Technology	SE	ApproxNP	Approximation of NP-hard optimization problems	PE6
	Prof.	Mordehai (Moty)	Heiblum	Weizmann Institute of Science	IL	FQHE	Statistics of Fractionally Charged Quasi-Particles	PE3
	Prof.	Kevin Peter	Homewood	The University of Surrey	UK	SILAMPS	Silicon integrated lasers and optical amplifiers	PE7
	Prof.	Lars	Hultman	Linköpings Universitet	SE	FUNMAT	Self-Organized Nanostructuring in Functional Thin Film Materials	PE5
	Prof.	Atac	Imamoglu	Eidgenössische Technische Hochscule Zürich	CH	QON	Quantum optics using nanostructures: from many-body physics to quantum information processing	PE3

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	Prof.	Börje	Johansson	Kungliga Tekniska Högskolan	SE	ALPAM	Atomic-Level Physics of Advanced Materials	PE5
	Prof.	Ludmil	Katzarkov	University of Vienna	AT	GEMIS	Generalized Homological Mirror Symmetry and Applications	PE1
	Prof.	Sergei	Kazarian	Medicine	UK	MicroChemicalImaging	Enhancing microfabricated devices with chemical imaging for novel chemical	PE8
	Prof.	Reinhold	Kleiner	University of Tuebingen	DE	Socathes	Solid State/Cold Atom Hybrid Quantum Devices	PE3
	Prof.	Paul	Knochel	Ludwig-Maximilians-Universitaet Muenchen	DE	New organometallics	Preparation of polyfunctional organometallics: new key intermediates for synthetic organic chemistry	PE5
	Dr.	David A.	Kosower	Commissariat a l'Energie Atomique	FR	MM-PGT	Modern Methods for Perturbative Gauge Theories	PE2
	Prof.	Leo	Kouwenhoven	Delft University of Technology	NL	QuantumOptoElectr	Quantum Opto-Electronics	PE3
	Prof.	Michael	Kramer	The University of Manchester	UK	LEAP	Large European Array for Pulsars	PE9
	Prof.	Markku Tapio	Kulmala	Helsingin yliopisto	FI	ATMNUCLE	Atmospheric nucleation: from molecular to global scale	PE10
	Prof.	Antti Jukka	Kupiainen	Helsingin yliopisto	FI	MPOES	Mathematical Physics of Out-of-Equilibrium Systems	PE1
	Prof.	David Alan	Leigh	The University of Edinburgh	UK	WalkingMols	Synthetic Molecules that Walk Down Tracks: The First Small-Molecule Linear Motors	PE5
	Prof.	Johannes	Lelieveld	Cyprus Institute	CY	C8	Consistent computation of the chemistry-cloud continuum and climate change in Cyprus	PE10
	Prof.	Maciej	Lewenstein	Institut de Ciencies Fotòniques, Fund. Priv.	ES	QUAGATUA	Quantum Gauge Theories and Ultracold Atoms	PE2
	Prof.	Anne	L'Huillier	Lund University	SE	ALMA	Attosecond Control of Light and Matter	PE2
	Prof.	Roberto	Longo	Università degli Studi di Roma Tor Vergata	IT	OACFT	Operator Algebras and Conformal Field Theory	PE1
	Prof.	László	Lovász	Eötvös Loránd University	HU	DISCRETECONT	From discrete to contimuous: understanding discrete structures through continuous approximation	PE1
	Prof.	Alexander	Lubotzky	The Hebrew University of Jerusalem	IL	Expanders	Expander Graphs in Pure and Applied Mathematics	PE1
	Prof.	Ib Henning	Madsen	University of Copenhagen	DK	TMSS	Topology of Moduli Spaces and Strings	PE1
	Dr.	Victor	Malka	Centre National de la Recherche Scientifique	FR	PARIS	PARticle accelerators with Intense lasers for Science (PARIS)	PE2
	Prof.	Fabio	Martinelli	Universita degli Studi Roma Tre-Dipartimento di Matematica	IT	PTRELSS	Phase transitions in random evolutions of large-scale structures	PE1
	Prof.	Colin Robert	McInnes	University of Strathclyde	UK	VISIONSPACE	Visionary Space Systems: Orbital Dynamics at Extremes of Spacecraft Length-Scale	PE8
	Prof.	Frédéric	Merkt	Swiss Federal Institute of Technology Zurich	CH	CORYPHEE	Cold Rydbergs: photoionization, electronic spectroscopy and electrostatic trapping	PE4
	Prof.	Philippe	Michel	Ecole Politechnique Fédérale de Lausanne	CH	EQUIARITH	Equidistribution in number theory	PE1
	Prof.	Josef	Michl	Institute of Organic Chemistry and Biochemistry, ASCR v.v.i.	CZ	Dipolar Rotor Array	Regular Arrays of Artificial Surface-Mounted Dipolar Molecular Rotors.	PE5
	Prof.	Falko	Netzer	Universitaet Graz	AT	SEPON	Search for emergent phenomena in oxide nanostructures	PE4
	Prof.	Mauro	Nisoli	Politecnico di Milano - Dipartimento di Fisica	IT	ELYCHE	Electron-scale dynamics in chemistry	PE2
	Prof.	Abraham	Nitzan	Tel Aviv University	IL	TORMCJ	Thermal, optical and redox processes in molecular conduction junctions	PE4
	Prof.	Steven Patrick	Nolan	The University Court of the University of St Andrews	UK	FUNCAT	Fundamental Studies in Organometallic Chemistry and Homogeneous Catalysis	PE5
	Prof.	Guust	Nolet	CNRS	FR	Globalseis	New goals and directions for observational global seismology	PE10
	Prof.	Bengt	Nordén	Chalmers University of Technology	SE	SUMO	Supramolecular Motive Power	PE4
	Prof.	Michel	Orrit	Universiteit Leiden	NL	SiMoSoMa	Single molecules in soft matter: dynamical heterogeneity in supercooled liquids and glasses	PE4
	Prof.	Bjorn	Ottersten	Kungliga Tekniska Högskolan	SE	AMIMOS	Agile MIMO Systems for Communications, Biomedicine, and Defense	PE7
	Prof.	Gilles	Pijaudier-Cabot	Université de Pau et des Pays de l'Adour	FR	failflow	Failure and Fluid Flow in Porous Quasibrittle Materials	PE8
	Prof.	Janos	Pintz	MTA Renyi Alfred Kutatointezet (Alfred Renyi Institute of Mathematics, Hung	HU	PRIMEGAPS	Gaps between primes and almost primes. Patterns in primes and almost primes. Approximations to the twin prime and Goldbach conjectures.	PE1
	Prof.	Tsvi	Piran	The Hebrew University of Jerusalem	IL	GRBs	Gamma Ray Bursts as a Focal Point of High Energy Astrophysics	PE9
	Prof.	Maurizio	Prato	Universita Degli Studi di Trieste	IT	CARBONANOBRIDGE	Neuron Networking with Nano Bridges via the Synthesis and Integration of Functionalized Carbon Nanotubes	PE5
	Prof.	Alfio	Quarteroni	Ecole Politechnique Fédérale de Lausanne	CH	MATHCARD	Mathematical Modelling and Simulation of the Cardiovascular System	PE1
	Prof.	Ian	Robinson	University College London	UK	nanosculpture	Exploration of strains in synthetic nanocrystals	PE5
	Prof.	Wolfgang	Rosenstiel	Eberhard-Karls-Universität Tübingen	DE	BCCI	Bidirectional cortical communication interface	PE7
	Prof.	Matthew	Rosseinsky	University of Liverpool	UK	RLUCIM	Resilient large unit cell inorganic materials	PE5
	Prof.	Steven John	Rowland	University of Plymouth	UK	OUTREACH	Overlooked Unresolved Toxic Organic Pollutants: Resolution, Identification, Measurement and Toxicity:OUTREACH	PE10
	Dr.	Christophe	Salomon	Centre National de la Recherche Scientifique	FR	FERLODIM	Atomic Fermi Gases in Lower Dimensions	PE2
	Prof.	Jacob Cornelis	Schouten	Technische Universiteit Eindhoven	NL	SSRR	Smart Structured Rotating Reactors	PE8
	Prof.	Martin	Schroder	University of Nottingham	UK	COORDSPACE	Chemistry of Coordination Space: Extraction, Storage, Activation and Catalysis	PE5
(*)	Dr.	Detlef	Schroeder	Institute of Organic Chemistry and Biochemistry	CZ	HORIZOMS	New Horizons for Mass Spectrometry	PE4
	Prof.	Francesco	Sciortino	Universita' di Roma La Sapienza	IT	PATCHYCOLLOIDS	Patchy colloidal particles: a powerful arsenal for the fabrication of tomorrow new super-molecules. A theoretical and numerical study of their assembly processes.	PE3
	Prof.	Mordechai	Segev	Technion - Israel Institute of Technology	IL	NMNP	Nonlinear Micro- and Nano-Photonics: nonlinear optics at the micrometer scale and below	PE2
	Prof.	Mohammad Amin	Shokrollahi	Ecole Politechnique Fédérale de Lausanne	CH	ECC SciEng	Error-correcting codes and their applications in Science and Engineering	PE6
	Prof.	Jaap	Sinninghe Damste	Stichting Koninklijk Nederlands Instituut voor Zeeonderzoek	NL	PACEMAKER	Past Continental Climate Change: Temperatures from marine and lacustrine archives	PE10
	Prof.	Stanislav	Smirnov	Université de Genève	CH	CONFRA	Conformal fractals in analysis, dynamics, physics	PE1
	Prof.	Halil Mete	Soner	Sabanci University	TR	FiRM	Mathematical Methods for Financial Risk Management	PE1
	Prof.	Robert Stephen John	Sparks	University of Bristol	UK	VOLDIES	Dynamics of volcanoes and their impact on the environment and society	PE10
	Prof.	Michiel	Steyaert	Katholieke Universiteit Leuven	BE	DARWIN	Deep mm-Wave RF-CMOS Integrated Circuits	PE7
	Prof.	Andrew	Stuart	University of Warwick	UK	amstat	Problems at the Applied Mathematics-Statistics Interface	PE1
	Prof.	Bengt	Sundén	Lund University	SE	MMFCs	Multiscale Models for Catalytic-Reaction-Coupled Transport Phenomena in Fuel Cells	PE8

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	Prof.	Villy	Sundström	Lund University	SE	VISCHEM	Visualizing Molecular Change	PE4
	Prof.	Andrew Stuart	Tanenbaum	Vrije Universiteit	NL	R3S3	Research on Really Reliable and Secure Systems Software	PE6
	Prof.	Reshef	Tenne	Weizmann Institute of Science	IL	INTIF	Inorganic nanotubes and fullerene-like materials: new synthetic strategies lead to new materials	PE5
	Prof.	Albert	Van den Berg	University of Twente	NL	eLab4Life	eLab4Life: Electr(ochem)ical Labs-on-a-Chip for Life Sciences	PE7
	Prof.	Willem Frederik	van Gunsteren	Eidgenössische Technische Hochschule Zürich	Switzerland	Biomol. Simulation	Development of multi-scale molecular models, force fields and computer software for biomolecular simulation	PE4
	Prof.	Ioannis	Vardoulakis	National Technical University of Athens	EL	MEDIGRA	Mechanics of Energy Dissipation in Dense Granular materials	PE8
	Prof.	Thomas	Welton	Imperial College of Science, Technology & Medicine	UK	MIL	Mixing Ionic Liquids	PE4
	Mr.	Wolfgang	Wernsdorfer	Centre National de la Recherche Scientifique	FR	MolNanoSpin	Molecular spintronics using single-molecule magnets	PE3
	Prof.	Roland Martin	Wiesendanger	University of Hamburg	DE	FURORE	FUndamental studies and innovative appROaches of REsearch on magnetism	PE3
	Prof.	Anton	Zeilinger	University of Vienna	AT	QIT4QAD	Photonic Quantum Information Technology and the Foundations of Quantum Physics in Higher Dimensions	PE2
	Prof.	Eli	Zeldov	Weizmann Institute of Science	IL	NANOSQUID	Scanning Nano-SQUID on a Tip	PE3
	Prof.	Andrew	Zisserman	The Chancellor, Masters and Scholars of the University of Oxford	UK	VisRec	Visual Recognition	PE6
115	Prof.	Mikael	Östling	Kungl Tekniska Hoegskolan	SE	OSIRIS	Open silicon based research platform for emerging devices	PE7
116	Prof.	Bernt	Øksendal	Universitetet i Oslo	NO	INNOSTOCH	Innovations in stochastic analysis and applications with emphasis on stochastic control and information	PE1
117	Prof.	Carlo	Beenakker	Universiteit Leiden	NL	HOWTOCONTROLGRAPHENE	Search for mechanisms to control massless electrons in graphene	PE3
118	Prof.	David John	Hand	Imperial College of Science, Technology & Medicine	UK	DALDS	DALDS: Detecting anomalies and unusual events in large data sets	PE6
119	Prof.	Sylvie	Lorente	National Institute of Applied Sciences	FR	VasCo	Vascularized Constructal materials multifunctionnallly graded for self-healing and mechanical strength	PE8
120	Prof.	Jonathan Paul	Clayden	The University of Manchester	UK	CONFICOM	Molecular Telegraphy: Communication via Conformation	PE5
121	Prof.	Peter Andrew	Norreys	Science and Technology Facilities Council	UK	BRIGHT	BRIGHT: New ideas for the generation of coherent, high brightness femtosecond X-ray pulses	PE2
122	Prof.	Fabien	Morel	Luwig-Maximilians-Universitaet Muenchen	DE	Motives Cycles	Motives and Algebraic Cycles	PE1
123	Prof.	Eli	Pollak	Weizmann Institute of Science	IL	AQRT-MOD	Ab-initio real time quantum molecular dynamics	PE4

(*) Invitation letter for funding still to be sent (pending final confirmation of available budget)