ERC Starting Grant 2009 - First results - PHYSICAL SCIENCES and ENGINEERING
List of projects invited for funding (alphabetical order)
04/09/2009

Last Name	First Name	Host Institution	Host Country	Acronym	Project Title	Panel
ARROYO	Marino	Universitat Politècnica de Catalunya	ES	PREDMODSIM	Predictive models and simulations in nano- and biomolecular mechanics: a multiscale approach	PE8
ASPELMEYER	Markus	Österreichische Akademie der Wissenschaften	AT	QOM	Quantum Optomechanics: quantum foundations and quantum information on the micro- and nanoscale	PE2
BACH	Francis	Institut National de Recherche en Informatique et en Automatique	FR	SIERRA	SIERRA: Sparse Structured Methods for Machine Learning	PE6
BACKES	Michael	Saarland University	DE	END2ENDSECURITY	Practical design and analysis of certifiably secure protocols - theory and tools for end-to-end security	PE6
BALDINI	James	University of Durham	UK	HURRICANE	Past hurricane activity reconstructed using cave deposits: Have humans increased storm risk?	PE10
BARYCHEV	Andrei	SRON Netherlands Institute for Space Research	NL	TFPA	Study of Terahertz Focal Plain Arrays	PE9
BEC	Jérémie	Observatoire de la Côte d'Azur	FR	Atmoflex	Turbulent Transport in the Atmosphere: Fluctuations and Extreme Events	PE3
BEN-SASSON	Eli	Technion - Israel Institute of Technology	IL	PaC	Proofs and Computation	PE6
BENA	Iosif Lucian Razvan	Commissariat à l'Énergie Atomique (CEA)	FR	String-QCD-BH	String Theory, QCD and Black Holes	PE2
BERGER	Noam	Hebrew University of Jerusalem	IL	LimitTRandomMedia	Limit theorems for processes in random media	PE1
BIANCHINI	Stefano	Scuola Internazionale Superiore di Studi Avanzati	IT	ConLaws	Hyperbolic Systems of Conservation Laws: singular limits, properties of solutions and control problems	PE1
BIENSTMAN	Peter	Universiteit Gent	BE	NaResCo	Novel paradigms for massively parallel nanophotonic information processing	PE7
BOGONI	Antonella	Consorzio Nazionale Interuniversitario per le Telecomunicazioni	IT	PHODIR	PHOtonic-based full DIgital Radar	PE7
BOJANCZYK	Mikolaj	Uniwersytet Warszawski	PL	Sosna	Expressive Power of Tree Logics	PE6
BOUILLON	Steven	Katholieke Universiteit Leuven	BE	AFRIVAL	AFrican RIVer basins And Lakes: catchment-scale carbon fluxes and transformations	PE10
BOURGEOIS	Frédéric	Université Libre de Bruxelles	BE	ContactMath	Legendrian contact homology and generating families	PE1
BRETTE	Romain	École Normale Supérieure	FR	SPIKEHEAR	Spiking neural models of auditory perception	PE6
BRIDLE	Sarah Louise	University College London	UK	CoGS	Capitalizing on Gravitational Shear	PE9
BROWAEYS	Antoine	Centre National de la Recherche Scientifique (CNRS)	FR	ARENA	Arrays of entangled atoms	PE2
CAPONE	Massimo	Consiglio Nazionale delle Ricerche	IT	SUPERBAD	Understanding high-temperature superconductivity from the foundations: Superconductivity as a cure of bad metallic behaviour	PE3
CAUPIN	Frédéric	École Normale Supérieure	FR	WASSR	Water anomalies in the stretched and supercooled regions	PE3
COATES	Tom	Imperial College of Science, Technology and Medicine	UK	GWT	Gromov-Witten Theory: Mirror Symmetry, Modular Forms, and Integrable Systems	PE1
CORANDER	Jukka Ilmari	Åbo Akademi	FI	SmartBayes	Intelligent Stochastic Computation Methods for Complex Statistical Model Learning	PE1
COSTAS	Miquel	Universitat de Girona	ES	BIDECASEOX	Bio-inspired Design of Catalysts for Selective Oxidations of C-H and C=C Bonds	PE5
CREMERS	Daniel	Rheinische Friedrich-Wilhelms-Universität Bonn	DE	ConvexVision	Convex Optimization Methods for Computer Vision and Image Analysis	PE6
CRUCIFIX	Michel	Université Catholique de Louvain	BE	iTOP	Integrated Theory and Observations of the Pleistocene	PE10
DADDI	Emanuele	Commissariat à l'Énergie Atomique (CEA)	FR	UPGAL	Understanding the Physics of Galaxy Formation and Evolution at High Redshift	PE9
DETAVERNIER	Christophe	Universiteit Gent	BE	COCOON	Conformal coating of nanoporous materials	PE8
DINUR	Irit	Weizmann Institute of Science	IL	STRONGPCP	Strong Probabilistically Checkable Proofs	PE6

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ERBAN	Radek	Chancellor, Masters and Scholars of the University of Oxford	UK	StoAndMulModInBio	Stochastic and Multiscale Modelling in Biology	PE1
ERNST	Thomas	Commissariat à l'Énergie Atomique (CEA)	FR	DELPHINS	Design And Elaboration of Multi-Physics Integrated Nanosystems	PE7
FONTCUBERTA I MORRAL	Anna	Ecole Polytechnique Fédérale de Lausanne	CH	UpCon	Ultra-Pure nanowire heterostructures and energy CONversion	PE5
FORSSÉN	Christian	Chalmers Tekniska Hoegskola AB	SE	ANSR	Ab initio approach to nuclear structure and reactions (++)	PE2
FRAGOULI	Christina	Ecole Polytechnique Fédérale de Lausanne	CH	NOWIRE	Network Coding for Wireless Networks	PE7
FRAUENRATH	Holger	Ecole Polytechnique Fédérale de Lausanne	CH	OrgElNanoCarbMater	A Universal Supramolecular Approach toward Organic Electronic Materials and Nanostructured Carbonaceous Materials from Molecular Precursors	PE5
GARCIA IRASTORZA	Igor	Universidad de Zaragoza	ES	TREX	Novel Developments in Time Projection Chambers (TPCs) for Rare Event Searches in Underground Astroparticle EXperiments	PE2
GERSHON	Tim	University of Warwick	UK	BSMwLHCb	Advanced techniques to Search for Physics Beyond the Standard Model with the LHCb Detector at CERN	PE2
GIULIANI	Alessandro	Università degli Studi Roma Tre	IT	CoMBoS	Collective phenomena in quantum and classical many body systems	PE1
GIUSTINO	Feliciano	Chancellor, Masters and Scholars of the University of Oxford	UK	ALIGN	Ab-initio computational modelling of photovoltaic interfaces	PE5
GORODNYK	Oleksandr	University of Bristol	UK	DynRigDiophGeom	Dynamics of Large Group Actions, Rigidity, and Diophantine Geometry	PE1
GROBERT	Nicole	Chancellor, Masters and Scholars of the University of Oxford	UK	DEDIGROWTH	Dedicated growth of novel 1-dimensional materials for emerging nanotechnological applications	PE5
GROZEMA	Ferdinand	Technische Universiteit Delft	NL	SingFiss	Singlet exciton fission as a route to more efficient dye-sensitized solar cells	PE4
GUIDONI	Leonardo	Sapienza - Università di Roma	IT	MultiscaleChemBio	Electronic Structure of Chemical and Biochemical Systems: Multiscale Approach with Electron Correlation	PE4
HEIKKILÄ	Tero Tapio	Teknillinen Korkeakoulu	FI	Heattronics	Mesoscopic heattronics: thermal and nonequilibrium effects and fluctuations in nanoelectronics	PE3
HEIRI	Oliver	Universiteit Utrecht	NL	RECONMET	Reconstruction of methane flux from lakes: development and application of a new approach	PE10
HELMI	Amina	Rijksuniversiteit Groningen	NL	Galactica	Dynamical imprints of the evolutionary history of the Milky Way	PE9
HERRMANN	Andreas	Rijksuniversiteit Groningen	NL	NUCLEOPOLY	DNA Block Copolymers: New Architectures and Applications	PE5
HEYMANS	Catherine	The University of Edinburgh	UK	FORCE	Fine Observations of the Rate of Cosmic Expansion: Combining the powers of Weak Gravitational Lensing and Baryon Acoustic Oscillations as Probes of Dark Energy	PE9
HOFFMANN-VOGEL	Regina	Universität Karlsruhe (Technische Hochschule)	DE	NANOCONTACTS	Structural and electronic properties of nanoscale metallic contacts fabricated by thermally assisted electromigration	PE3
KEEVASH	Peter	Queen Mary and Westfield College, University of London	UK	EC	Extremal Combinatorics	PE1
KIS	Andras	Ecole Polytechnique Fédérale de Lausanne	CH	FLATRONICS	Electronic devices based on nanolayers	PE3
KOEHL	Michael Karl	The Chancellor, Masters and Scholars of the University of Cambridge	UK	Atomion	Exploring hybrid quantum systems of ultracold atoms and ions	PE2
KROS	Alexander	Universiteit Leiden	NL	DirectDelivery	Controlled fusion of liposomes and cells: a new pathway for direct drug delivery	PE5
LAURITSEN	Jeppe Vang	Aarhus Universitet	DK	OxideSynergy	Understanding the Atomic Scale Synergies of Catalytically Active Nanoclusters on Metal Oxide Surfaces	PE4
LEI	Yong	Westfälische Wilhelms-Universität Münster	DE	ThreeDSurface	Three-Dimensional Surface Nano-Patterning: Concepts, Challenges and Applications	PE5
LIMPERT	Jens	Friedrich-Schiller-Universität Jena	DE	PECS	Powerful and Efficient EUV Coherent Light Sources	PE3
LINDELL	Yehuda	Bar-Ilan University	IL	LAST	Large Scale Privacy-Preserving Technology in the Digital World - Infrastructure and Applications	PE6
MANNA	Liberato	Fondazione Istituto Italiano di Tecnologia	IT	NANO-ARCH	Assembly of Colloidal Nanocrystals into Unconventional Types of Nanocomposite Architectures with Advanced Properties	PE5

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MARKAKI	Athina	The Chancellor, Masters and Scholars of the University of Cambridge	UK	AFFINITY	Actuation of Ferromagnetic Fibre Networks to improve Implant Longevity	PE8
MARTÍNEZ DE LA FUENTE	Jesús	Universidad de Zaragoza	ES	NANOPUZZLE	Multifunctional Magnetic Nanoparticles: Towards Smart Drugs Design	PE5
MEIJLER	Michael	Ben-Gurion University of the Negev	IL	QUORUMPROBES	An Integrated Chemical Platform to Elucidate Eukaryotic Sensing of Bacterial Crosstalk	PE5
MOLINARI	Jean-François	Ecole Polytechnique Fédérale de Lausanne	CH	UFO	Uncovering the origins of friction	PE8
MURRAY	Benjamin	University of Leeds	UK	ICE	Laboratory and modelling studies of ice nucleation and crystallisation in the Earth's atmosphere	PE10
NÖLL	Gilbert	Universität Siegen	DE	Dodecin	Construction of a Molecular Crane Based on the Flavoprotein Dodecin	PE4
O'BRIEN	Fergal Joseph	Royal College of Surgeons in Ireland	IE	CollRegen	Collagen scaffolds for bone regeneration: applied biomaterials, bioreactor and stem cell technology	PE8
O'BRIEN	Jeremy Lloyd	University of Bristol	UK	IQP	Integrated quantum photonics	PE2
OUDEYER	Pierre-Yves	Institut National de Recherche en Informatique et en Automatique	FR	EXPLORERS	EXPLORERS: Exploring epigenetic robotics: raising intelligence in machines	PE6
OXENLØWE	Leif Katsuo	Danmarks Tekniske Universitet	DK	SOCRATES	Serial Optical Communications for Advanced Terabit Ethernet Systems	PE7
PALOMARES	Emilio	Fundació Privada Institut Català d'Investigació Química (ICIQ)	ES	PolyDot	Control of the Electronic Properties in Hybrid- Quantum Dot/Polymer-Materials for Energy Production	PE4
PFEIFFER	Franz	Technische Universität München	DE	x-ray-bioimaging	X-ray phase-contrast imaging for biomedical applications	PE3
PRINS	Leonard Jan	Università degli Studi di Padova	IT	DYCOCA	DYNAMIC COVALENT CAPTURE: Dynamic Chemistry for Biomolecular Recognition and Catalysis	PE5
PULKKI	Ville	Teknillinen Korkeakoulu	FI	TePeSS	Technologies and psychophysics of spatial sound	PE7
PUMERA	Martin	University of Neuchatel	CH	LabChip_Multiplex	Simultaneous Detection of Multiple DNA and Protein Targets on Paramagnetic Beads Packed in Microfluidic Channels using Quantum Dots as Tracers	PE4
RAMON	Jan	Katholieke Universiteit Leuven	BE	MiGraNT	Mining Graphs and Networks: a Theory-based approach	PE6
RODRIGUEZ-VILLEGAS	Esther Olivia	Imperial College of Science, Technology and Medicine	UK	WEEG	"Chips on the go": towards truly wearable EEG systems	PE7
ROKE	Sylvie	Max-Planck-Gesellschaft zur Foerderung der Wissenschaften e.V.	DE	MINE	Molecular Interfacial structure and dynamics of Nanoscopic droplets in Emulsions (MINE)	PE4
SANTOS	Nuno Miguel	Centro de Investigacao em Astronomi a e Astrofisica da Universidade do Porto Associacao	PT	EXOEarths	EXtra-solar planets and stellar astrophysics: towards the detection of Other Earths	PE9
SARIG	Omri Moshe	Weizmann Institute of Science	IL	ErgodicNonCompact	Ergodic theory on non compact spaces	PE1
SCHERMAN	Oren Alexander	Chancellor, Masters and Scholars of the University of Cambridge	UK	ASPiRe	Aqueous Supramolecular Polymers and Peptide Conjugates in Reversible Systems	PE5
SCHLEIN	Benjamin	Chancellor, Masters and Scholars of the University of Cambridge	UK	MAQD	Mathematical Aspects of Quantum Dynamics	PE1
SHARON	Eran	Hebrew University of Jerusalem	IL	SoftGrowth	Growth and Shaping of Soft Tissue	PE5
SHARON	Michal	Weizmann Institute of Science	IL	LARGEMS	The Dynamic Composition of Protein Complexes: A New Perspective in Structural Biology	PE4
SILLANPÄÄ	Mika Antero	Teknillinen Korkeakoulu	FI	NEMSQED	Electromechanical quantum coherent systems	PE3
STOLL	Heather Marie	Universidad de Oviedo	ES	PACE	Precedents for Algal Adaptation to Atmospheric CO2: New indicators for eukaryotic algal response to the last 60 million years of CO2 variation	PE10
SZEIDER	Stefan	University of Durham	UK	COMPLEX REASON	The Parameterized Complexity of Reasoning Problems	PE6
TREPS	Nicolas	Université Pierre et Marie Curie - Paris 6	FR	Frecquam	Frequency Combs Quantum Metrology	PE2

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TROISI	Alessandro	University Of Warwick	UK	MiMESIs	Microscopic Modelling of Excitonic Solar Cell Interfaces	PE4
TSHUVA (GOLDBERG)	Edit	Hebrew University of Jerusalem	IL	SmartDrugEntities	Sophisticated Well-Targeted Therapeutic Entities based on Biologically Compatible Ti(IV) Active Cores and Building Blocks	PE5
TSOGKA	Chrysoula	Foundation for Research and Technology Hellas	EL	ADAPTIVES	Algorithmic Development and Analysis of Pioneer Techniques for Imaging with waVES	PE1
VAN SPEYBROECK	Veronique	Universiteit Gent	BE	KINPOR	First principle chemical kinetics in nanoporous materials	PE4
VARELA DEL ARCO	Maria	Universidad Complutense de Madrid	ES	STEMOX	Under the light of electrons	PE3
VERDE	Licia	Consejo Superior de Investigaciones Científicas	ES	Phys.LSS	Cosmological Physics with future large-scale structure surveys	PE9
VERSTRAETE	Frank	Universität Wien	AT	QUERG	Quantum entanglement and the renormalization group	PE2
WAHL	Nathalie	Københavns Universitet	DK	2-3-AUT	Surfaces, 3-manifolds and automorphism groups	PE1
WALLRAFF	Andreas Joachim	Eidgenössische Technische Hochschule Zürich	CH	HYBRIDQED	Hybrid Cavity Quantum Electrodynamics with Atoms and Circuits	PE3
WILSON	Andrew	University of Leeds	UK	PROTEOFOLD	Proteomimetic Foldamers: Towards Future Therapeutics and Designer Enzymes	PE5
WOOKEY	James	University of Bristol	UK	CoMITAC	An integrated geoscientific study of the thermodynamics and composition of the Earth's core-mantle interface	PE10
YELIN	Dvir	Technion - Israel Institute of Technology	IL	MINT	Multiphoton Ionization Nano-Therapy	PE7

Panel structure
Physical Sciences & Engineering
PE1 Mathematical foundations
PE2 Fundamental constituents of matter
PE3 Condensed matter physics
PE4 Physical and Analytical Chemical sciences
PE5 Materials and Synthesis
PE6 Computer science and informatics
PE7 Systems and communication engineering
PE8 Products and process engineering
PE9 Universe sciences
PE10 Earth system science