

Research and Knowledge Exchange Committee

Report on School Activity

Period: 1st March 2013 to 31st May 2014

School:	MPS
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Research related appointments (promotions as of 20 th May 2014):	Eberlein, Claudia C	PROFESSOR	10/04/2014
	Grant, Jacqueline	FELLOW	15/05/2014
	Hurley, Peter D	RESEARCH FELLOW	01/04/2014
	Iliev, Ilian T	READER	10/04/2014
	Jaeger, Sebastian	READER	01/05/2014

Key research grants received:	Principal Investigator	Project Title	Principal Funder	Awarded Amount
	Lewis, Antony M	Precision cosmological parameters : CosmoPars	EU	£985,423
	Porras, Diego	New Frontiers in Quantum Simulation: NewFQS	EU	£70,676
	Peccianti, Marco	Route to guided TeraHertz backscattering Inspection and Analysis : THEIA	EU	£70,676
	Verdu Galiana, Jose L	The Geonium Chrip: A revolutionary high-end mass spectrometer	UNIVERSITY OF SUSSEX	£17,757
	De Santo, Antonella	STFC Consolidated Grant Supplement	STFC	£9,461
	Tang, Qi	Return on investment projection in an IT advertising environment	OBAN MULTILINGUAL	£2,287
	Loveday, Jonathan N	Host Galaxies of Active Galactic Nuclei - Ben Thomas	RAS	£1,200
	Oliver, Sebastian J	Removal of foreground cirrus emission from Herschel extragalactic maps - Daniel Callahan	RAS	£1,200
	Sargent, Mark	Empirical predictions of the HI-content of star-forming galaxies-Ciaran Fairhurst	RAS	£1,200
	Wilkins, Stephen	Fishing for EELs at high redshift- Jonathan Manuel	RAS	£1,200
	Tang, Qi	Analysing survey data relating to computer purchase preferences online	OBAN MULTILINGUAL	£1,000
	During, Bertram	Discrete entropy dissipation methods for nonlinear diffusion equations	LONDON MATHEMATICAL SOCIETY	£870
	During, Bertram	Gradient Flows: from theory to application (Workshop)	UNIVERSITY OF EDINBURGH	£0

			Total (£):	£1,162,950
Applications for funding:	Principal Investigator	Project Title	Principal Funder	Applied Amount
	Hensinger, Winfried K	Quantum 2020: Networked Quantum Technologies	EPSRC	£3,746,898
	Garraway, Barry M	Quantum Technology Hub for Sensors and Metrology	EPSRC	£2,598,484
	Hensinger, Winfried K	IMITQI- Industrial Microwave Ion Trap Quantum Computer Demonstrator Device	EU	£1,876,704
	Peeters, Simon J	NeutrinoFuture - Unravelling the fundamental nature of the neutrino: towards the future of neutrinoless double-beta decay	EU	£1,369,015
	Peccianti, Marco	TIMING - Time-Resolved Nonlinear Ghost Imaging	EU	£1,329,850
	Banfi, Andrea	JET-TH: Theory and phenomenology of hadronic jets in Quantum Chromo-Dynamics	EU	£1,284,794
	Kiss, Istvan Z	Next generation of complex networks: from modelling and analysis to control	EU	£1,170,621
	Chlebik, Miroslav	EVOSEX: Sexual reproduction and its maintenance in eukaryotes - LARISSA CONRADT	EU	£1,058,537
	Keller, Matthias	Institute for Quantum Measurement and Timing	EPSRC	£998,583
	Cagnetti, Filippo	Rigidity and Stability in Geometric Variational Problems	EU	£823,160
	Porras, Diego	Non-Equilibrium Quantum Simulations with Trapped Ions	EU	£648,710
	Makridakis, Charalambos	Modelling and Computation for Shocks and Interfaces	EU	£538,242
	Keller, Matthias	Hybrid Quantum Networks	EPSRC	£452,981
	Madzvamuse, Anotida	Research Training Network on Integrated Component Cycling in Epithelial Cell Motility	EU	£376,534
	Garraway, Barry M	LIMQUET (Light-Matter Interfaces for Quantum Enhanced Technology) Univeristy Bourgogne Lead	EU	£362,743
	Oliver, Sebastian J	Newborn and antenatal screening strategies for cystic fibrosis (CF); Evaluating Validity and Effectiveness	EU	£362,260
	Blyuss, Konstantin	A mathematical systems approach to the dynamics of chronic immune responses	BBSRC	£291,476
	Calmet, Xavier	Interferometers: From the Planck scale to Astrophysics	EU	£273,350
	Lakkis, Omar	Computer Aided Flood-Risk Assessment Using Stochastic Shallow Water Equations	EPSRC	£271,962
During, Bertram	Novel discretisations of higher-order nonlinear PDE	LEVERHULME	£249,257	

Melgaard, Michael	Resonances, trace formulas and inverse scattering for Quantum Hamiltonians	LEVERHULME	£242,501
Cerri, Alessandro	Case for STFC Teaching Buyout	STFC	£219,595
Hartnell, Jeffrey J	LBNE and the Fermilab Liquid Argon Detector Programme - Cambridge lead	STFC	£176,736
Garraway, Barry M	An atom-chip ring gyro - (dstl UKI-Fr studentship)	DSTL	£153,726
Oliver, Sebastian J	Students, Astronomy, and Research: Widening Access for Young People STARWAY	EU	£129,433
Hensinger, Winfried K	Microchip architectures for portable N-ion sensors and clocks	DSTL	£100,527
Zarnescu, Arghir	Mathematics and Statistics	LEVERHULME	£100,000
Seery, David	Testing unexplored theories of the early universe	LEVERHULME	£87,000
Styles, Vanessa M	Novel mathematics for understanding growth, motion and patterning in biology.	LEVERHULME	£86,950
Garraway, Barry M	Theory towards an atom-chip ring gyro - DSTL studentship	DSTL	£86,309
Porras, Diego	Quantum simulators for precise time sensing and magnetometry - DSTL studentship	DSTL	£79,434
Keller, Matthias K	Devpt of compact atomic clock system based on calcium ions - DSTL studentship	DSTL	£77,927
Wilkins, Stephen	Astronomy for Early Years	STFC	£56,864
Potter, Christina	Searching for Supersymmetry at ATLAS	L'OREAL	£15,000
Sargent, Mark	Developing a new methodology for 3D modelling of complex interstellar environments	UNIVERSITY OF SUSSEX	£12,755
Thomas, Peter A	The Virgo Consortium for Cosmological Simulations ITN - Durham lead	EU	£5,000
Tang, Qi	Return on investment projection in an IT advertising environment	OBAN	£2,287
Oliver, Sebastian J	Removal of foreground cirrus emission from Herschel extragalactic maps - Daniel Callahan	RAS	£1,200
Sargent, Mark	Empirical predictions of the HI-content of star-forming galaxies-Ciaran Fairhurst	RAS	£1,200
Wilkins, Stephen	Fishing for EELs at high redshift- Jonathan Manuel	RAS	£1,200
Loveday, Jonathan N	Host Galaxies of Active Galactic Nuclei - Ben Thomas	RAS	£1,200
Tang, Qi	Analysing survey data relating to computer purchase preferences online	OBAN	£1,000

	During, Bertram	Assoc Partner 4 STRIKE - Novel methods in computational finance	EU	£-
	During, Bertram	Gradient Flows: from theory to application (Workshop)	U. OF EDINBURGH	£-
	Scalas, Enrico	Complexity and EconoPhysics - Universite d'Orleans lead	LE STUDIUM	£-
	Iliev, Ilian T	Multi-scale simulations of Cosmic Reionization	PRACE	£-

Total (£): **£21,722,005**

Awards and recognitions:	<p>Joe Elliston (Research Fellow) won the Royal Astronomical Society thesis prize of £1000, details of which may be found via the link below: http://www.ras.org.uk/awards-and-grants/awards/2278-michael-penston-thesis-prize</p> <p>Mariapia Palombaro invited speaker at "Women in Partial Differential Equations and Calculus of Variations workshop" held in Oxford on 6-8 March.</p> <p>Prof. Mark Hindmarsh Appointment to Visiting Professor at University of Helsinki (20% FTE) from June 1st 2014 - May 31st 2019.</p>
Areas of Knowledge Exchange:	<p>Initial audit of KE activity in both departments complete. Tables to be attached.</p> <p>STFC Innovations Partnership Fellowship Award successful. This is a project co-funded by STFC, SEPNET, Sussex (MPS) and Portsmouth and funds a "fellow" to engage our (STFC related) research with business. Plans to supplement this with additional funding to make a full post at Sussex and to support all MPS research.</p>
Key activities (not covered above):	<p>3 Quantum Technology bids (listed in applications above) have progressed from outline bid to full bid (due June '14)</p> <p>1 Leverhulme Trust Project Grant (PI Giesel), progressed from outline proposal to full bid (submitted March '14)</p> <p>Note that some of bids/awards above include non-cash resources, e.g. extensive computer time</p> <p>Annual MPS postgraduate research conference http://www.sussex.ac.uk/mps/conf2014/</p> <p>Articles listed in SRO (as of 14th May 2014) 2091 articles in total 127 articles for 2012 94 articles for 2013 21 articles for 2014 18 articles added in last quarter (March '14-May '14)</p>

Name:	Seb Oliver	School:	MPS
Date:			2nd June 2014