

Appendix V: EPSRC Portfolio Data relevant to Ground and Structural Engineering

This information supplements the data included in the 2009 EPSRC landscape reviews (Appendix 1). “Equivalence” refers to proposals which are coded under more than one research topic, where a proportion of a given grant is counted under that Sub-Programme.

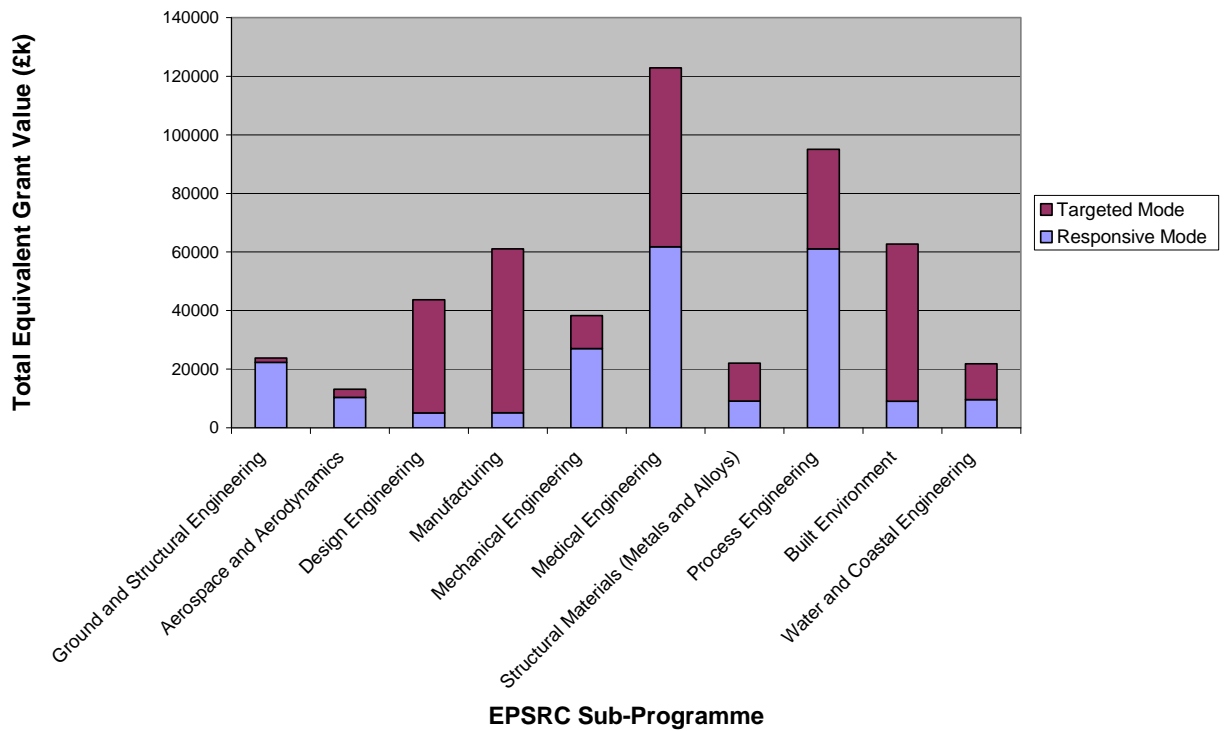
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1. Balance of support: Responsive Mode vs. Targeted Mode

Figure 1 shows the total value of live research grants, by EPSRC Sub-Programme, as of October 2009. “Targeted Mode” indicates all grants funded through specific calls, sandpits and other managed activities, including the Innovative Manufacturing Research Centres.

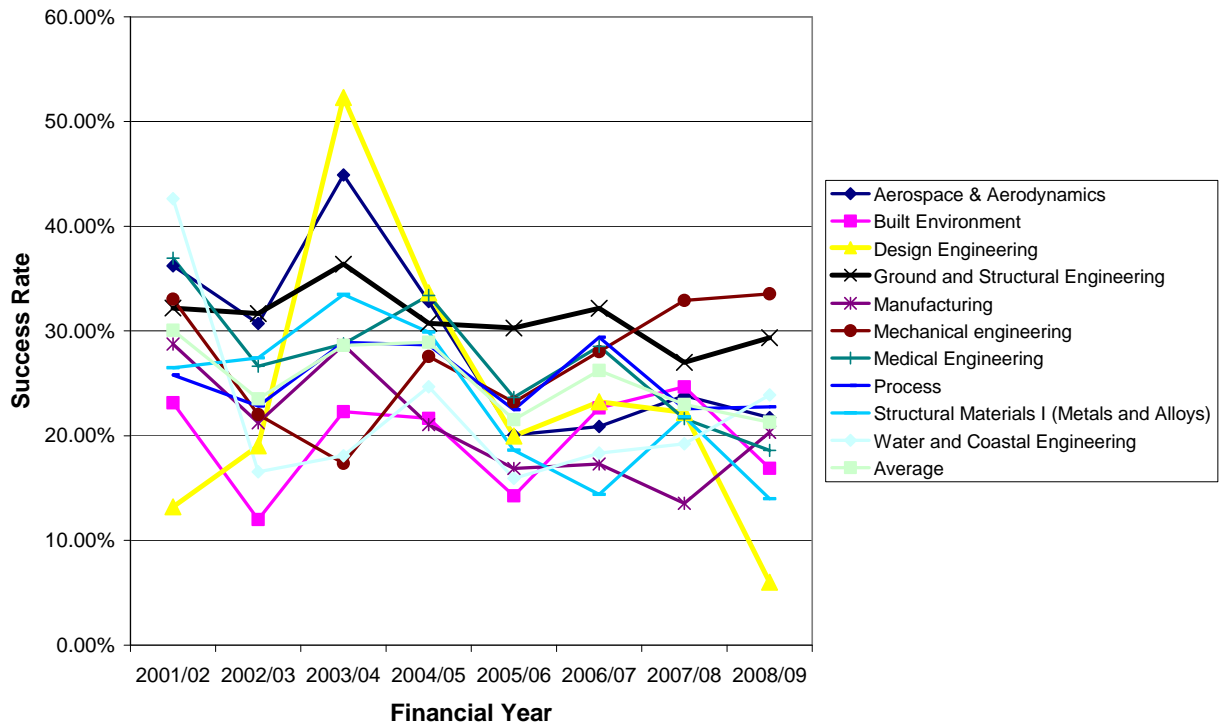
Figure 1: Comparison of EPSRC responsive mode and targeted mode funding for a number of engineering disciplines



2. EPSRC Success Rates

Figure 2 shows success rates (equivalent number of grants awarded versus equivalent number of proposal submitted) in EPSRC responsive mode for a number of engineering Sub-Programmes, with comparison to the average for these sub-Programmes, over the last 8 financial years.

Figure 2: EPSRC Responsive mode success rates



3. Current EPSRC grant portfolio in ground and structural engineering

Table 1 shows the breakdown of the current EPSRC grant portfolio, as of 16 October 2009, in the area of ground and structural engineering. Tables 2, 3, 4 and 5 gives a list of current grants related to training (Doctoral Training Centres), fellowships, targeted mode funding (calls and sandpits), and responsive mode, respectively.

Table 1: Summary

Mode	Grants	Number of Equivalent Grants	Equivalent Value (£k)
<i>Fellowships</i>	4	3.10	940
<i>Responsive</i>	94	70.66	22,681
<i>Targeted</i>	11	3.59	1,477
<i>Training</i>	1	0.35	2,041
Grand Total	110	77.70	27,140

Table 2: Training Grants

Grant Ref	Principal Investigator	Organisation	Grant Value (£k)	Title
EP/G037272/1	<i>Bouchlaghem, Professor D</i>	Loughborough University	5,832	Industrial Doctorate Centre: Innovative and Collaborative Construction Engineering

Table 3: Fellowships (excluding EPSRC/RAEng Fellowships)

Grant Ref	Principal Investigator	Organisation	Grant Value (£k)	Title
EP/D073944/1	<i>Macdonald, Dr JHG</i>	University of Bristol	564	Aeroelastic and Non-linear Structural Dynamic Interactions of Slender Structures
GR/S53329/01	<i>Gilbert, Dr M</i>	University of Sheffield	226	Application of novel computational limit analysis and design synthesis methods in structural engineering
GR/T03000/01	<i>Pavic, Professor A</i>	University of Sheffield	325	Stochastic Approach to Human-Structure Dynamic Interaction
GR/T03369/02	<i>Adhikari, Professor S</i>	Swansea University	102	Safety-Based Optimal Design in Structural Dynamics

Table 4: Targeted Mode Grants

Grant Ref	Principal Investigator	Organisation	Grant Value (£k)	Title
EP/C014707/1	<i>Cohn, Professor AG</i>	University of Leeds	158	Mapping the Underworld: Knowledge and Data Integration
EP/D023661/1	<i>Allen, Professor GC</i>	University of Bristol	110	Novel low energy high performance mortars for the construction industry
EP/D041201/1	<i>Millard, Professor SG</i>	University of Liverpool	237	Impact and blast resistance of ultra high performance fibre reinforced concrete (UHPFRC)
EP/D506654/1	<i>James, Dr SW</i>	Cranfield University	538	Fibre Optic Sensors for Geotechnical Applications
EP/E010849/1	<i>Worden, Professor K</i>	University of Sheffield	230	Smart Sensing for Structural Health Monitoring (S3HM)

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EP/E018939/1	<i>Duncan, Professor D</i>	Heriot-Watt University	388	Bridging the Gaps Between Engineering and Mathematics in the Edinburgh Research Partnership
EP/F007426/1	<i>Rogers, Professor CDF</i>	University of Birmingham	3,191	SUSTAINABLE REGENERATION: FROM EVIDENCE-BASED URBAN FUTURES TO IMPLEMENTATION
EP/G029946/1	<i>Boxall, Professor J</i>	University of Sheffield	931	Pipe Dreams
EP/H024549/1	<i>Airey, Professor GD</i>	University of Nottingham	202	Physicochemical Characterisation of Bituminous Bound Composite Paving Materials
EP/H024786/1	<i>Champneys, Professor AR</i>	University of Bristol	203	University of Bristol Bridging the Gaps Cross-Disciplinary Feasibility Account
GR/T03017/01	<i>Pavic, Professor A</i>	University of Sheffield	271	Stochastic Approach to Human Structure Dynamic Interaction

Table 5: Responsive Mode grants

Grant Ref	Principal Investigator	Organisation	Grant Value (£k)	Title
EP/D023726/1	<i>Mills, Professor JP</i>	Newcastle University	292	Remote asset inspection for transport corridor environments
EP/D037565/1	<i>Walker, Professor PJ</i>	University of Bath	291	AN EXPERIMENTAL AND ANALYTICAL STUDY OF DRY-STONE RETAINING WALLS
EP/D037875/1	<i>Powrie, Professor W</i>	University of Southampton	131	AN EXPERIMENTAL AND ANALYTICAL STUDY OF DRY-STONE RETAINING WALLS
EP/D037883/1	<i>McDonald, Professor P</i>	University of Surrey	228	2D-Correlation NMR relaxation analysis of pore-water interactions in cement materials: laboratory and in-situ analysis.
EP/D040000/1	<i>Soga, Professor K</i>	University of Cambridge	281	Smart Foundations with Distributed Fibre Optics Technology
EP/D054990/1	<i>Carter, Dr MA</i>	The University of Manchester	176	Characterisation and modelling of dewatering in lime mortar systems.
EP/D064112/1	<i>Ellis, Dr EA</i>	University of Nottingham	158	Axisymmetric centrifuge modelling of deep penetration in sand to model driven piles or the cone penetration test
EP/D065011/1	<i>Fromme, Dr P</i>	University College London	192	Detection of Fatigue Cracks in Multi-layered Aircraft Components using Guided Ultrasonic Waves
EP/D067111/1	<i>Powrie, Professor W</i>	University of Southampton	338	Pile stabilisation of large landslides
EP/D077117/1	<i>Augarde, Dr CE</i>	Durham University	338	Finite deformation geomechanics: developing a meshless scaled boundary method
EP/D078601/1	<i>Worden, Professor K</i>	University of Sheffield	734	Uncertainty Propagation in Structures, Systems and Processes
EP/D079101/1	<i>Williams, Professor M</i>	University of Oxford	230	UK Network for Earthquake Engineering Simulation (UK-NEES)
EP/D080207/1	<i>Powrie, Professor W</i>	University of Southampton	3,974	Copy of RRUUK 2: Universities' Centre for Rail Systems Research
EP/D506387/1	<i>Coop, Professor MR</i>	Imperial College London	433	Platform Grant for Laboratory Soil Mechanics Research

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EP/E000150/1	<i>Welch, Dr S</i>	University of Edinburgh	212	Prediction of toxic species in fire
EP/E000703/1	<i>Dettmer, Dr WG</i>	Swansea University	196	Development of a novel computational framework for the simulation of fluid-structure interaction
EP/E003338/1	<i>Soga, Professor K</i>	University of Cambridge	442	Micro-Measurement and Monitoring System for Ageing Underground Infrastructures (Underground M3)
EP/E006450/1	<i>Brennan, Professor M</i>	University of Southampton	887	Platform Grant: Structural Acoustics
EP/E010083/1	<i>Gillie, Dr M</i>	University of Edinburgh	29	Behaviour of composite floor plates during the cooling phase of a fire
EP/E010237/1	<i>Bailey, Professor CG</i>	The University of Manchester	311	Behaviour of composite floor plates during the cooling phase of a fire
EP/E018734/1	<i>Brownjohn, Professor JMW</i>	University of Sheffield	307	HUMAN WALKING AND RUNNING FORCES: NOVEL EXPERIMENTAL CHARACTERISATION AND APPLICATION IN CIVIL ENGINEERING DYNAMICS
EP/E025684/1	<i>Hall, Dr MR</i>	University of Nottingham	192	Using Rammed Earth Materials for Building-Integrated Passive Air Conditioning
EP/E029957/1	<i>Coop, Professor MR</i>	Imperial College London	577	The Properties and Structure of British Stiff Clays and Mudrocks
EP/E030351/1	<i>Guz, Professor I</i>	University of Aberdeen	374	EFFECT OF THERMO-ELECTRO-MECHANICAL COUPLING AND NON-LINEARITIES ON DYNAMIC PROCESSES IN INELASTIC LAYERED STRUCTURES
EP/E031749/1	<i>Brown, Dr MJ</i>	University of Dundee	167	Rate effects in fine grained soils
EP/E037305/1	<i>Mavroulidou, Dr M</i>	London South Bank University	221	Hydro-mechanical properties of lime-stabilised shrinkable UK clays
EP/E039901/1	<i>Darby, Dr A P</i>	University of Bath	133	MODELLING OF REALISTICALLY SIZED AND LOADED FRP CONFINED RECTANGULAR REINFORCED CONCRETE COLUMNS
EP/E048153/1	<i>McDowell, Professor G</i>	University of Nottingham	261	Copy of Discrete element modelling of geogrid-reinforced railway ballast
EP/E048935/1	<i>Davie, Dr CT</i>	Newcastle University	202	An Advanced Numerical Tool for the Prediction and Analysis of Spalling in Concrete Structures Exposed to Combined Thermal and Mechanical Loading
EP/E049648/1	<i>McKinley, Dr JM</i>	Queen's University of Belfast	198	The application of geostatistical analysis to the prediction and modelling of the decay dynamics of masonry materials
EP/E050301/1	<i>Ivanovic, Dr A</i>	University of Aberdeen	267	Investigation of the Design of Anchorage Head and Bond Length for Assessing Multistrand Anchorages
EP/F001525/1	<i>Nadjai, Professor A</i>	University of Ulster	408	Performance of Cellular Composite Floor Beams under Severe Fire Conditions
EP/F001711/1	<i>Burgess, Professor IW</i>	University of Sheffield	276	Performance of Cellular Composite Floor Beams under Severe Fire Conditions

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EP/F002599/1	<i>Tait, Professor S</i>	University of Bradford	118	Response of Steel Beam-to-Column Connections to Dynamic Loading
EP/F002955/1	<i>Buenfeld, Professor NR</i>	Imperial College London	336	Influence of microstructure on the transport properties of concrete
EP/F004338/1	<i>Tyas, Dr A</i>	University of Sheffield	345	Response of Steel Beam-to-Column Connections to Dynamic Loading
EP/F00656X/1	<i>Yang, Dr Z</i>	University of Liverpool	266	Analysis and Design of Pierced Deep Beams and Shear Walls
EP/F009232/1	<i>Krylov, Professor V</i>	Loughborough University	241	New method of damping structural vibrations based on the acoustic black hole effect
EP/F018045/1	<i>Collop, Professor AC</i>	University of Nottingham	684	Pavement and Rail Track Engineering
EP/F022182/1	<i>Wadee, Dr MA</i>	Imperial College London	418	Nonlinear Mechanics and Design of Prestressed Stayed Struts
EP/F027117/1	<i>Phillips, Dr DH</i>	Queen's University of Belfast	187	Thin Sectioning Equipment for Multi-Disciplinary Research in Engineering and the Geosciences
EP/F028512/1	<i>Brown, Professor SF</i>	University of Nottingham	470	Development of a Hollow Cylinder Apparatus to investigate the shearing characteristics of asphalt
EP/F035403/1	<i>Brownjohn, Professor JMW</i>	University of Sheffield	450	Copy of NOVEL DATA MINING AND PERFORMANCE DIAGNOSIS SYSTEMS FOR STRUCTURAL HEALTH MONITORING OF SUSPENSION BRIDGES
EP/F036140/1	<i>Madabhushi, Dr SPG</i>	University of Cambridge	89	Development of Servo-Hydraulic Earthquake Actuators for use on Geotechnical Centrifuges
EP/F036973/1	<i>Cheng, Dr YP</i>	University College London	362	Discrete Element Modelling of Transitional Soils
EP/F037813/1	<i>Wilson, Dr M</i>	The University of Manchester	67	Equipment for Multiple Projects: Cisorp Water Sorption Analyser.
EP/F041896/1	<i>Grattan, Professor KT</i>	City University	93	Cross comparison feasibility monitoring studies in 'test-to-destruction' trial on concrete footbridge
EP/F060718/1	<i>Wang, Professor Y</i>	The University of Manchester	356	Characterising fundamental fire protection performance of intumescent coating under realistic fire conditions
EP/F062591/1	<i>Powrie, Professor W</i>	University of Southampton	599	Development and role of structure in railway ballast
EP/F063482/1	<i>Powrie, Professor W</i>	University of Southampton	522	Long-term performance of geotechnical transport infrastructure
EP/F06585X/1	<i>Cohn, Professor AG</i>	University of Leeds	396	MAPPING THE UNDERWORLD: MULTI-SENSOR DEVICE CREATION, ASSESSMENT, PROTOCOLS
EP/F065906/1	<i>Saul, Professor AJ</i>	University of Sheffield	17	MAPPING THE UNDERWORLD: MULTI-SENSOR DEVICE CREATION, ASSESSMENT, PROTOCOLS
EP/F065965/1	<i>Rogers, Professor CDF</i>	University of Birmingham	1,625	MAPPING THE UNDERWORLD: MULTI-SENSOR DEVICE CREATION, ASSESSMENT, PROTOCOLS
EP/F065973/1	<i>Brennan, Professor M</i>	University of Southampton	782	MAPPING THE UNDERWORLD: MULTI-SENSOR DEVICE CREATION, ASSESSMENT, PROTOCOLS

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EP/F06599X/1	<i>Pennock, Dr S</i>	University of Bath	657	MAPPING THE UNDERWORLD: MULTI-SENSOR DEVICE CREATION, ASSESSMENT, PROTOCOLS
EP/F068778/1	<i>O'Sullivan, Dr C</i>	Imperial College London	70	Automating particle size and shape measurement in soil mechanics
EP/F069170/1	<i>Tomor, Dr AK</i>	University of the West of England	342	A study of the fatigue behaviour and remaining service life of masonry arch bridges
EP/F069189/1	<i>Tanner, Professor G</i>	University of Nottingham	222	Vibrational energy distributions in large built-up structures - a wave chaos approach
EP/F069391/1	<i>Mace, Professor B</i>	University of Southampton	110	Vibrational energy distributions in large built-up structures - a wave chaos approach
EP/G00028X/1	<i>Porteous, Professor CDA</i>	Glasgow School of Art	444	Environmental Assessment of Domestic Laundering
EP/G002126/1	<i>Lam, Dr D</i>	University of Leeds	307	Structural steel elliptical hollow sections
EP/G003556/1	<i>Gardner, Dr L</i>	Imperial College London	326	Structural steel elliptical hollow sections
EP/G005680/1	<i>Edwards, Professor DJ</i>	University of Oxford	126	Passive Tagging Systems for the Enhanced Detection and Identification of Buried Assets
EP/G006482/1	<i>Jeng, Professor DS</i>	University of Dundee	473	Integrated prediction of 3D wave-induced liquefaction around breakwater heads
EP/G01051X/1	<i>Smith, Professor B</i>	Queen's University of Belfast	411	Climate change and the greening of masonry: implications for built heritage and new build
EP/G011338/1	<i>Viles, Professor H</i>	University of Oxford	391	Climate change and the greening of masonry: implications for built heritage and new build
EP/G011680/1	<i>Ferreira, Dr PMV</i>	University College London	200	Improvement of the mechanical properties of compacted clay from the Lambeth group using fibre reinforcement
EP/G013403/1	<i>Hall, Professor J</i>	Newcastle University	1,346	PLATFORM GRANT: Earth Systems Engineering: Sustainable systems engineering for adapting to global change
EP/G016127/1	<i>Brennan, Dr AJ</i>	University of Dundee	187	Liquefaction Settlements in Stratified Soils
EP/G02152X/1	<i>Basheer, Professor PAM</i>	Queen's University of Belfast	331	Development of a performance-based methodology for assessing concrete durability
EP/G025096/1	<i>McCarter, Professor WJ</i>	Heriot-Watt University	361	Development of a performance-based methodology for assessing concrete durability
EP/G039100/1	<i>Airey, Professor GD</i>	University of Nottingham	303	Predicting and Enhancing the Moisture-Damage Performance of Asphalt Mixtures
EP/G039399/1	<i>Kinloch, Professor A</i>	Imperial College London	298	Predicting and Enhancing the Moisture-Damage Performance of Asphalt Mixtures
EP/G056765/1	<i>Mace, Professor B</i>	University of Southampton	295	Estimation of structural dynamic parameters at higher frequencies using Bayesian methods

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EP/G061130/1	<i>Pavic, Professor A</i>	University of Sheffield	780	Dynamic Performance of Large Civil Engineering Structures: An Integrated Approach to Management, Design and Assessment
EP/G063486/1	<i>Standing, Dr JR</i>	Imperial College London	1,165	Assessing ground interaction effects and potential damage on existing tunnels before and after new excavation works
EP/G064180/1	<i>Ibraim, Dr E</i>	University of Bristol	395	Micromechanics of seismic wave propagation in granular materials
EP/G064865/1	<i>Forster, Dr A</i>	Heriot-Watt University	130	An assessment of binder leaching in traditional mortars for mass masonry structures
EP/G064954/1	<i>O'Sullivan, Dr C</i>	Imperial College London	317	Micromechanics of seismic wave propagation in granular materials
EP/G067260/1	<i>Black, Dr J</i>	University of Sheffield	185	Group Mechanics of Vibrated Stone Column Foundations
EP/H000704/1	<i>McHale, Professor G</i>	Nottingham Trent University	324	Particle based superhydrophobic surfaces: Lab models-to-field sample behaviour
EP/H000747/1	<i>Doerr, Professor S</i>	Swansea University	120	Particle based superhydrophobic surfaces: Lab models-to-field sample behaviour
EP/H007261/1	<i>Dixon, Professor N</i>	Loughborough University	62	Assessment of Landslides Using Acoustic Real-time Monitoring Systems (ALARMS): Low Cost Sensor Development and Exploitation
EP/H00730X/1	<i>Ogilvy, Dr R</i>	NERC British Geological Survey	50	Assessment of Landslides Using Acoustic Real-time Monitoring Systems (ALARMS): Low Cost Sensor Development and Exploitation
EP/H007423/1	<i>Soga, Professor K</i>	University of Cambridge	88	Commercialisation of Smart Foundation System
EP/H011951/1	<i>Yu, Professor HS</i>	University of Nottingham	306	Micro-mechanical investigation of non-coaxial plastic flow of granular materials
EP/H013857/1	<i>Madabhushi, Dr SPG</i>	University of Cambridge	328	Cyclic Behaviour of Monopile Foundations for Offshore Wind Farms
EP/H015345/1	<i>Bhattacharya, Dr S</i>	University of Bristol	319	Study of lateral-pile-soil-interaction (LPSI) in seismically liquefiable soils
EP/H015914/1	<i>Blakeborough, Professor A</i>	University of Oxford	202	Study of lateral-pile-soil-interaction (LPSI) in seismically liquefiable soils
EP/H016120/1	<i>Rossetto, Dr T</i>	University College London	24	POST EARTHQUAKE FIELD INVESTIGATION OF THE M6.2 AQUILA, ITALY EARTHQUAKE OF APRIL 6, 2009
EP/H016864/1	<i>Das, Professor PK</i>	University of Strathclyde	2	ISSC Meeting and Visit to Research and Educational Institutions in Korea and Singapore.
GR/S42699/01	<i>Latham, Dr J</i>	Imperial College London	470	VGW - A Virtual Geoscience Workbench for discontinuous systems
GR/S42705/01	<i>Munjiza, Professor A</i>	Queen Mary, University of London	342	VGW - A Virtual Geoscience Workbench for discontinuous systems

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GR/T25439/01	<i>Buenfeld, Professor NR</i>	Imperial College London	404	PLATFORM: Platform Grant Renewal: Concrete Durability Group, Imperial College
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