Funding received from "arms trade companies", past 5 financial years			
Company	**Faculty**	**Project**	**Total funding received**
Airbus	**Faculty of Engineering**	Language-grounded Explainable Reinforcement Learning for Human-Robot Cooperation Project costing for Airbus Defense and Space - Studentship RAEng Chair with Airbus	£427,876.80
	Faculty of Natural Sciences	Engineered Ionic Liquids: Airbus Defence and Space	
AWE Plc	**Faculty of Engineering**	An investigation into helium mobility and bubble formation in Fcc metals CDT PhD Mathematical and Computational Modelling for Nuclear Criticality Safety Analysis and Assessment of Interacting Arrays of Loosely Coupled Systems containing Special Nuclear Materials (SNMs) Continuum damage mechanics modelling for ductile and brittle failure of metallic systems Design for Life of a Surety Mechanism Formal Verification of Arms Control and Dismantlement In-Situ Monitoring for Qualification for Additively Manufactured Components Integrity and Certification of AM Components Micromechanical modelling of plastic bonded explosives incorporating binder ageing PhD Development of a Semi-automated SHPB Facility PhD Development of Dynamic Fracture Testing Techniques to Characterise of Metals/Alloys The Effect of Hydrogen on the Mechanical Properties in Steel	£1,155,961.27
	Faculty of Natural Sciences	CIFS renewal Exotic search for dark matter using lepton jets (Research Fellows Enhancement Award 2017) Governing the Enhancement of AWEs Hydrodynamic Science Capability Imperial College Centre for Inertial Fusion Studies (CIFS) Magnetically driven inertial confinement fusion Methods for diagnosing plasma conditions in laboratory burning plasmas New models of the radiative opacity of Stellar material	

		Part-time PhD studentship: Investigation into the Atomic physics of plasmas PhD studentship support: Enhancement of temperature diagnostics with application to dynamically compressed materials Rad- hydro modelling of Hohlraum energetics - Studentship William Penney Fellowship	
BAE Systems (Operations) Limited	**Faculty of Engineering** **Faculty of Medicine**	Sky Swarm 2 Delineating Cognition to Assess Performance for Defence Personnel: Cognitive Assessment Toolkit (CAS	£146,358.89
Caterpillar Inc.	**Faculty of Engineering**	Caterpillar Innovation and Research Centre ETI Air Systems for Caterpillar	£336,714.97
Defence Advanced Research Projects Agency (UK)	**Faculty of Engineering** **Faculty of Medicine** **Faculty of Natural Sciences**	Transpiration cooling for Next-generation leading edge solutions and technologies, PHASE I VENUS: Formal Verification for Neural Systems PREdicting contagion using Systems and Genomic Sigma Plus: assessment of wearable sensors during experimental human influenza infection Crisanti - full DARPA Safe Genes proposal	£2,240,969.28
Defence Science and Technology Laboratory (DSTL)	**Faculty of Engineering**	2.5 Year Top up funded Research PhD - Virtual Composite Material Testing and Design Active Covert Sensor Systems Autonomy in Challenging Environments (Phase 2) - Real-time 3D-vision and navigation for UAS Awareness CDE-DSTL v2: Optically transparent acrylic composite laminates derived from microbially-synthesised nanofibres Covert Communications With Ultra-Low Power DAIS ITA Transition Project 1: Software Defined Slicing Deep Learning aided Design of Modern Error Correcting Codes for Wireless Communications Design and optimisation of Nano-modified liquid resin injection strategy for maximum composite repair efficiency	£4,127,535.34

	Designing optically transparent hornified bacterial cellulose pellicle-reinforced impact-modified acrylic composites Efficient and Super-resolved Localisation of EM Emissions in a EM Haystack (Sponsor: Defence and Security Accelerator (DASA)) ERASE: Evaluating the Robustness of Machine Learning Algorithms in Adversarial Settings High Temperature Joints Fabricated Using Transient Liquids Hybrid Composite Meta-materials for Acoustic and Stress wave Control Insect-inspired integration of inner- and outer-loop control task. Material Characterisation of Aircraft Composite Material Metasurface Retro-reflectors Phase 2 MIMO Radar: Combat UAV Swarms National UK PhD Programme - "Stochastic Traffic Models, Communication Connectivity and Protocol Designs for Vehicular Ad-Hoc Networks" Numerical Modelling and Simulation - Fellowship Parafoil-cell wind tunnel rig design, build, commissioning and trike wind tunnel test Phase-2: "Manifold Extender" for "UAV Array" Signal Processing Polymer Armour 2 Polymer Armour 2 Real time 3D Vision for UAS Awareness in Challenging Environment Research and Development into Metasurface Retro-reflectors Research PhD Rate-Splitting and Robust Interference Management for Congested Electromagnetic Environment Securing the next Generation of High Performance Structural Composite Fibres Silicon Carbide / Boron Carbide Composites for Armour Silicon Stabilized boron carbide Armour (SiBA) Support to human response analysis SynbiCITE - Dstl Joint Initiative 'Novel Materials Generated Using Synthetic Biology Understanding and Improving Ceramic Armour Materials
Faculty of Medicine	Assay of memory response in convalescent blood

	Faculty of Natural Sciences	PanSurg Hololens Adaptive Optical Remote Sensor for Barrier Analysis (Phase 1) Computational Modelling of the Host-guest Chemistry of Chemical Warfare Agents in Microporous and Mesoporous Materials Feasibility Study into Novel Concepts for a UV Communications System INCA INtegrated Chemical Analysis MAST work package: 3.2.3 Nanocomposites Nano composites - Addition Navigator Accelerometer Demonstrator PhD Funding: "Transition Prediction for Military Air Vehicle Flows" -4 Year PhD Progeny Task 30 - UW / Low Frequency Minehunting Sonar Modelling, Processing and Design Progeny Task 30 Follow on Research - Finite element method for underwater acoustics Research and Development into Smart Tetsubishi Ultra Intense Laser Filamentation in Water	
Department of the Army	**Faculty of Medicine**	Monoclonal antibody against CXCL13 to promote axonal plasticity, regeneration and functional recovery after spinal cord injury: a translational opportunity	£250,000-500,000
General Electric (Switzerland) GmbH	**Faculty of Engineering**	Combustion Modelling PhD Studentship	£0-50,000
MBDA UK Limited	**Faculty of Engineering**	Novel Ceramic Matrix Composite Integrated Thermal Protection System for Missiles (led by MBDA) Generation after next hypersonic structures	£64,023.75
Ministry Of Defence	**Faculty of Engineering** **Faculty of Medicine** **Faculty of Natural Sciences**	5G Electromagnetic - Thermomechanical Modelling ADVANCE plus Effects of the capsaicin patch in soldiers with Non-freezing Cold Injury (NFCI) mBTI MOD studentship Quantum Navigation Using A Cold Atom Interferometer (Acceleration And Rotation)	£2,510,064.35

QinetiQ Limited	**Faculty of Natural Sciences**	Multi-source data fusion in enterprise cyber-security	£100,001-250,000
Rolls-Royce	**Faculty of Engineering**	RR PhD on the Neptune Stochastic Simulator(2022)	£6,679,419.74
		2012 Bonding Project: Developing understanding of adhesive bond performance	
		Accelerated Qualification of Additive Manufactured Parts for Nuclear Applications	
		Alternate Passage Divergence Research at vibration UTC	
		ATI - CEMTEC - environmental degradation of SiC/SiC ceramic matrix composites (CMC)	
		Blade Shaft Coupling	
		block diagram	
		CDT Theory and Simulation Studentship	
		Core Support for Compressor Applications 2012-2014	
		Crack Path Damage, CDT in Advanced Materials Characterisation - PhD leveraged funding	
		Crystal Plasticity Finite Element Modelling work in support of MAI PW-24 Cold Dwell programme	
		Demonstration of the Benefits of the Virtual Elements Method on Naval Reactor Cores	
		Developing an Alternative Rapid Texture Measurement Method	
		Development and evaluation of in-plane fracture toughness of SIC based ceramic matrix composite	
		Development of BTT techniques for analysis of complex vibration responses	
		Development of heat exchanger model in AU3D	
		Development of Structural Health Monitoring Techniques for Planar Defects in NSRP Components	
		Dislocation Mechanisms in Co/Ni Superalloys - PhD support	
		DNS 210159 - Synchronous-asynchronous response coincidence and aliasing challenges in Blade Tip Timing analysis	
		Embrittlement of Ni-based superalloys by oxygen - TSM-CDT leveraged funding	
		Enabling crystal plasticity modelling of Widmanstätten structures	

ENTAPS surge/stall aeroelasticity project
Fast Efficient Microscale Modelling of Hydrides in Zirconium Alloys - Rolls Royce CDT 50% Leveraged PhD studentship
Flutter behaviour of fan blades in novel architectures'
FY2022 RR11 rolling and development testing for BETA
High-Performance, Self-Adaptive, Space-Angle Discontinuous Galerkin (DG) Methods for
Local Angular Refinement for a Sweep Based Ray-Effect Mitigation Approach to
Radiation Shielding Modelling and Simulation
Hot Salt Stress Corrosion Cracking - Envelope Testing (NaCI)
Hydride Misfit and Ratcheting under Thermomechanical Loading
Improvement of FORSE/JM62 Architecture
Investigation into Metallic Inclusion Formation in Hard Facing Materials
KOmpakt Multistage coupling
Leveraged PhD studentship - "Contribution for a PhD working within the Strategic Partnership Theme 4 (Titanium Aluminides)
Leveraged PhD studentship
low activation hard facing galling alloy development
Low-activation wear-resistant matrices - PhD student support
Magnetic Blisk Exciter (MABLE) Risk Reduction
MALIT WP3.3 Development to FORSE Multi Harmonic Balance code JM62
Material Sensitivity to Cold Dwell Fatigue

Materials research into the property balance achievable in alpha-beta Ti alloys
Modelling Methods for Optimal Functionally Graded Materials by Novel Processing - CDT PhD studentship
Next Generation Pipes. Predictive Methods for Pipe System Damping
Notched high cycle fatigue macrozones
Novel and Optimised Under Platform Damper Designs
Nuclear CDT leveraged studentship - Quantification of Residual Stresses by High Resolution Electron Backscatter Diffraction
Nuclear CDT - Part Time PhD Support - Metallurgy Of Martensitic Steel To Nickel Alloy Inertia Welds Or HIP Powder Bonds

Nuclear CDT studentship - Modelling Delayed Hydride Cracking and Crack Growth in Zr Cladding
Nuclear Modelling and Simulation
Nuclear UTC PhD Studentship Support
Nuclear UTP Core Costs 2013
Nucleonics Research (Neutron Flux Measurements in PWR)
NUTC Core funding 2022-23
Off design Aeroelasticity PhD
Open Rotor - Aeroelasticity

PA0122 - Nuclear Energy Futures CDT PhD Studentship - Combined peridynamics and finite element crystal plasticity modelling of the oxidation of zirconium alloys
PDRA Support for low activation hard facing galling alloy development
PhD Studentship concerning Low temperature embrittlement of low alloy pressure vessel steels
PhD studentship - 50% DTP leverage funding
PhD Studentship in hot corrosion of nickel superalloys for aero-engine applications at Imperial College
PhD Studentship in oxidation of nickel superalloys for aero-engine applications at Imperial College
Predictive Models and Experimental Analysis of Delayed Hydride Cracking
Processing, characterisation and initial testing of Ti-Al-Mo alloys
RAEng Research Chair in Integrative Mechanistic Design
Research Software Support & Development at the Vibration UTC
Research Support for Fan/IP Compressor interactions at Vibration UTC
Review of advanced methods for dynamic simulation
Rolls Royce PDRA to support EPSRC reactor physics grant
Rolls Royce PhD studentship
Rolls-Royce PhD research in the field of reactor physics methods development (4 studentships)
Rolls-Royce Top up funding
Rotor to Rotor cross excitation
Seal Flutter Research - Application & Deployment

		Centre for Doctoral Training Spatially Dependent Stochastic Neutron Kinetics Methods for Modelling and Simulating Naval Nuclear Power Plant (NPP) Start-up Physics Specification for the purchase of methodologies for processing of sparse engine aerothermal measurement data [Rolls-Royce] Specification for the purchase of support at Imperial College for CASE student award Strategic Partnership in Mechanical Integrity for Advanced Propulsion Systems Studies on high temperatre and pressure water lubricated rolling element bearings Study of micropitting damage in rolling/sliding contacts of coated surfaces under conditions pertinent to gear applications Support CTI project (Innovate UK) Support for Research activities at Imperial College London for development of OBRS EBC Systems Surrogate Modelling for Coupled CFD and Thermal Stress Modelling within the T-Junction of PWRs The effect of fibre interface chemistry and thickness on CMC mechanical and environmental performance The fundamentals of titanium alloys - alpha 2 ordering and the effect of interstitial solutes. PhD-CDT support The Temperature Sensitivity of Galling in Hard-facing Alloys TigHT Aeromechanic Model Tip Rub Research PhD Tip-Blowing Research, with 80k CUED subcontract Titanium Hot Salt Stress Corrosion Cracking and Fatigue Striations - PhD support	
	Faculty of Natural Sciences	VUTC Core Funding	
Royal Centre for Defence Medicine	**Faculty of Medicine**	WCCFDDFN Nuclear UTP Project: Natural Circulation Flow Analysis	£0-50,000

Thales Alenia Space UK Limited	**Faculty of Natural Sciences**	aerothermal measurement data	£0-50,000
US Army (US)	**Faculty of Engineering**	Bioelectric Signals for Warfighter Lethality (BeSWL) Computational model for understanding and predicting the effects of transcranial current stimulation on audiovisual speech recognition Functional, composite living materials with the potential for self-repair Interrogating the safety and efficacy of a novel STEAP1 chimeric antigen receptor T cell therapy in prostate cancer. Investigating normal physiology and blast-induced damage of hair cells in a mature cochlea Monitoring spoilage of military rations using paper-based electrical gas sensors (PEGS) Security Policy Migrants in Dynamic Collaborative IT Environments	£1,979,072.41
	Faculty of Medicine	Advancing Rehabilitation: Physiological, Psychological and Neuroimaging Measures of Factors that Predispose, Promote, and Perpetuate Post-Traumatic Dizziness (RECOST OF P73615) Functional characterization of eRNA-coregulator interactions at AR-bound enhancers in advanced therapy-resistant prostate cancer	