

Malcolm L. SHIELD

Working to Untangle the Energy Conundrum

statement	Profile	<p>Mechanical engineer by training, with experience in projects ranging from healthcare (GlaxoSmithkline), to defence (UK MoD & BAe Systems), technology demonstration (QinetiQ) and clean burning transport solutions (UBC/Westport). Diversity and depth of professional interests and skills. Sits with ease at the centre of the three major engineering requirements: academic/theoretical awareness, business acumen and industrial capability. Clear professional development plan flowing from technical work to project management and on to business strategy/development.</p> <ul style="list-style-type: none"> ▪ Mechanical/Electronic Design ▪ ▪ Manufacture Contracting ▪ ▪ Laser Diagnostics ▪ ▪ Problem Solving ▪ ▪ Image Processing ▪ ▪ Data Analysis ▪ ▪ Technical Risk Analysis ▪ ▪ Teamwork/Mentoring ▪ ▪ Experimental Design ▪ ▪ Combustion Diagnostics ▪ ▪ Presentation Skills ▪ ▪ Time/People Management ▪ 	
	Attributes	<p>Goal setting and results orientated approach to work, with an unwavering demand for the highest standards. Diligent, organised and conscientious approach with an inherent ability to be technically and personally astute. Highly effective listener and communicator, regardless of topic or audience. A clear ability to lead from the front, or from within the team, as appropriate, and resolve conflict quickly and amicably.</p>	
education	Doctor of Philosophy	<p>Pending (Autumn '09) <i>University of British Columbia, Vancouver, Canada</i></p>	
	Master of Engineering	<p>First Class Honours <i>Imperial College of Science Technology & Medicine, London, UK</i> Sir Bruce White Prize for Best Undergraduate Thesis</p>	
academic experience @ UBC	Position	Research Assistant working towards <i>Doctor of Philosophy (Engineering)</i>	Jan. '04 – to date
	Summary	<ul style="list-style-type: none"> ▪ Redesign and retrofit of an optically accessible engine simulator for use with laser diagnostics in clean combustion research. ▪ Mechanical, fuelling & electrical system design and implementation for experimental test-rig. ▪ Statistical data analysis, emphasis on image data collection/processing and error tracking/quantification ▪ Tendering, awarding & management of contracts for test-rig parts manufacture and lab equipment. ▪ Close collaborative, advisory and mentoring roles within research group. ▪ Effective management of my own tasks and time, as well as those of my Supervisors and technicians. ▪ Continual and daily problem solving for issues covering: finances, time, experimental design, equipment failure and the 'mental gymnastics' of a PhD. ▪ Presentation of my own and the wider groups' research to technical and non-technical audiences from high-school children to Nobel Laureates lasting 2 minutes to over an hour. 	
	Teaching	<p>6 years of extensive teaching experience in University and privately; covering tutorial sessions, laboratories and lectures in thermofluids, engineering design and solid mechanics. Recognised with 2009 UBC Graduate Teaching Assistant Award.</p>	

professional experience

BAe Systems, Carbon Fibre Composites	Jun. – Aug. '02
▪ Composite Lay-up ▪ Production Logistics ▪	
<ul style="list-style-type: none"> ▪ Assistant PM in returning to BAe sub-contracted construction of 'wing boxes' for Airbus A320 aircraft. ▪ Practical experience in manual CF lay-up (Airbus 320) and automated lay-up (36-axis CNC for Joint Strike Fighter) 	
UK Ministry of Defence, Nuclear Propulsion	Jun. – Aug. 01
▪ Nuclear Risk Assessment ▪ Emergency Business Planning ▪ Contract Renegotiation ▪	
<ul style="list-style-type: none"> ▪ Helped develop risk assessment for 'along side' risk for UK nuclear armed/powered submarines. ▪ Developed business continuity plan directly for Head (Commodore) of Nuclear Propulsion. ▪ Amended contract deliverables following contract renegotiation with Rolls Royce Plc. 	
QinetiQ, Business Development	Jun. – Aug. '00
▪ Equipment Commissioning ▪ Business Opportunity Assessment ▪	
<ul style="list-style-type: none"> ▪ Installed gas and fibre management system for silicone carbide demonstrator plant. ▪ Compiled market assessment of commuter rail networks, for VP (Finance), for potential business diversification. 	
UK Ministry of Defence, Warship Support	Aug. – Sept. '99
▪ Risk Assessment ▪ Workload Assessment ▪ System Integration ▪	
<ul style="list-style-type: none"> ▪ Completed surveys of vessel structural safety and paint condition; later disseminated to the UK Admiralty and Fleet. ▪ Munitions re-classification report in support of UK Navy worldwide operational integration. 	
UK Ministry of Defence, Defence Engineering & Science Group	Sept. '98 – Jul. '99
▪Workshop Skills ▪ Mechanical & Electrical Design ▪ Team-working ▪	
Thome Ship Mgmt., Sea-time	Jul. '99 (1 month)
<ul style="list-style-type: none"> ▪ Trainee officer on a 'refined product' tanker in the South China Sea 	

achievements

UBC Energy Action X Competition Winner (09)	Competition winner with a team entry (from myself and a colleague) to make the UBC Vancouver campus net carbon zero . As a result, now a member of the UBC Alternative Energy Committee .
President of Dining Society (Jan. '04 – Nov. '05')	President of the Dining Society at Graduate residence; guided decisions made about the food eaten by 180 people ; helped manage \$600k budget . Resolved significant difference of opinion between residents and management pertaining to missed meals.

NGO work

Raleigh International (Oct. – Dec. '03)	Volunteer and fundraiser (of \$13k) for expedition in southern Chile . Extensive teambuilding; classroom construction in a remote community ; national park infrastructure improvement ; basic mountaineering.
Fulcrum Challenge (Jul. '97)	Volunteer in a small expedition (30 people) to Botswana to complete previously unattempted surveys of local ornithology and rock art for submission to the National Museum of Botswana.

interests

Sporting	Sporting interests: swimming (pool & open-water), running (half & full marathons, road & trail), snowboarding , mountain biking and beach volleyball .
Hobbies	Active photographer ; build and ride single speed & fixed gear bikes ; keep abreast of international affairs ; enjoy good food and wine ; avid traveller and have travelled extensively as a result.