

ISWI 2010 Conference Programme (7th-10th September, Pippard Lecture Theatre, Cavendish Laboratory)

Tuesday 7th

From 9am	Registration		
10.30am	Dr Bill Proud	Imperial College London	Introduction
Session chair: Dr Bill Proud			
10.40am	Dr David Williamson	Cambridge University	Overview of high-strain rate experimental capabilities in the Cavendish
11.00am	Dr Charles E Needham	ARA	A comparison of ideal and aluminized explosives; effects on air blast and concrete damage
11.20am	Dr Donald Scott Stewart	Illinois University	Consideration of the meso-scale for the design of advanced energetic and reactive materials
11.40am	Dr Chad Rumchick <i>(on behalf of Dr Yasuyuki Horie)</i>	US Airforce Research Lab <i>(EGLIN)</i>	Investigating critical shock initiation conditions using the history variable reactive burn model in the CTH hydrocode
12noon	Min Zhou	Georgia Tech	<ol style="list-style-type: none"> 1. Mesoscale CFEM simulation of failure and hot-spot formation in PBX under impact loading 2. Dynamic response of sandwich structures to underwater shock
12.30pm	Lunch		
Session chair: Dr Martin Braithwaite			
1.30pm	Prof Keith Gonthier	LSU	Mesomechanics of deformation wave heating in granular explosive

ISWI 2010 Conference Programme (7th-10th September, Pippard Lecture Theatre, Cavendish Laboratory)

1.50pm	Dr Lalit Chhabildas	US Airforce Research Lab	Time-dependent temperature measurements in expansion products from shock compressed composition B
2.10pm	Hua-Shu Dou	Singapore National University	Computational Study of Deflagration to Detonation Transition in a Straight Duct with Emphasizing Effect of Activation Energy
2.30pm	Dr Vishakantaiah Jayaram	India IISCU	<ol style="list-style-type: none"> Shock interaction of high enthalpy nitrogen with nano anatase TiO₂: a novel route to synthesize N doped rutile TiO₂ Experimental investigation of fully catalytic wall reactions of nano CeO₂ powder with shock heated gases
3pm	Coffee		
3.30pm	Dr John Borg	Marquette University	Dynamic Simulations of Aluminum Foam
4pm	Dr Nikos Nikiforakis	Cambridge University	Numerical simulations of shock and detonation phenomena in gases, condensed-phase explosives and relativistic fluids
4.30pm	Dr Phil Church	QinetiQ	Response of powdered materials to high strain rate loading
4.50pm	Dr Daniel van Odyck	Cambridge University	Mesoscale modelling of shock to detonation process in particle-loaded nitromethane
5.10pm	Dr Naofumi Ohnishi	Tohoku University	Three-Dimensional Simulation of Stationary Shock Wave Instabilities
5.30pm	Finish		

ISWI 2010 Conference Programme (7th-10th September, Pippard Lecture Theatre, Cavendish Laboratory)

Wednesday 8th

Session chair: Dr David Williamson			
9am	Prof Zonglin Jiang	Chinese Academy of Sciences	Universal theoretical framework for regular detonation initiation and propagation
9.30am	Prof Brian Milton (presenting) / Mr Wirapan Seehanam	New South Wales University / Ubon Ratchathami University	CFD investigation on gemavation process of IDM jets
9.50am	Dr Scott Alexander	Sandia National Laboratory	Multi-Phase Expansion of a Tungsten Carbide Filled Epoxy
10.10am	Dr Vladimir Milyavskiy	Russian Academy of Sciences	Fullerites under shock waves: state-of-the-art
10.30am	Coffee		
10.50am	Prof Richard Needs	Cambridge University	Predicting crystal structures up to terapascal pressures
11.20am	Dr Anirut Matthujak	Ubon Ratchathani University	Characteristics of impact driven high-speed liquid jets in water
11.40pm	Dr David Porter	Oxford University	Predictive Nonlinear Constitutive Relations in Polymers through Loss History
12.10pm	Dr Adrian Rotariu	Romania Military Technical Academy	Blast wave attenuation through perlite layers
12.30pm	Lunch		
Session chair: Dr Lalit Chhabildas			

ISWI 2010 Conference Programme (7th-10th September, Pippard Lecture Theatre, Cavendish Laboratory)

1.30pm	Prof Sivaramakrishnan Balachandar	Florida University	Fundamental relations of momentum and energy coupling in compressible multiphase flows - applications to shock particle interaction and explosive particle dispersal
2pm	Dr David Wood	Cranfield University	A comparison of resins used in Carbon fibre composites in the Aero-space industry via high pressure impacts
2.20pm	Dr Simon Watt	Leeds University	An analysis of ANFO steady state detonation characteristics using a straight streamline approximation
2.40pm	BC Khoo	Singapore National University	Numerical study on the rapid detonation onset in an obstructed duct with a detailed reaction model
3pm	Prof Susumu Kobayashi	Saitama Institute of Technology	Stability of Shock Wave Reflection Configuration in a Shock Tube
3.20pm	Coffee		
3.40pm	Dr Ron Winter	AWE	A gas-gun technique to radially collapse thick-walled cylinders
4.00pm	Mr David Bell	Cambridge University	The application of phase Doppler anemometry to the measurement of shock ejecta size and velocity distributions
4.20pm	Dr Ohtani Kiyonobu	Tohoku University	Underwater shock wave focusing phenomena induced by micro explosion
4.40pm	Prof Fan Zhang	DRDC Suffield	A Review on Metalized Heterogeneous Detonation
5.15pm	Finish		

ISWI 2010 Conference Programme (7th-10th September, Pippard Lecture Theatre, Cavendish Laboratory)

Thursday 9th

Session chair: Professor John Field (tbc)			
9am	Dr Kate Brown	Imperial College London	Prospects in Understanding the Molecular Basis of Shock-Induced Damage in Biological Tissues
9.20am	Prof Kazuyoshi Takayama	Tohoku University	Medical applications of shock wave research
9.40am	Mr James Wilgeroth	Cranfield University	Shock Propagation in Porcine Muscle Tissue
10am	Dr Gareth Appleby-Thomas	Cranfield University	Variation of strength with shock loading in three readily available tissue analogues
10.20am	Dr Jonathan Feldman	BAE Systems	Numerical techniques for the simulation of mine blast effects on vehicles and dismounted soldiers
10.40am	Coffee		
11.10am	Dr Spyros Masouros	Imperial College London	In-vehicle lower-limb injuries from improvised explosive devices: clinical and engineering focus in order to improve clinical management and mitigation technologies
11.40am	Mr Gareth Owen	AWE	Assessment of the self consistent technique for the determination of the shear strength of shocked metal targets
12noon	cover arrangements tbc <i>(on behalf of Dr Kulachate Pianthong)</i>	Ubom Ratchathami University	Effect of chamber temperature and pressure on characteristics of high speed diesel jets
12.20am	Ms Louise Michael	Cambridge University	Analysis of the asymmetric collapse of voids in clusters

ISWI 2010 Conference Programme (7th-10th September, Pippard Lecture Theatre, Cavendish Laboratory)

12.40am	Dr Alain Fangent	CEA	Flows in a mesostructural particulate composites under shocks loading
1pm	Option to visit sites in Cambridge		
7pm	Reception & Banquet (Old Hall, Queens' College)		

ISWI 2010 Conference Programme (7th-10th September, Pippard Lecture Theatre, Cavendish Laboratory)

Friday 10th

Session chair: Dr Daniel Eakins			
9am	Dr Roland Smith	Imperial College London	Laser Driven Laboratory Astrophysics Experiments in Atomic Cluster Gases
9.30am	Dr Francisco Susuki-Vidal	Imperial College London	Experimental study of a supersonic plasma jet interacting with an ambient gas
10am	Dr John Pasley	University of York	Generation of shock waves in dense plasmas by relativistic electron beams
10.20am	Dr Simon Bland	Imperial College London	Pulsed power driven isentropic compression experiments
10.40am	Dr Daniel Symes	Rutherford Appleton Lab	Characterisation of blast waves launched with intense lasers in clustering gases
11am	Coffee		
11.30am	Prof Justin Wark	Oxford University	Shock Waves at the Lattice Level: Simulations and Picosecond X-ray Diffraction Experiments
12noon	Dr Koichi Mori (presenting) / Dr Akihiro Sasoh ²	Nagoya University	1. Analytical and numerical analyses of the shock compression under high gravity 2. Richtmyer-Meshkov instability induced in laser plasma
12.30pm	Dr David Moore	LANL	Unraveling Shock-Induced Chemistry Using Ultrafast Lasers
1pm	Lunch		

ISWI 2010 Conference Programme (7th-10th September, Pippard Lecture Theatre, Cavendish Laboratory)

Session chair: Dr Simon Bland			
2pm	Dr Stephen Walley	Cambridge University	Terminal Ballistics of Sand Studied by Digital Speckle Radiography
2.20pm	Dr Stefan Schoch	Cambridge University	Detonation Kinetics of Ammonium Nitrate Emulsion Explosives
2.40pm	Dr Daniel Eakins	Imperial College London	Configuration-based understanding of reaction initiation in metal powder mixtures
3pm	Dr Michael Howard	LLNL	Grain Scale Simulations of Hot-Spot Initiation of Shocked TATB
3.20pm	Prof Marc Meyers	California University	
3.45pm	Conference close		