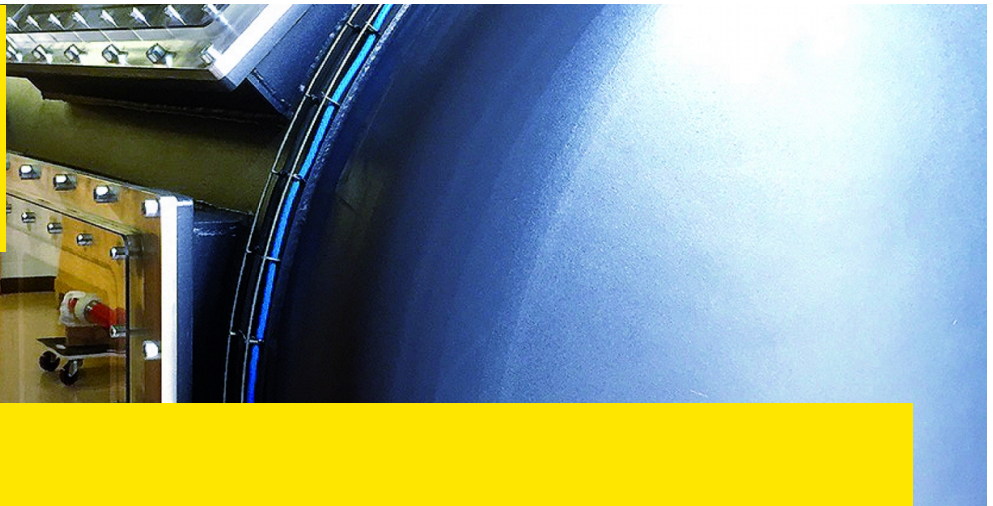




UNSW
SYDNEY



Impact Dynamics

Testing the performance and functionality of materials by subjecting them to a range of extreme loading conditions, including shock loading, ballistic loading, dynamic tension, compression and shear. Diagnostic techniques are used to understand the precise impact of extreme dynamic stress.

Competitive advantage

- A unique gas-gun capability that can:
- Fire projectiles to velocities of 4500 m/s
- Conduct flyer-plate tests to 'shock' materials
- Launch any projectile shape

Impact

- Maximise survivability by developing new protective structures for Defence
- Minimise the weight burden on the soldier by developing lightweight durable structures
- Reduce injury by developing a better understanding of the behaviour of the human body to dynamic loading

Successful applications

- Probing the ballistic performance of a bunker design
- Developing models for armour materials
- Understanding the role of a bullet's jacket during the penetration of hard targets

Capabilities and facilities

- Split Hopkinson Pressure Bar (compression and tension)
- Instrumented drop-tower for low velocity impact studies
- High-speed photography equipment and laser-based diagnostics
- Flash x-ray
- Computational codes for simulating dynamic events

Our partners

- Defence Science and Technology
- Australia's Nuclear Science and Technology Organisation (ANSTO)
- DefendTex

More Information

Professor Paul Hazell

School of Engineering and Information Technology

T: +61 (0) 2 6268 8266

E: p.hazell@unsw.edu.au

UNSW Knowledge Exchange

knowledge.exchange@unsw.edu.au

www.capabilities.unsw.edu.au

+61(2) 9385 5008