

Collision modelling and impact analysis

CASR has published extensively on the results of its modelling research. Clients and organisations that have benefited from our modelling include:

- The International Harmonized Research Activities Pedestrian Safety Working Group
- Honda Research and Development Ltd., Japan
- Mitsubishi Motors Corporation, Japan
- Institut National de Recherche sur les Transports et leur Sécurité (INRETS), France
- Department of Infrastructure, Transport, Regional Development and Local Government
- Roads and Transport Authority of New South Wales



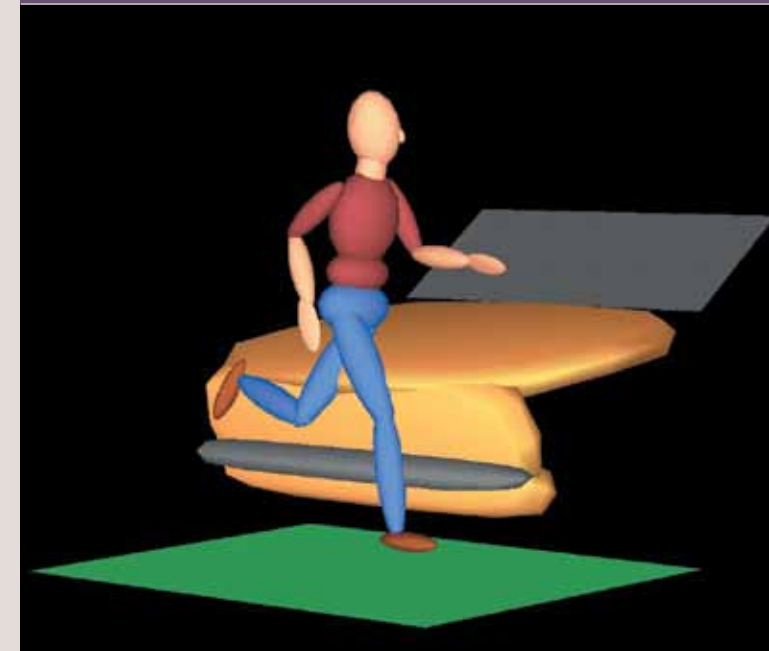
Centre for Automotive Safety Research

The Centre conducts high quality independent research that enables rational decision making, leading to reductions in the human and economic losses from road crashes.

Contact

Dr Robert Anderson
Centre for Automotive Safety Research
University of Adelaide
Ph +61 (08) 8303 5888
Fax +61 (08) 8232 4995
robert@casr.adelaide.edu.au
casr@adelaide.edu.au
www.casr.adelaide.edu.au

Dr Robert Anderson has been using MADYMO for 14 years, and has trained individuals and classes of students to use the software. He has written numerous publications based on his research using multi-body simulations.





The Centre for Automotive Safety Research has conducted high quality, multidisciplinary research with an overall purpose of reducing the human and economic cost of road accidents since 1973. It continues to vigorously pursue this activity and goal. The understanding of impact biomechanics is a central part of its research program.



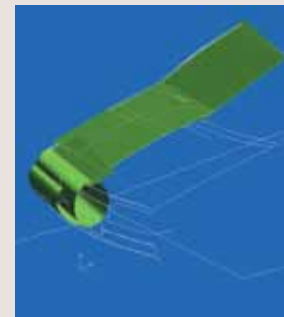
CASR specialises in:

- reconstruction of real world crashes or laboratory tests using multi-body methods
- modelling of pedestrian collisions
- reconstruction of occupant motions in actual crashes, including frontal and rollover impact, and also laboratory crash tests.

Multi-body modelling is a cost-effective method to rapidly simulate the motion of mechanical systems under impact loads and other forces.

CASR has been using computer based multi-body modelling methods since the early 1980s.

We use the proprietary software package MADYMO (TASS-SAFE, Netherlands) for our modelling. MADYMO is widely deployed for the simulation of dummies in crash tests and also for the motion of simple and complex models of the human body under external and internal forces.

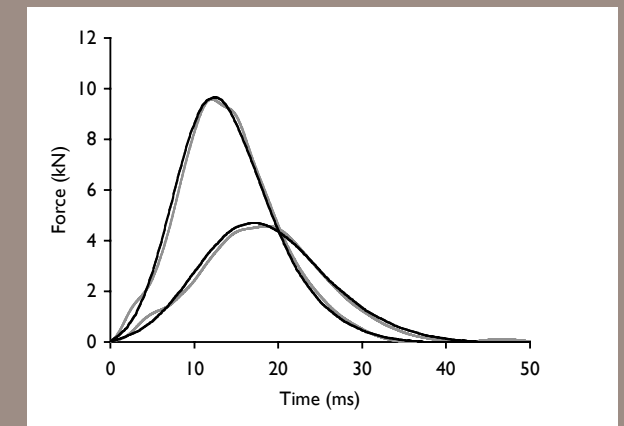


Impact analysis and modelling

CASR combines modelling expertise with our ability to conduct physical impact tests as part of the modelling process. This means that the models we produce are valid representations of the real world.

Our leading research in impact modelling means that you can be assured of accurate impact severity predictions without resorting to time consuming and expensive full finite element techniques.

CASR's impact modelling techniques allow accurate impact pulse predictions from multi-body models.



The results of two impact tests on the same structure (grey lines) successfully modelled using multi-body modelling (black lines).