

# International Journal of Crashworthiness

Weltweit verbreitete, seit 1996 erscheinende Fachzeitschrift, die von der [Taylor & Francis Group](#) verlegt wird. Es wird nicht nur über das Crashverhalten von Landfahrzeugen, sondern auch von Schiffen, Flugzeugen und Raumfahrzeugen berichtet.

Erscheinungsweise: 6 x jährlich

Einmal im Jahr findet die ICRASH-Konferenz (International Crashworthiness Conference) statt.

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[2020](#) [2021](#) [2022](#) [2023](#) [2024](#)

## 2024

### Issue 6

### Issue 5

### Issue 4

### Issue 3

- The multi-objective reliability-based design optimisation of buffering characteristics of airbag seat in manned airdrop
- Lightweight design of automotive front rail based on topology optimisation and collision analysis
- Structural design and self-locking performance verification of the snap-fit spatial self-locking energy absorption system under the impact loading
- Damage mechanisms and analytical model of CFRP laminate under low-velocity normal and oblique impacts
- Investigating crashworthiness of W-Beam guardrail crash barriers
- Identification of material parameters for the Vawter-Fung lung tissue constitutive model and assessment in human body model for impact loading
- Design and evaluation of compressive properties of 3D-printed PLA stochastic open-cell foam
- Study on the head and neck injury risk impacted by UAV: effect of impact velocity, angle, location, and mass
- Influence of material strain hardening on energy absorption of axially loaded steel tubular members via first wrinkling mechanism
- Inclined battery cells for mitigating damage in undercarriage collision
- Investigating road conditions of crash blackspots in Addis Ababa, Ethiopia: a random parameters negative binomial model
- Application of Macro Element Method (MEM) for faster automotive crash safety design during concept stage
- Evaluating constitutive models of smoothed particle hydrodynamics for bird-strike simulation

- Study on impact performance and optimisation of the CRH380 high-speed train traction converter cooling unit
- An empirical analysis on the effects of alcohol-impairment in injury severities of motorcyclists

## Issue 2

- Experimental investigation of hybridization effect of Kevlar and Glass fibers on CFRP composite under low velocity impact
- How does the safety performance of different vehicle types and weights affect the severity of a driver's injury?
- A comparative study on dynamic compression response of multi-cell thin-walled structures with filling foams and connecting ribs
- Tailoring the impact response of a spaceframe vehicle structure towards optimum crashworthiness
- Optimization of crashworthiness of CFRP thin-walled beams filled with aluminium honeycomb based on surrogate model
- Performance analysis and optimization of square tubes with different shapes, sizes, and patterns of holes under axial compression loading
- Bulletproof optimisation design of helicopter cockpit subfloor
- Multi-objective lightweight design of automotive battery pack box for crashworthiness
- Investigate the elastoplastic deformation behaviour of a motorcycle frame under different mechanical load configurations
- Design optimisation and experimental verification of a UAV's landing gear buffer
- Low-velocity impact of square conical gradient aluminium foam-filled automobile energy-absorbing boxes
- Axial crashworthiness of double-hat beams with various ribs
- Evaluation of risk injury in pedestrians' head and chest region during collision with an autonomous bus
- 3D simulations and laboratory experiments to evaluate a dynamic airbag valve
- Correction

## Issue 1

- Alignment of highly resolved time-dependent experimental and simulated crash test data
- Comparative study of statistical and machine learning methods for streetcar incident duration analysis
- Artificially smart optimization of crash cushion device sustained by experimental and numerical study of re-entrant auxetic honeycomb
- Development and assessment of alternative designs for side impact beam
- Mechanical performance of multi-cell thin-walled tubes under static and dynamic axial loading
- Effects of tube design on crashworthiness of CFRP thin-walled square beams filled with aluminium honeycomb under axial impact
- Influence of spherical triggers on axial collapse of tapered tubes
- Multi-objective crashworthiness optimization of square aluminum tubes with functionally graded BCC lattice structure filler
- Experimental study on the impact resistance of hollow thin-walled aluminum alloy tubes and foam-filled aluminum tubes (6063-T5)
- A machine learning based optimisation method to evaluate the crushing behaviours of square tubes with rectangular-hole-type initiators
- Energy absorption optimisation of an origami-shaped crash box under axial loading
- Crashworthiness assessment of foam-filled internally strengthened carbon fibre-reinforced composite tubes under axial compression

- Crashworthiness analysis and uncertainty optimization of novel multi-wall tube
- Optimization of the crashworthiness design of carbon fiber-reinforced polymer bumper beam
- Bus safety during COVID-19: analyzing bus-involved crashes and economic harm

## 2023

### Issue 6

- Finite element analysis of CFRP composite under low velocity impact to improve the impact strength
- Crashworthiness investigation of conical tubes using dimensional analysis method
- Pedestrian safety at urban intersections: lighting conditions is the question
- Deep learning method to assess brain injury risk
- Vehicle collisions analysis on highways based on multi-user driving simulator and multinomial logistic regression model on US highways in Michigan
- Tension-bending risk curves for the ATD lower lumbar spine subjected to oblique impact under FAA emergency landing conditions
- Cork/aluminium double-layer sandwich panels under impact loading for lightweight ship structures
- Analyzing factors and interaction terms affecting urban fatal crash types based on a hybrid framework of econometric model and machine learning approaches
- Effectiveness analysis of a foldable booster safety seat with integrated seatbelt buckle for reducing children's vehicle accident injury risk
- The level of delay caused by crashes (LDC) in metropolitan and non-metropolitan areas: a comparative analysis of improved Random Forests and LightGBM
- Correction

### Issue 5

- Investigating major cause of crashes on Indian expressways and developing strategies for traffic safety management
- Load-limiting in the lap belt reduces injury risks associated with new seating positions
- Impact resistance and structural optimization of POZD coated composite plates
- Selection of an appropriate material for a crash-box in multi-attribute group decision-making environment using R-method
- Efficient crash structure design for road traffic accidents of tomorrow
- Experimental and numerical crushing performance of crash boxes filled with re-entrant and anti-tetrachiral auxetic structures
- Design and optimization of anti-climber device for light rail transit crash energy management system
- Research on out-of-plane impact characteristics of self-similar gradient hierarchical quasi-honeycomb structure
- Crash-worthiness studies on multistage stiffened honeycomb core sandwich structures under dynamic impact loads
- Correction

### Issue 4

- Frontal crashworthiness optimization for a light-duty vehicle based on a multi-objective reliability method
- Accident dynamic response and injury mechanism of the collision accident between right-turning truck and cyclist straight

- Precautionary measures, speeding behaviour, and accidental trauma in shaping post-accidental driving behaviour and word of mouth
- Energy absorption capacity of rubber sponge reinforcement in carbon fiber reinforced plastics (CFRP) tubes
- A human body model based method for injury risk prediction considering occupant stature and posture
- Energy absorption investigation of octagonal multi-layered origami thin-walled tubes under quasi-static axial loading
- Predictive analysis of injury severity of person across angle crashes using machine learning models
- Study on the collision characteristics of a subway coupler
- Vibration, shock and impact analyses of a structural honeycomb battery pack
- Using automatically generated submodels in vehicle body crash optimization
- Comparing the key contributory factors for driver injury severities in opposite-direction collision accidents

### Issue 3

- Prediction of extent of damage in vehicle during crash using improved XGBoost model
- Optimization design of the coupler overload protection component: numerical simulation and experimental validation
- An integrated energy absorbing module for battery protection of electric vehicle under lateral pole impact
- Experimental and numerical comparative crashworthiness analysis of innovative renewable hybrid barrier with conventional roadside barriers
- Analysis head injuries of Vietnamese motorcyclist without a helmet in car to motorbike frontal impact using a computer model
- Multi-cell designs for improving crashworthiness of metal tube under the axial crushing load
- Crashworthiness performance of novel pre-deformation method applied square aluminum tubes
- Crashworthiness analysis and shape design optimization of corrugated tubes for railway application
- On the pacifying influence of an elastomeric foam core on the failure mechanism of sandwich composites with various skin layups
- In-plane crushing of a novel sinusoid-curved honeycomb under static and dynamic loadings
- Crashworthiness design of 3D lattice-structure filled thin-walled tubes based on data mining

### Issue 2

- Application of driving simulators in the validation test for vehicle active safety system
- Energy absorption analysis on variable thickness CFRP/aluminum hybrid square tubes under oblique loading
- Predicting and explaining severity of road accident using artificial intelligence techniques, SHAP and feature analysis
- Improved whale optimization algorithm and its application in vehicle structural crashworthiness
- Optimization of vehicle pulse index parameters based on validated vehicle-occupant finite element model
- A method for analyzing accident reconstruction results under complex uncertain conditions
- Experimental investigation on fuse pin ductile fracture performance of aircraft wheel-up landing crash separation
- How does the driver reaction behavior affect the safety benefit of intelligent safety systems?

- Robust design assessment of automotive crash box structures through model order reduction
- Numerical study on the injury mechanism of blunt aortic rupture of the occupant in frontal and side-impact
- Crash behavior and optimization of double tubes with different cross section
- Safety of active pre-collision seat rotation strategies for autonomous vehicles: injury risk evaluation of occupant's neck

## Issue 1

- Design and optimization of bio-inspired thin-walled structures for energy absorption applications
- Modelling injury severity of victims in collisions involving public transit in Dhaka, Bangladesh
- Assessment of petroleum road tankers subject to rollover impacts - measurement and modelling
- Experimental investigation on the effect of printing parameters on the impact response of thin-walled tubes produced by additive manufacturing method
- Analysis of chest response characters for drivers in lateral and oblique automotive impact
- Design of high-tension elastic cable barriers preventing rollover and climbing-over of various vehicles with high impact severity
- The difference in the kinematic and injury risk of cyclists between normal and emergency avoidance postures in vehicle collisions
- Method for automated detection of outliers in crash simulations
- Network space analysis-based identification of road traffic accident hotspots: a case study
- Multi-objective optimization design of post-soil system for enhanced W-beam guardrail containment performance
- On novel foam-filled double-hexagonal tube for multiple load cases
- Optimization of multiple collision characteristics using an innovative crashworthiness diagram

## 2022

### Issue 6

- Crashworthiness parameters and their improvement using tubes as an energy absorbing structure: an overview
- Development of AEB control strategy for autonomous vehicles on snow-asphalt joint pavement
- Crashworthiness performance of thin-walled, square tubes with circular hole discontinuities under high-speed impact loading
- Design and optimisation of vehicle frontal bumper beam with alternative carbon fibre-reinforced plastics in corrugated sandwich structure
- Assessment of structural adequacy of semi-rigid safety barriers
- A geometrical parametric study of side door reinforced beams under lateral impact load
- Classifying features of freeway crashes using machine learning
- On impact of cryogenic temperature rolled 6082 Al alloy by dome- and conical-nosed projectiles
- Examining the factors effecting severity of two-wheeler crashes at intersections
- MEM vs. FEM: practical crashworthiness insights for macro element modelling applied to sub-assembly and full vehicle automotive structures
- Evaluation of occupant neck injury response to varied impact conditions using a finite element-mathematical surrogate modeling approach
- Validation of MADYMO human body model in braking maneuver with highly reclined seatback
- Analyzing the role of multiagent technology in preventing airplane crash using AHP and

DEMATEL approach

- Revamping the vehicle protection system using next-generation car bumper to mitigate pedestrian fatality
- The synthesized method based on classical mechanics and finite element for vehicle collision accident reconstruction analysis
- An FSRW numerical simplification approach for vehicle frontal crashworthiness analysis
- Crashworthiness of hybrid composite-metal tubes with lateral corrugations in axial and oblique loadings
- An investigation of optimal auxetic cores in sandwich structures to withstand low-velocity impact loading
- Crashworthiness study of UCAV's main landing gear using explicit dynamics
- Applicability analysis and integrated optimization of an overhead airbag for full frontal crash
- Prediction model of crash severity in imbalanced dataset using data leveling methods and metaheuristic optimization algorithms
- Severe injury of pyknic female drivers induced by sitting behaviour
- Crashworthiness among side pole testing

## Issue 5

- On the crushing behaviour of scutoid-based bioinspired cellular structures
- Finite element-based safety prediction for hydraulic excavator rollover protective structure and experimental validation
- Research on general layout parameters of I-SIZE child safety seat in frontal impact
- Study on responses of HUMOS dummy in typical body posture under spacecraft re-entry overload
- Effects of aluminum honeycomb filler on crashworthiness of CFRP thin-walled beams under dynamic impact
- Optimization of a motorcyclist protection system made of recycled rubber - impact simulation and test uncertainties
- Determining vehicle pre-crash speed in frontal barrier crashes using genetic algorithm model adjustment techniques for intermediate car class
- Multi-objective lightweight and crashworthiness collaborative optimisation of commercial vehicle cab
- Analytical and experimental investigations on axial crushing of aluminum tube with vertically corrugated
- Effects of cutout and impact loading condition on crashworthiness characteristics of conical frusta
- New methods in side sled crash testing
- Experimental and numerical performance assessment of square aluminum and steel energy absorbers with circular hole discontinuities
- Crushing analysis under multiple impact loading cases for novel tailored-property multi-wall tubes
- A novel risk evaluation for vehicle failure modes using a hybrid method under fuzzy environment
- Modelling and examining the influence of predictor variables on the road crashes in functionally classified vehicles in Pakistan
- Crashworthiness analysis and multi-objective optimization for honeycomb structures under oblique impact loading
- Methods, upper limit and reason for reducing pedestrian ground contact injury by controlling vehicle braking

- An experimental and numerical analysis on influence of triggering for composite automotive crash boxes under compressive impact loads
- Crashworthiness design of car threshold based on aluminium foam sandwich structure
- Effect of fiber angle alignment on energy absorbing behavior of conical composite tubes
- Crashworthiness optimisation and lightweight for front-end safety parts of automobile body using a hybrid optimisation method
- Research on dropping test and numerical simulation for unmanned aerial vehicle
- Analysis of normal and tangential restitution coefficients in car collisions based on finite element method
- Low velocity impact response and influence of parameters to improve the damage resistance of composite structures/materials: a critical review

## Issue 4

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### Issue 3

- Comprehensive study on the crashworthiness of a new developed axially-half corrugated aluminum tubes
- Optimisation of double-tapered rectangular tube with O-shaped diaphragms as energy absorber
- Reverse reconstruction of two-wheeled vehicle accident based on Facet vehicle model and hybrid human model
- Material parametric optimisation of wing leading edge profile against soft body impact
- Combined application of patchwork and partial softening to enhance the collision resistance of the center pillar
- Techniques for correlation of drop weight impact testing and numerical simulation for composite GFRP crash boxes using Ls-Dyna
- Damage prediction and test validation of bird impacts on aircraft leading edge's structures
- Theoretical and numerical investigation of bicellular honeycomb under axial compression
- Experimental and numerical study of composite sandwich panels for lightweight structural design
- Effects of global and local ply-reinforcements of critical components on crush performances of 2D tri-axially braided CFRP J-shaped fuselage frame
- Experimental investigation and finite-element modeling of the crushing response of hat shape open section composite
- Energy absorption study of a new reinforced top-hat section beam under flexural loading
- Energy absorption analysis of square-circle hybrid section tubes under axial loading
- Long fibre-reinforced thermoplastic theoretical model for energy absorption analysis based on impact performance
- Out-of-plane crashworthiness of the new combined quasi-honeycomb core
- Design and optimisation of hybrid material bumper beams under impact loading
- Development of a school bus restraint system model and its application in the evaluation of designed protective strategies on child neck injury in front-end crash
- An influence study of active muscle and sitting postures on lower limb injuries during frontal impact
- Aberrant driving behaviours among ride-hailing drivers: direct and indirect effects of personal attributes and work-condition factors
- Dynamic shear strength evaluation of CFRP using off-axis tension test: theoretical and experimental studies
- Analogy of novel TRC crash barriers with RC crash barrier under impact load
- Automotive frontal body structure optimisation in the Upper Legform to Bonnet Leading Edge test with the aim of reducing the pedestrian injuries
- The crash injury severity prediction of traffic accident using an improved wrappers feature selection algorithm
- [Determining the direction of origin of a rock striking a moving vehicle windscreen](#)
- A new comparative testing method for equestrian helmets



## Issue 2

- Dynamic response of bird strike on variable stiffness laminates of composite leading edge
- Injury severity prediction model for two-wheeler crashes at mid-block road sections
- The influence of coach interior partitions and seat leaf-tables on occupant injury in a frontal collision
- Inverse material characterisation of human aortic tissue for traumatic injury in motor vehicle crashes
- On the peak quasi-static load of axisymmetric buckling of circular tubes
- Low-velocity impact of density-graded foam-filled square columns
- Study on the crashworthiness of bio-inspired multi-cell tube under axial impact
- Modelling head injury due to unmanned aircraft systems collision: Crash dummy vs human body
- Crushing analysis and crashworthiness optimisation for a novel bioinspired multicell filled tubular structure
- An effective finite element modeling approach for prediction of the behaviour of a jute fibre-reinforced composite tube under axial impact
- A numerical investigation of injury mechanisms and tolerance limit of occupant femur in combined compression-bending load
- Front impact attenuator design for a race car
- A novel design method of the impact zone of a high-speed train
- Buckling study on Two-Stage absorption energy coupler
- Crush and crash analysis of an automotive battery-pack enclosure for lightweight design
- Experimental study of ice impact on aluminium/carbon fiber reinforced composite dual plate
- Development of a test equipment for rating front to rear-end collisions based on C-NCAP-2018
- Impacts of roadway lighting on traffic crashes and safety in Jordan
- Traffic accident hotspot identification by integrating kernel density estimation and spatial autocorrelation analysis: a case study
- A study on collision characteristic of center-pillar with CR420 and hot stamped steel during side crash simulation
- Energy absorption characteristics of multi-cell tubes with different cross-sectional shapes under quasi-static axial crushing
- Comparative risk assessment of pedestrian groups and their road-crossing behaviours at intersections in Dhaka, Bangladesh
- A 3D progressive failure model for crushing simulations in composite structures
- New observations from real-world vehicle-pedestrian collisions in reducing ground related injury by controlling vehicle braking

## Issue 1

- Pedestrian gaits observed from actual pedestrian-vehicle collisions
- The multi-objective structural optimisation design to improve the crashworthiness of a multi-cell structure for high-speed train
- Car-to-cyclist forward collision warning effectiveness evaluation: a parametric analysis on reconstructed real accident cases
- Quasi-static axial crushing of thin-walled steel tapered tubes with hybrid geometry: experimental and numerical investigation
- Influencing factors analysis of side right-angle collisions severity at intersections based on decision tree
- An investigation of the effects of motorcycle-riding experience on aberrant driving behaviors and road traffic accidents-A case study of Pakistan

- Effects of material failure criteria on design of vehicle parts under impact loading
- Introducing a new mechanism for energy absorption through simultaneous inversion-folding process
- Reverse reconstruction of motorcycle-car accident based on response surface model and NSGA-II algorithm
- Experimental and numerical study and multi-objective optimisation of quasi-static compressive test on three-dimensional printed lattice-core sandwich structures
- Investigation on the low-velocity impact behaviour of non-symmetric FMLs—experimental and numerical methods
- A study on motorcyclist head responses during impact against front end of vehicle
- A preliminary FE analysis of a helmeted head in an A-pillar impact: effects of whole-body kinematic behavior of cyclist and head-helmet interaction on brain strain
- A numerical and theoretical study on crushing behaviours of variable thickness 12 right-angles section tubes
- Topology optimization for crashworthiness of cyclic symmetric isosceles under dynamic response constraints
- One-dimensional cellular automaton traffic flow model based on defensive driving strategy
- Relevance analysis of AEB control strategy and occupant kinematics based on typical cut-in scenario
- Theoretical development and multi-objective optimisation of a double-tapered rectangular tube with diaphragms
- Variables impacting the severity of crashes involving traffic barriers on horizontal curves: actual crash analysis of interstate roads in Wyoming
- Adequacy of Manitoba concrete bridge rail during truck platoon impacts and associated occupant risks
- Failure behavior and crash modelling of resistance rivet spot welding (RRSW) for joining Al and steel in vehicle structure
- Investigation of the experimental, statistical and optimisation of 3D printed lattice core sandwich panel energy absorber with novel configuration using response surface method
- A comprehensive assessment of bus rollover crashes: integration of multibody dynamic and finite element simulation methods
- Phenomenological investigation on crash characteristics of thin layered CFRP-steel laminates
- Experimental and analytical studies of syntactic foam core composites for impact loading

## 2021

### Issue 6

- Low-velocity impact of clamped slender rectangular sandwich tubes with metal foam core
- The reinforcement optimization of thin-walled square tubes for bending crashworthiness
- Experimental study on the crushing behaviour of lithium-ion battery modules
- Effect of vehicle steering maneuvers on kinematics and head injury risks of cyclists via finite element modeling analysis
- Structure design of LFT passenger car seat structure based on topology optimisation
- A proposed quasi-static test for improving the crash performance of trailer rear underride guards
- Airbag models for aircraft passenger seats
- Topology optimization for crashworthiness and structural design of a battery electric vehicle
- Experimental and numerical investigation on bending strength of the vehicle bumper beam with internal stiffeners
- Mechanical properties of bi-directional corrugated honeycomb aluminum filled with expanded

polypropylene under quasi-static compression

- Analysis of minimum pulse shape information needed for accurate chest injury prediction in real life frontal crashes
- Study on rollover crashworthiness of a bus with local functional graded thickness sidewall pillar
- Examining the factors affecting driver behavior in Metropolitan Kuwait

## **Issue 5**

- Evaluating pedestrian head Sub-System test procedure against full-scale vehicle-pedestrian impact
- Compression after impact of CFRE composites immersed in distilled water
- Optimisation of crash dynamics for bus cabin structure based on attained intrusion and deceleration during a frontal collision
- Analysis on effect of injection residual stress on impact resistance of composite wheel made of long glass fiber reinforced thermoplastic
- Effect of initiator geometry on energy absorption of CFRP tubes under dynamic crushing
- Road traffic accident scene detection and mapping system based on aerial photography
- Effects of dynamics and trigger on energy absorption of composite tubes during axial crushing
- Impact conditions of motorcyclist per body segment

## **Issue 4**

- Optimisation design of CFRP passenger car seat backplane based on impact characteristics
- Crashworthiness aspects of electric vehicle design
- Shock absorber with inward-folding composite tube and its application in legged landing gear
- Numerical child restraint system analysis in 6 years old infant during a dolly rollover test
- Assessing risk factors associated with urban transit bus involved accident severity: a case study of a Middle East country
- Dynamic response of bird strike on honeycomb-based sandwich panels of composite leading edge
- Multi-objective crashworthiness optimization of thin-walled multi-cell tubes with different wall lengths
- A damage model for the simulation of crack initiation and propagation in automotive windshield laminated glass structures
- Retraction

## **Issue 3**

- A numerical study on energy absorption of re-entrant honeycomb structures with variable alignment
- A hybrid optimization framework for road traffic accident data
- Quantification of time and fuel losses due to daily traffic congestion in Kuwait
- Effect of fibre orientation on damage resistance of composite laminates
- Simulation and experiment study on the deviation influence factors of dynamic collision test for child safety seat
- A parametric analysis of factors that determine head injury outcomes following equestrian fall accidents
- Experimental and numerical investigations on the energy-absorption of a bending-straightening structure
- Parametric study of automotive shape memory alloy bumper beam subjected to low-velocity impacts

- Multi-objective crashworthiness optimisation of tapered star-shaped tubes under oblique impact
- Experiment and modified model for CFRP/steel hybrid tubes under the quasi-static transverse loading

## Issue 2

- Crashworthiness of Nomex® honeycomb-filled anti-climbing energy absorbing devices
- The derailment behaviour and mechanism of a subway train under frontal oblique collisions
- A numerical study on energy absorption capability of lateral corrugated composite tube under axial crushing
- Crashworthiness study of a subway vehicle collision accident based on finite-element methods
- Investigations on the vertical buckling of railway vehicle's anti-climber
- Body optimization approach of sedan structure for improving small overlap impact rating
- Predictive modelling of injury severity in bicycle-motor vehicle collisions utilizing learning vector quantization: a case study of Britain's cycling capital
- Factors impacting injury severity of crashes involving traffic barrier end treatments
- Design and analysis of a polyamide - steel hybrid A-pillar for increased vehicle roof structural integrity in rollover accident scenarios
- Peridynamic method to determine energy absorption characteristics of ordinary glass under impact load

## Issue 1

- A system optimisation design approach to vehicle structure under frontal impact based on SVR of optimised hybrid kernel function
- Parametric study of impact parameters on peak head acceleration and strain for collision impacts in sport
- Crashworthiness optimization of bio-inspired hierarchical honeycomb under axial loading
- The effect of cell wall material strain and strain-rate hardening behaviour on the dynamic crush response of an aluminium multi-layered corrugated core
- Injuries to standing passengers using different handrails in subway train collision accidents
- Numerical and experimental investigation on mechanical responses of plain woven CFRP composite under various loading cases
- Attempt to improve the material utilisation and crashworthiness of grooved tube subjected to axial crushing
- Experimental and numerical investigation of humid ageing effects on CFRP laminates crashworthiness behaviours
- An evaluation methodology for motorcyclists' wearable airbag protectors based on finite element simulations
- High rate failure properties of porcine aortic tissue under uniaxial tension
- Correction

## 2020

### Issue 6

- Potential head injury mitigation of M-AEB in real-world motorcycle crashes
- Multi-objective optimisation of a honeycomb-filled composite energy absorber for subway vehicles
- Safety analysis of children transported on bicycle-mounted seat during traffic accidents
- A new homo-polygonal multi-cell structures under axial and oblique impacts; considering the

effect of cell growth in crashworthiness

- Comparing two proposed protocols to test the oblique response of cycling helmets to fall impacts
- Finite element analysis considering packaging efficiency of innovative battery pack designs
- Investigation of head injuries suffered by pedestrians in traffic accidents via videos
- Multibody system modelling of unmanned aircraft system collisions with the human head
- Correction

## **Issue 5**

- Quasi-static study of thin aluminium frusta with linearly varying wall-thickness
- Severity prediction of motorcycle crashes with machine learning methods
- Helmet protective performance via reconstruction of electric two-wheeler rider's head-to-ground impact accidents
- Effect of core materials on the low-velocity impact behaviour of trapezoidal corrugated sandwich panels
- Multi-material design of a vehicle body considering crashworthiness safety and social effects
- Analytical model of circular tube with wide external circumferential grooves under axial crushing
- Pelvis kinematics assessment for improving far-side child protection positioned in a booster seat
- Verification of reliability of numerical analysis by comparison with actual crash impact test of rotorcraft fuel tank
- Analysis and simplified modelling of simulation of tests for medium-duty truck collision with twin anti-ram bollards
- Topological optimisation design of passenger car seat backrest frame based on multiple-loading conditions

## **Issue 4**

- Research of non-linear frictional contact model in vehicle-pedestrian accidents based on computer simulation
- Finite element reconstruction of real-world pedestrian accidents using THUMS pedestrian model
- Importance of intervertebral displacement for whiplash investigations
- Conceptual design and evaluation of a novel bilateral pretension seatbelt: a computational study
- Experimental characterisation of the mechanical properties of a carbon fibre/PA66 LFT automotive seatback under quasi-static and impact loading
- The crashworthiness prediction of 2D triaxially braided composite fuselage frame under transverse impact load
- Crashworthiness study on hybrid energy absorbers as vertical struts in civil aircraft fuselage designs
- Effect of damage modelling in numerical simulation of crash energy absorption behaviour of crush tubes and validation with experiments
- Crashworthiness of a crisscross-reinforced square honeycomb under out-of-plane crashing

## **Issue 3**

- Effect of acceleration pulse shape on the safety of unbelted motorcoach passengers in frontal collision under uncertainty of their seating posture
- Airbag application to passenger seat for aircraft: impact tests

- Crashworthiness optimisation of a step-like bi-tubular energy absorber for subway vehicles
- On computer simulation of components for automotive crashworthiness: validation and uncertainty quantification for simple load cases
- The effect of aggressive driver behaviour, violation and error on vehicle crashes involvement in Jordan
- A bilinear structural constitutive model for strain rate-dependent behaviour of human diaphragm tissue
- Fluid-structure interaction simulation of aortic blood flow by ventricular beating: a preliminary model for blunt aortic injuries in vehicle crashes
- Interlaminar shear property and high-velocity impact resistance of CFRP laminates after cyclic hygrothermal aging
- Assessing the Global Range of Motion of the Helmeted Head Through Rotational and Translational Measurements
- Rollover crashworthiness analyses - an overview and state of the art

## Issue 2

- Deformation and energy absorption analysis of simple and multi-cell thin-walled tubes under quasi-static axial crushing
- A comparative numerical study of motorcoach rollover resistance under ECE R66 and proposed NHTSA regulation conditions
- Numerical approach to a reverse problem using LS-DYNA3D analysis: collision of an aeroplane door with the ground
- A three-hinge-line method for calculating the deformation process of thin plates under quasi-static axial loading
- Coup-contrecoup brain injury: fluid-structure interaction simulations
- Conceptual design of the front-end structure of automobile considering crashworthiness: a three-stage target decomposition method
- Effect of hexagonal on the in-plane crushing behaviour of plain weave composite hexagonal quadruple ring system
- Traffic crashes cost estimation in Kuwait
- Simulation of the running attitude of a train after derailment
- Dynamic progressive buckling of thin-wall grooved conical tubes under impact loading===Issue 2===

## Issue 1

- Selection of design variables using complex proportional assessment and analysis of a rear underride protection device
- Layer-wise damage prediction in carbon/Kevlar/S-glass/E-glass fibre reinforced epoxy hybrid composites under low-velocity impact loading using advanced 3D computed tomography
- Small overlap assessment for early design phases based on vehicle kinematics
- Long-span semi-rigid cable barriers designed for high-impact severity satisfying the small car impact speed of 160 km/h
- A self-adaptive energy absorber for improved pedestrian safety and low-speed damage requirements
- Crashworthiness analysis of an aircraft fuselage section with an auxiliary fuel tank using a hybrid multibody/plastic hinge approach
- Parametric impact performances in a new type crash cushion barrier system using an energy absorption pipe

# 2019

## Issue 5

- Assessment of the protective performance of neck braces for motorcycle riders: a finite-element study
- A study of thoracoabdominal injury of immature pigs restrained by various belts in front crashes
- A wave propagation model of distributed energy absorption system for trains
- Improvement on design and manufacture of bus based on traffic accident prevention
- Determination of optimum post embedment depth for C120 steel posts using field and full scale crash test
- Modelling a quad-bike rollover mechanism when traversing an asymmetric bump
- Crushing behavior of honeycomb structure: a review
- Evaluation and injury investigation of a finite element foot and ankle model for small female occupants

## Issue 4

- Studies on shape memory alloy-embedded GFRP composites for improved post-impact damage strength
- Sensitivity analysis-based variable screening and reliability optimisation for composite fuselage frame crashworthiness design
- Optimisation and validation of full and half foam filled double circular tube under multiple load cases
- The biomechanical differences of shock absorption test methods in the US and European helmet standards
- Impact response of thin aluminium plates and hemispherical shells
- Occupant injury risk assessment and protective measures in frontal collision of a bus
- A model for predicting Acceleration Severity Index in impacts with road safety barriers
- A comparative study on crashworthiness of thin-walled tubes with functionally graded thickness under oblique impact loadings
- Reliability analysis of vehicle speed estimation based on uncertainty of information obtained on accident scene

## Issue 3

- A contribution to full-scale high fidelity aircraft progressive dynamic damage modelling for certification by analysis
- Comparative study on thin-walled structures with function graded strength and tapered angle
- An experimental study on the energy absorption characteristics of single- and bi-layer cups under quasi-static loading
- Numerical simulation and analysis of influencing factors of vehicle-pedestrian accidents in untypical contact state
- Structural qualification of a developed GFRP-reinforced TL-5 concrete bridge barrier using vehicle crash testing
- Mixed FE-MB methodology for the evaluation of passive safety performances of aeronautical seats
- Interaction of impact parameters for simulated falls in sport using three different sized Hybrid III headforms
- Multi-objective optimization design of wheel based on the performance of 13° and 90° impact

tests

## Issue 2

- Investigation of combined effects of cross section, taper angle and cell structure on crashworthiness of multi-cell thin-walled tubes
- A numerical study on the influence of the amount of internal fuel in a bird strike test for the external auxiliary fuel tank of rotorcraft
- An investigation on the resultant-based failure criterion for resistance spot welding joint in crush test
- Effects of passenger car front profile and human factors on pedestrian lower extremity injury risk using German in-depth accident data
- Study of the influence of impact velocity and angle of impact against a motorcyclists' protection systems design and neural damage sustained using numerical methods
- Numerical investigation of honeycomb filled crash box for the effect of honeycomb's physical parameters on crashworthiness constants
- Experimental investigation of impact loading on honeycomb sandwich panels filled with foam
- Analysis of pedestrian kinematics and ground impact in traffic accidents using video records
- Application of neural network in order to recognise individuality of course of vehicle and pedestrian body contacts during accidents
- Damage and residual compressive strength of multi-layer composite laminates after low velocity impact

## Issue 1

- Evaluation of the effect of inner and outer transverse and longitudinal grooves on energy absorption characteristics of cylindrical thin-walled tubes under quasi-static axial load
- Characterisation and modelling the strength of EHSS steel grade spot weld for automotive joints and its application for frontal impact load-case
- Interactive failure criteria for glass fibre reinforced polypropylene: validation on an industrial part
- Methodological approach for reducing computational costs of vehicle frontal crashworthiness analysis by using simplified structural modelling
- A simplified delamination modelling methodology for triaxial braided composites with macro-scale solid finite-element models
- Thoracic response of the Chinese human body model in 50th percentile male size (CHUBM-M50) in blunt impacts - investigation in speed, direction and location
- Numerical simulation methodology of multi-layer Kevlar 49 woven fabrics in aircraft engine containment application
- Vehicle collision analysis from estimated crush volume for accident reconstruction
- Numerical simulation and test on damage of rotary engine blades impacted by bird

# 2018

## Issue 4

- Biomechanical investigation of astronaut's seat geometry to reduce neck and head injuries while landing impact
- Design of energy-dissipating structure with functionally graded auxetic cellular material
- Modelling strategies for numerical simulation of aircraft ditching
- Identification of optimal topologies for crashworthiness with the evolutionary level set method
- Energy absorption characteristics of a foam-filled tri-tube under axial quasi-static loading:



experiment and numerical simulation

- Crash behaviour and performance of long fibre reinforced thermoplastic material in comparison with continuous fibre reinforcement
- Optimisation for bending crashworthiness of functionally graded foam-filled cellular structure
- Numerical and experimental investigation of corrugated tubes under lateral compression

### **Issue 3**

- A numerical study on the injury prevention for the occupants seated in aircraft side-facing seats
- Dogs in passenger vehicles - crash safety evaluation of travel crates
- Falls resulting in mild traumatic brain injury and focal traumatic brain injury: a biomechanical analysis
- Multiobjective reliability-based design optimisation for front structure of an electric vehicle using hybrid metamodel accuracy improvement strategy-based probabilistic sufficiency factor method
- Precise method of vehicle velocity determination basing on measurements of car body deformation-non-linear method for 'Full Size' vehicle class
- Structure-material-performance integration lightweight optimisation design for frontal bumper system
- Validation of a railway inline seating model for occupants injury biomechanics
- On the assessment of the macro-element methodology for full vehicle crashworthiness analysis

### **Issue 2**

- Characteristics of the gaze of a driver following a preceding vehicle and cognition time for an approaching vehicle
- Air flow, heat transfer and impact study of ventilated and non-ventilated full-face motorcycle helmet
- Improvement of lateral shoulder impact response of a multi-body pedestrian model
- Comparative study of brake pads in Malaysian automotive aftermarket
- Factors causing abdominal injuries to a vehicle occupant in frontal impact accidents
- Heavy truck front-end deployable system opportunities for crash compatibility with passenger vehicles
- Opportunities for improved heavy truck occupant protection in rollover and overhead loading impacts
- Finite element head model simulation of the case suspected of diffuse axonal injury in the traffic accident
- Crash concepts for CFRP transport aircraft - comparison of the traditional bend frame concept versus the developments in a tension absorbers concept
- Bird strike assessment for a composite wing flap
- Advances in numerical ditching simulation of flexible aircraft models

### **Issue 1**

- A novel aircraft energy absorption strut system with corrugated composite plate to improve crashworthiness
- Comparison of potential injuries to the head and lower extremities of a motorcyclist during impact with W-beam and wire rope barriers using FE simulations
- Serious injuries in the traffic accident situation: definition, importance and orientation for countermeasures based on a representative sample of in-depth-accident-cases in Germany
- Crashworthiness study for multi-cell composite filling structures

- Design and simulation of a rear underride protection device (RUPD) for heavy vehicles
- Thin-walled structural configurations for enhanced crashworthiness
- Improvement of Q0 dummy restraint in lateral sled impacts regarding R129 criteria
- Numerical and experimental study of multimode failure phenomena in GFRP laminates of different lay-ups
- A precise method of vehicle velocity determination based on measurements of car body deformation - non-linear method for the 'Luxury' vehicle class
- Thoracic side airbags and structural performance in vehicle-vehicle lateral impacts

## 2017

### Issue 6

- Effect of velocity and fibres on impact performance of composite laminates - Analytical and experimental approach
- Steer-induced loss of control of a minibus on a wet surface
- Railway occupant passive safety improvement by optimal design
- Numerical investigation on automotive bumper structure improvements for pedestrian protection
- Optimal deceleration of surrogate models in a generic side impact set-up
- Investigation of the vehicle restraint system in a frontal impact
- Transient dynamic impact suppression of a Baja chassis using frontal and rear shock absorbers
- A study into the kinematic response for unbelted human occupants during emergency braking

### Issue 5

- Ballistic impact behaviour of stiffened aluminium plates for gas turbine engine containment system
- Response and injury of the human leg for axial impact durations applicable to automotive intrusion and underbody blast environments
- Numerical and experimental study on the design strategy of a new collapse zone structure for railway vehicles
- Impact characteristics and crashworthiness of multi-cell, square, thin-walled, structures under axial loads
- An optimisation approach to choose thickness of three members to improve [IIHS](#) small-overlap structural rating
- Numerical modelling and experimental analysis of the passenger side airbag deployment in out-of-position
- Theoretical analysis and multi-objective optimisation for gradient engineering material arresting system
- Effect of fibre direction and stacking sequence on dynamic impact performance of composite bicycle frame
- Numerical investigation into the effect of various trigger configurations on crashworthiness of GFRP crash boxes made of different types of cross sections
- Simulation study on gender differences in occupant dynamic response during spacecraft landing impact

### Issue 4

- Evaluate the crashworthiness response of an aircraft fuselage section with luggage contained in the cargo hold
- Design optimisation of composite bumper beam with variable cross-sections for automotive

vehicle

- Investigation of two finite element modelling approaches for ballistic impact response of composite laminates
- 3D computational fluid dynamic modelling for pulsatile blood wave propagation in the event of car crash
- Development of a finite element model for comparing metal and composite fuselage section drop testing
- Mechanisms of using knee bolster to control kinematical motion of occupant in reclined posture for lowering injury risk
- Traffic accident severity prediction using a novel multi-objective genetic algorithm
- Energy-absorption optimisation of locomotives and scaled equivalent model validation
- Effect of cervical spine alignment on neck injury risk during rear-end impact - numerical study using neck finite element model

### **Issue 3**

- Bending analysis and design optimisation of tailor-rolled blank thin-walled structures with top-hat sections
- Surface modelling of vehicle frontends for pedestrian safety with the FlexPLI
- Factor comparison of passenger-vehicle to vulnerable road user crashes in Beijing, China
- Impact simulation and optimisation of elastic fuel tanks reinforced with exoskeleton for aerospace applications
- Novel approach for design of 3D-multi-cell thin-walled circular tube to improve the energy absorption characteristics under axial impact loading
- Crashworthiness efficiency optimisation for two-directional functionally graded foam-filled tubes under axial crushing impacts
- Head protection with cyclist helmet in impact against vehicle A-pillar
- Methodologies of stochastic simulation for helicopter accidents and nonparametric evaluation of the stochastic responses

### **Issue 2**

- Effects of layout design changes on frontal crash behaviour of small motorcycles
- Crashworthiness analysis and structural optimisation of multi-cell square tubes under axial and oblique loads
- Crashworthiness design of functionally graded structures with variable diameters
- The effect of placenta location on the safety of pregnant driver and her fetus
- Crashworthiness of G4(2W) guardrail system: a finite element parametric study
- Energy absorption characteristics of aluminium/CFRP hybrid beam under impact loading
- Features of serious pedestrian injuries in vehicle-to-pedestrian accidents in Japan
- Numerical parametric study on factors affecting passenger safety in motorcoach frontal collision

### **Issue 1**

- Computational models for simulations of lithium-ion battery modules under quasi-static and dynamic constrained compression tests
- A method for connected vehicle trajectory prediction and collision warning algorithm based on V2V communication
- Reliable optimisation design of vehicle structure crashworthiness under multiple impact cases
- Comparison of chest injury measures of hybrid III dummy
- Lightweight design: detailed comparison of roof panel solutions at crash and stiffness analyses

- Effect of crushable blockouts on a full-scale guardrail system
- Acceleration-based criterion for intrusions in frontal impacts
- A review on rear under-ride protection devices for trucks

## 2016

### Issue 6

- Crashworthiness optimisation of A-pillar in passenger car in rear-end collision with truck
- Experimental study of headform-PVB laminated windshield impact
- New high precision method for determining vehicle crash velocity based on measurements of body deformation
- Experimental study of in-plane mechanical performance of carbon/glass hybrid woven composite at different strain rates
- Response of a full-face motorcycle helmet FE model to the UNECE 22.05 chin bar impact test
- Interaction mechanism of crushing of tubes and honeycomb under axial loading
- Investigation of the deformations of the car's roof elements after rollover
- Dynamic bending behaviour of magnesium alloy rectangular thin-wall beams filled with polyurethane foam
- Risk analysis of animal-vehicle crashes: a hierarchical Bayesian approach to spatial modelling
- Inertial effects on the mechanical response of aluminium foam-filled braided stainless steel tubes under transverse loading
- Modelling and simulation of crash tests of N2-W4-A category safety road barrier in horizontal concave arc

### Issue 5

- Design concepts for an integrated whiplash mitigating head restraint and seat
- Skid control of a small electric vehicle with two in-wheel motors: simulation model of ABS and regenerative brake control
- Optimisation study on multibody vehicle-front model for pedestrian safety
- Crashworthiness analysis of a bridge rail-to-guardrail transition
- FE simulation of soft wing impactor for aviation mast frangibility testing - sensitivity to model assumptions
- The effect of including a fetus in the uterus model on the risk of fetus mortality through drop test and frontal crash simulations
- Crashworthiness of guardrail posts embedded in cohesionless soils: a parametric study
- Structural crashworthiness analysis of a ladder frame chassis subjected to full frontal and pole side impacts
- Hybrid RFID system for driver assistant and active road accident prevention

### Issue 4

- Material parameters design of vehicle body based on three-level factorial design under impact loading
- Vector model of vehicle collisions for inferring velocity from loss of kinetic energy with restitution on residual crush surface
- Strategy to increase the speed of a small car impact to a semi-rigid barrier designed for high impact severity
- Effects of cervical arthroplasty on neck response during a simulated rotary-wing aircraft impact
- Crashing analysis and multi-objective optimisation of duplex energy-absorbing structure for

subway vehicle

- Responses of 3D four-directional and five-directional circular braided composite tubes under transverse impact
- A case-control study of vehicle panel damage and thoracic injury in rollover crashes

### **Issue 3**

- Computer modelling of vehicle rollover crash tests conducted with the UNSW Jordan Rollover System
- Study of the influence of muscle activation on a driver's lower extremity injury
- Reliability-based multiobjective optimisation of vehicle bumper structure holes for the pedestrian flexible legform impact
- Assessment of the impact speed and angle conditions for the EN1317 barrier tests
- Energy absorption characteristics and a meta-model of miniature frusta under axial impact
- Design and analysis of a graded honeycomb shock absorber for a helicopter seat during a crash condition
- Optimisation of rotorcraft fuel tank for crashworthiness based on a neural network
- Performance of metallic defences submitted to vehicle impact

### **Issue 2**

- A novel approach for the assessment of robustness of vehicle structures under crash
- Data mining on road safety: factor assessment on vehicle accidents using classification models
- Development of injury prediction models for advanced automatic collision notification based on Japanese accident data
- Evaluation of driver lower extremity injuries in 16 oblique crashes with THOR
- Solidity effect on crashworthiness characteristics of thin-walled tubes having various cross-sectional shapes
- Finite element analysis of foam-filled honeycomb structures under impact loading and crashworthiness design
- Computational simulation of frontal impact of motorcycle telescopic fork

### **Issue 1**

- Fast Bayesian approach to model calibration of vehicle occupant restraint systems
- Integration of the forming effects into vehicle front rail crash simulation
- Transient loss of cabin volume in NASA Test 7
- Contributing factors and severity of serious single-passenger vehicle collisions in Beijing
- Numerical investigation of the axial impact loading behaviour of single, double and stiffened circular tubes
- Relevant factors for active pedestrian safety based on 100 real accident reconstructions
- Optimisation study on multibody vehicle-front model for pedestrian safety
- Design concepts for an integrated whiplash mitigating head restraint and seat

## **2015**

### **Issue 6**

- Locally analysing the risk factors for fatal single vehicle crashes hot spots in Western Australia
- Pulse shape analysis and data reduction of real-life frontal crashes with modern passenger cars
- Head boundary conditions in pedestrian crashes with passenger cars: six-degrees-of-freedom

post-mortem human subject responses

- Rotational acceleration measurement for pedestrian head impact
- Crashworthiness study of a full vehicle-lumped model using parameters optimisation
- Crashworthiness and ditching behaviour of blended-wing-body (BWB) aircraft design
- Investigation of diffuse axonal injury induced by rotational acceleration via numerical reconstructions of in vivo rat head impact experiments
- Methods of evaluating ES-2 leg flail in dynamic evaluation and certification tests of side-facing aircraft seats

## **Issue 5**

- Parametrised fuselage modelling to evaluate aircraft crash behaviour in early design stages
- Rollover testing with volunteer live human subject
- Improving safety of runway overrun through foamed concrete aircraft arresting system: an experimental study
- Crash simulations of aircraft fuselage section in water impact and comparison with solid surface impact
- A concept for mitigating head injury under translational blunt impact
- Parametric study and multi-objective crashworthiness optimisation of reinforced hexagonal honeycomb under dynamic loadings
- Occupant severity prediction from simulation of small car impact with various concrete barrier profiles

## **Issue 4**

- Rollover protection for occupants of heavy truck sleeper cabs
- Dynamic response of bird strike on aluminium foam-based sandwich panels
- Incidences of various passenger vehicle front-end designs on pedestrian lower limb injuries
- Use of a modified HYBRID III 50th dummy to estimate the effectiveness of market restraint systems for forklift truck drivers
- Development of new deformable barriers for testing vehicle performance in different crash configurations
- Analytical, experimental and numerical study of a graded honeycomb structure under in-plane impact load with low velocity
- Optimal design of a crashworthy octagonal thin-walled sandwich tube under oblique loading

## **Issue 3**

- Finite-element modelling of restrained occupant partial ejection under rollover conditions
- Development of a mobility scooter finite element model
- Analysis of test tools for evaluation of contact-based sensor systems for pedestrian detection
- Investigation of occupant arm position and door properties on thorax kinematics in side impact crash scenarios - comparison of ATD (anthropomorphic test device) and human models
- Improvement research on the one-step algorithm for bus rollover collision based on the improved gradient method
- Crashworthiness study on functionally graded thin-walled structures
- Dynamic strength of a modified W-beam BCT trailing-end termination system

## **Issue 2**

- Increasing automobile crash response metamodel accuracy through adjusted cross validation error based on outlier analysis

- Evaluation of the vehicle/safety barrier/sign support interaction by means of FEM simulations
- Evaluation of effective mass during head impact due to standing falls
- Numerical study of a hybrid wire-net bonnet for pedestrian safety
- Crash simulation of wound composite tubes based on multi-level modelling
- Estimating the crash responses of a vehicle from the other size vehicle tested
- Experimental and numerical crushing analyses of thin-walled magnesium profiles
- Determination of the fracture behaviour of axial splitting tubes and the numerical prediction of their energy absorption capabilities
- Modelling a 32-seat bus and virtual testing for [R66](#) compliance

## Issue 1

- Parametric study for head injury criteria response of three-year olds in a child restraint system in oblique and lateral intrusive side impact
- Gabions: evaluation of potential as low-cost roadside barriers
- Numerical analysis of low-velocity rigid-body impact response of composite panels
- Multi-objective optimisation of functionally graded honeycomb filled crash boxes under oblique impact loading
- Predicting the crushing behaviour of composite material using high-fidelity finite element modelling
- Simulating occupant injury in rollover crashes. Part 1: a numerical comparison of design procedures for vehicle roof strength assessment
- Energy absorption of circular aluminium tubes with functionally graded thickness under axial impact loading

## 2014

### Issue 6

- Research on the crashworthy structures of subway vehicles
- Another look at the static stability factor ([SSF](#)) in predicting vehicle rollover
- Impact severity assessment in vehicle accidents
- Crash performance of a preemie positioning device to enhance infant safety in vehicles
- Improvement of crush can configuration
- Crash-level analysis on passenger cars' total secondary safety
- Impact performance evaluation of MASH TL4 bridge barrier
- Numerical simulation of crash impact test for fuel cell group of rotorcraft

### Issue 5

- Restraint device for airway management in low-birthweight infants
- Kinematics and injury risk of a wheelchair occupant in a railway vehicle crash
- Development of finite element model for the analysis of a guardrail post subjected to dynamic lateral loading
- A static test method to assess swivel seat strength in frontal impact
- Survey of LATCH vehicle hardware
- Material modelling for crash simulation of thin extruded aluminium sections
- Bumper contact sensor for pedestrian collisions based on analysis of pedestrian kinematic behaviour
- Investigation of a crash concept for CFRP transport aircraft based on tension absorption
- Physical and empirical models for motorcycle speed estimation from crush

## Issue 4

- Bicycle helmet modelling and validation under linear and tangential impacts
- Crashworthiness and lightweight optimisation of thin-walled conical tubes subjected to an oblique impact
- Effect of humidity on dynamic characteristics of foam CF45 for the [TRL](#) pedestrian legform impactor
- Evaluation of energy loss in motorcycle-to-car collisions
- An experimental and numerical investigation into the dynamic crash testing of vehicle bumper fabricated using friction stir welding and gas metal arc welding
- Optimisation design of reinforced S-shaped frame structure under axial dynamic loading
- Coupled human body and side impact model to predict thoracic response
- Development of compatibility assessments for full-width and offset frontal impact test procedures in FIMCAR (Frontal Impact and Compatibility Assessment Research)

## Issue 3

- Innovative passive and active countermeasures for near side crash safety
- In-depth real-world bicycle accident reconstructions
- Development of a 3-year-old child head-neck finite element model and derivation of novel head injury criterion
- Development and validation of an FE model for motorcycle-car crash test simulations
- Evaluation of two crew module boilerplate tests using newly developed calibration metrics
- Research on a one-step fast simulation algorithm for bus rollover collision based on total strain theory
- A finite element analysis of high-energy absorption cellular materials in enhancing passive safety of road vehicles in side-impact accidents
- Comparison of [MADYMO](#) and physical models for brain injury reconstruction
- A new metamodel method using Gaussian process based bias function for vehicle crashworthiness design

## Issue 2

- Development of head injury risk functions based on real-world accident reconstruction
- Possibility of installing a data acquisition system in a pedestrian headform impactor
- Numerical investigation of the energy absorption characteristics of a fan-shaped deployable energy absorber
- Energy absorption characteristics of aluminium alloy AA7XXX and AA6061 tubes subjected to static and dynamic axial load
- Optimisation of vehicle front-end geometry for adult and pediatric pedestrian protection
- Nonlinear finite element analysis applied to the development of alpine ski safety net
- Influence of elastic and plastic support on the energy absorption of the extruded aluminium tube using ductile failure criterion
- Development of an occupant multi-body model based on Japanese male characteristics data for rear impact analysis
- Front underride protection device (FUPD) development: design strategy with simultaneous loading

## Issue 1

- Framework for adjusting for both stress triaxiality and mesh size effect for failure of metals in shell structures



- Effect of the blockout crushability on the response of guardrail post subjected to lateral impact
- Evaluation of crashworthiness of a carbon-fibre-reinforced polymer (CFRP) ladder frame in a body-on-frame vehicle
- Geometrical compatibility in structural shape optimisation for crashworthiness
- Similarity scoring methodology for comparing real-world cases to crash test standards
- The effect of mass properties on road accident reconstruction
- Development of a regulation for testing the effectiveness of a rigid side underride protection device (SUPD)

## 2013

### Issue 6

- Shoulder belt-induced flexion-distraction fractures of the cervical spine
- Crash response optimisation of helicopter seat and subfloor
- Development of an advanced multi-material bird-strike model using the smoothed particle hydrodynamics method
- Adaptive structure concept for reduced crash pulse severity in frontal collisions
- An approach to capture the residual strength of laminated safety glass according to the [FMVSS 226](#) load case Ejection Mitigation with the finite-element software [LS-DYNA](#)
- Study of the bending response of metal foam-filled beams applied to enhance the rollover behaviour of coach structures
- Evaluation of methods for the development of representative responses and corridors from biomechanical data using mechanical models
- Validation of restoration time for pedestrian headform impactor skin

### Issue 5

- Fast strength assessment of mitre gates to ship impact
- Development of a new crash/dynamics control integrated mathematical model for crashworthiness enhancement of vehicle structures
- Research on effects of composite skin on crashworthiness of composite fuselage section
- Emergency landing dynamic conditions: a comparison with accident impact conditions
- Surrogate-based optimisation of automotive structures under multiple crash and vibration design criteria
- A stability maintenance method and experiments for multi-player tandem aluminium honeycomb array
- Rollover crashworthiness analysis of a railroad passenger car
- Computer simulations of obesity effects on occupant injury in frontal impacts
- Human rib response to different restraint systems in frontal impacts: a study using a human body model
- The safety performance of guardrail systems: review and analysis of crash tests data
- About the preliminary design of a self-aligning energy absorber system for railway vehicles

### Issue 4

- Buckling considerations and cross-sectional geometry development for topology optimised body in white
- Adaptive sampling-based RBDO method for vehicle crashworthiness design using Bayesian metric and stochastic sensitivity analysis with independent random variables
- Racetrack SAFER barrier on temporary concrete barriers
- Influence of pitching and yawing during frontal passenger vehicle crash tests on driver

occupant's kinematics and injury

- Surface material effects on fall-induced paediatric head injuries: a combined approach of testing, modelling and optimisation
- A methodology for improving structural robustness in frontal car-to-car crash scenarios
- Go-kart-related injuries and fatalities in Australia
- Dynamic testing and modelling of composite fuselage frames and fasteners for aircraft crash simulations

### **Issue 3**

- Selected Papers from ICRASH 2010-2012: Validation of a dynamic rollover test device
- Influence of vehicle secondary impact following an emergency braking on an unbelted occupant's neck, head and thorax injuries
- The uncertain optimisation of buffering characteristics of landing airbag in manned airdrop
- Multibody modelling of gabion beams for impact applications
- Selected Papers from ICRASH 2010-2012: Wavelet analysis of piezoelectric transducer signals to detect rib fractures during impact tests
- Hexagonal honeycomb cell optimisation by way of meta-model techniques
- Selected Papers from ICRASH 2010-2012: Considering manufacturing effects in automotive structural crashworthiness: A simulation chaining approach
- Selected Papers from ICRASH 2010-2012: Applications and limitations of wrap-around ratio to vehicle speed estimation in pedestrian collision analysis
- An investigation of inertial unlatching of side-release seat belt buckles using computational modelling
- CORRIGENDUM: A scaling method for modelling the crashworthiness of novel roadside barrier designs

### **Issue 2**

- Selected Papers from ICRASH 2010-2012: Application of fibre-reinforced composites beam as energy absorption member in vehicle
- Placement of traffic barriers on roadside and median slopes - guidelines based on numerical simulations
- Heavy vehicle frontal sled crash test analysis - chest deflection response in the Hybrid III dummy
- Influence of impacts on static and low-cycle fatigue characteristics of composite specimens
- Vehicle occupant movement and impact with the interior in frontal collisions - the 'second collision'
- Composite cylinders of natural gas vehicles simulation crash test
- Use of Euler parameters for the evaluation of ATD head trajectory from angular rate sensor and accelerometer data in aircraft seat certification testing
- Analysis of train driver protection in rail collisions: Part I. Evaluation of injury outcome for train driver in desk impact
- Analysis of train driver protection in rail collisions: Part II. Design of a desk with improved crashworthiness performance

### **Issue 1**

- Selected Papers from ICRASH 2010-2012: Investigation into suitability of current ATDs (Anthropomorphic Test Devices) to represent ageing drivers
- Determining the strain rate dependence of cortical and cancellous bones of human tibia using a Split Hopkinson pressure bar

- Crash simulation of the fuselage section with central wing box for a regional jet
- Numerical and experimental investigation of a lightweight bonnet for pedestrian safety
- Selected Papers from ICRASH 2010-2012: Development and validation of a coupled head-neck FEM – application to whiplash injury criteria investigation
- Experimental method for dynamic residual strength characterisation of aircraft sandwich structures
- Energy absorption characteristics of glass/epoxy nano composite laminates by impact loading
- A scaling method for modelling the crashworthiness of novel roadside barrier designs

## 2012

### Issue 6

- Investigation of motorcyclist safety systems contributions to prevent cervical spine injuries using HUMOS model
- Selected Papers from ICRASH 2010-2012: Numerical investigation into the collapse behaviour of an aluminium egg-box under quasi-static loading
- Computational modelling of vehicle interior components for impact applications: moulding residual stress
- Development and validation of a parametric child anthropomorphic test device model representing 6-12-year-old children
- Influence of impact velocity on energy absorption characteristics and friction coefficient of expansion tube
- The failure modelling of knee ligaments in the finite element model
- Numerical study on the influence of superstructure configuration on coach rollover resistance performance
- Characteristics of fatal single-vehicle crashes in Europe
- Crashworthiness of composite inserts in vehicle structure
- Reconstruction and simulation of the vehicle to road safety barrier oblique collision based on the Levenberg-Marquardt algorithm

### Issue 5

- Analysis of the behaviour of biker protection devices for roadside barriers
- Performance of polymeric reinforcements in vehicle structures submitted to frontal impact
- Weight-saving potential of open- and closed-cell functionally graded foams under compressive loading
- Projectile impact testing of glass fiber-reinforced composite and layered corrugated aluminium and aluminium foam core sandwich panels: a comparative study
- Crash and structural analyses of an aluminium railroad passenger car
- Multi-objective optimisation design of a double-chamber airbag landing system with structure-selection techniques
- Calibrating material parameters to model the thin-walled components made of die cast AM60B magnesium alloy
- Effects of pedestrian gait, vehicle-front geometry and impact velocity on kinematics of adult and child pedestrian head
- The effect of impact speed on the [HIC](#) obtained in pedestrian headform tests

### Issue 4

- Numerical investigation of energy absorbers in composite materials for automotive applications

- Dynamic response of the leading edge wing under soft body impact
- A tunable hand biofidelity-enhancing device for Hybrid III dummies
- Body deformation study in a Formula One race car crashing into a rigid barrier at different crash angles
- Development of granular-medium-based impact energy management system
- Assessment of the protective performance of hood using head FE model in car-to-pedestrian collisions
- Pregnant driver injury investigations in oblique crashes
- Analytical models versus experimental results for composites containing nanoclay as secondary reinforcement under high velocity impact
- Effect of bird geometry and orientation on bird-target impact analysis using SPH method

### Issue 3

- FE analysis of child occupant kinematics in CRS (child restraint system) in side oblique impact
- Assessment of pedestrian head impact dynamics in small sedan and large SUV collisions
- Crashworthiness optimisation of vehicle structures with magnesium alloy parts
- Energy absorption behaviours of CSM-based GFRC plates with hemispherical features
- Application of FRP in a vehicle for Student Formula SAE Competition of Japan
- FE modelling of a motorcycle tyre for full-scale crash simulations
- Effect of length on crashworthiness parameters and failure modes of steel and hybrid tube made by steel and GFRP under low velocity impact
- Mechanical properties and failure mechanisms of closed-cell PVC foams
- Effects of table design in railway carriages on pregnant occupant safety

### Issue 2

- The case for a dynamic rollover test
- An innovative method for categorising the contributing factors to intersection crashes using fault tree modelling
- Finite element analysis of kinematic behaviour and injuries to pedestrians in vehicle collisions
- Impact crash analyses of an off-road utility vehicle - part I: validation of finite-element model for body structure
- Impact crash analyses of an off-road utility vehicle - part II: simulation of frontal pole, pole side, rear barrier and rollover impact crashes
- Comparison of vehicle kinematics and occupant responses between Jordan rollover system and an over-the-road rollover
- The newly updated [FMVSS 216](#) roof crush modelling and analysis
- Modelling and validation of motorcyclist helmet with composite shell
- Truck frontal underride protection - compatibility factors influencing passenger car safety

### Issue 1

- Behaviour of high bumper vehicles in pedestrian scenarios with full finite element human models
- Improved car occupant safety by expandable A-pillars
- Crashworthiness investigation of conical and cylindrical end-capped tubes under quasi-static crash loading
- Effects of roof crush loading scenario upon body in white using topology optimisation
- Effect of humidity on pedestrian legform impactor-to-car bumper impact test results

- Behaviour of helmets during head impact in real accident cases of motorcyclists
- Wood-steel structure for roadside safety barriers
- Case study of a frontal car accident involving three fatally injured children

## 2011

### Issue 6

- Test system, vehicle and occupant response repeatability evaluation in rollover crash tests: the deceleration rollover sled test
- A study on inversion of metallic thin-walled conical shells
- Evaluation of the effective mass of the body for helmet impacts
- Comprehensive computational rollover sensitivity study, Part 1: influence of vehicle pre-crash parameters on crash kinematics and roof crush
- Evaluation of the kinematics and injury potential to different sizes of pedestrians impacted by a utility vehicle with a frontal guard
- Injury severity of occupants in lateral collisions in standard and small vehicles: Analysis of ITARDA's (Institute for Traffic Accident Research and Data Analysis) in-depth investigation data
- Multi-objective optimisation and sensitivity analysis of a paratransit bus structure for rollover and side impact tests
- External biofidelity in lateral impact measurement of global and local forces
- Performance limit analysis for common roadside and median barriers using LS-DYNA

### Issue 5

- Simulation analysis for the safety protection of cervical vertebra under unusual landing impact
- Modelling composite crushing initiation using a cohesive element formulation
- Wheelchair occupant kinematics during a rail carriage crash
- Parametric design and structural improvements to optimise frontal crashworthiness of a truck
- Numerical investigation on carbon foam-based dampers for helicopter seats
- On the effect of testing uncertainties in the homologation tests of motorcycle helmets according to ECE 22.05A.
- Development of generic road vehicle multibody models for crash analysis using an optimisation approach
- Implications of the inline seating layout on the protection of occupants of railway coach interiors
- Side impact occupant response with varying positions

### Issue 4

- Development of a novel material for improved crash energy management in collisions involving vulnerable road users
- Computer simulation of real-world vehicle-pedestrian impacts
- Characteristics of crashes involving injured children in side impacts
- Crashworthiness design of transport aircraft subfloor using polymer foams
- Use of a head component tester to evaluate the injury potential of an aircraft head-up display
- Fracture tolerance of the patellofemoral joint in frontal knee impacts of 75 and 35 year-old males
- Crashworthiness design optimisation of metal honeycomb energy absorber used in lunar lander
- Computational modelling of vehicle interior components for impact applications: Thickness

analysis

- Calculation of vehicle-lumped model parameters considering occupant deceleration in frontal crash
- Crash analysis of a three-year-old human child model in side impacts considering normal and incorrect CRS usage

### **Issue 3**

- Aggressive driving among British, Dutch, Finnish and Turkish drivers
- Strain-based topology optimisation for crashworthiness using hybrid cellular automata
- The crashworthiness of civil aircraft using different quadrangular tubes as cabin-floor struts
- Comparison of rear seat occupant injuries in AM50 and AF05 in frontal crashes
- Lower leg injury simulation for EuroNCAP compliance
- Influence of the body on the response of the helmeted head during impact
- Head and neck responses in oblique motorcycle helmet impacts: a novel laboratory test method
- Effect of increase in weight and stiffness of vehicles on the safety of rear seat occupants
- Railroad passenger car collision analysis and modifications for improved crashworthiness
- Development of a wire rope model for cable guardrail simulation

### **Issue 2**

- Computational and experimental modification of portable sign structure design following NCHRP 350 criteria
- Documentation of evidence and calculation of acceleration in aircraft accident reconstruction
- An energy absorption performance index for cellular materials - development of a side-impact cork padding
- Experimental and finite element robustness studies of a bumper system subjected to an offset impact loading
- Structural response and strain patterns of isolated ribs under lateral loading
- The first collision point position identification method in vehicle-pedestrian impact accident
- Application of viscoelastic hybrid models to vehicle crash simulation
- A multi-body systems approach to simulate helicopter occupant protection systems
- Diving injury occurrence in rollover collisions: a critical analysis of Malibu I, Malibu II and CRIS (Controlled Rollover Impact System)

### **Issue 1**

- Individual differences of pedestrian behaviour in midblock crosswalk and intersection
- The application for skull injury in vehicle-pedestrian accident
- Study on crashworthiness of wagon's frame under frontal impact
- Design and calculation of a railway car composite roof under concrete cube crash
- Integrated probabilistic analysis of nuclear power plant building damage due to an aircraft crash
- Seatbelt effectiveness for rear seat occupants in full and offset frontal crash tests
- Evaluation of the passive safety in cars adapted with steering control devices for disabled drivers
- Design optimisation of vehicle roof structures: benefits of using multiple surrogates
- The optimisation of the energy absorption of partially Al foam-filled commercial 1050H14 and 6061T4 Al crash boxes

# 2010

## Issue 6

- The effectiveness of matching front rail heights in car-to-car crashes
- Experimental investigation of strain rate effects on the crushing characteristics of composite sandwich panels
- Dynamic process of ring systems as energy absorber subjected to lateral impact loading
- Optimisation of vehicle side interior panels for occupant safety in side impact
- On a new crush trigger for energy absorption of composite tubes
- Energy-absorbing FUPDs (front underrun protective device) and their interactions with fronts of passenger cars
- A computational approach for probabilistic analysis of water impact simulations
- Non-linear finite element analyses of automobiles and their elements in crashes

## Issue 5

- Development of simplified truck chassis model for crash analysis in different impact scenarios
- Crushing response of bow structure of aluminium high-speed crafts at the event of inclined collisions: numerical simulation
- Analysis of loading of lower extremities based on bending moment in car-to-pedestrian collisions
- Development and validation of pedestrian sedan bucks using finite-element simulations: a numerical investigation of the influence of vehicle automatic braking on the kinematics of the pedestrian involved in vehicle collisions
- Kinematics simulation and head injury analysis for rollovers using [MADYMO](#)
- Assessing the performance of various restraints on ambulance patient compartment workers during crash events
- Effect of muscle contraction on the lower limb response in low speed car-pedestrian lateral impact: simulations for a walking pedestrian
- Review of the Jordan Rollover System (JRS) vis-à-vis other dynamic crash test devices

## Issue 4

- Methodology for mass minimisation of a seat structure with integrated safety belts constrained by biomechanical responses on the occupant in frontal crashes
- Influence of cellular imperfections on mechanical response of metallic foams
- The effect of constrained hip-joint design on crash dummy responses
- The effect of geometrical parameters on the energy absorption characteristics of thin-walled structures under axial impact loading
- Experimental investigation of rubber ball impacts on aluminium plates
- Experimental study on crushing characteristics of brittle fibre/epoxy hybrid composite tubes
- Crashworthiness design of thin-walled curved beams with box and channel cross sections
- A numerical performance comparison of a dual-phase steel and aluminium alloy bumper bar system
- Reliability-based robust multi-objective crashworthiness optimisation of S-shaped box beams with parametric uncertainties

## Issue 3

- Analysis of the kinematics of pregnant drivers during low-speed frontal vehicle collisions
- Correlation of vehicle crash model parameters to car properties in low-speed collisions: a

design of experiments approach

- Controlling the axial crushing of circular metal tubes using an expanding rigid ring press fitted on top of the structure
- Evaluation of finite element models of seat structures with integrated safety belts using full-scale experiments
- Aircraft accident reconstruction: comparison of data
- A vehicle seat design concept for reducing whiplash injury risk in low-speed rear impact
- Investigation of 184 passenger car-pedestrian accidents
- A comparative study of the crashworthiness of civil aircraft with different strut configurations
- Critical evaluation of the SHARP (safety helmet assessment and rating program) motorcycle helmet rating

## Issue 2

- A study of head-brain injuries in car-to-pedestrian crashes with reconstructions using in-depth accident data in China
- Evaluation of finite element human body models in lateral padded pendulum impacts to the shoulder
- A response surface approach to front-car optimisation for minimising pedestrian head injury levels
- Thin-walled curved hexagonal beams in crashes - FEA and design
- Study on characteristics of a crashworthy high-speed train nose
- Kinematics of the thorax under dynamic belt loading conditions
- Evaluation of a new security system to reduce thoracic injuries in case of motorcycle accidents
- The development of a European fatal accident database
- Effectiveness of the helmet for bicyclists on injury reduction in German road accident situations - state of affairs on [GIDAS](#)
- Lightweight impact crash attenuators for a small Formula SAE race car

## Issue 1

- Overview on the development of a test standard for the evaluation of motorcyclists' impacts on road infrastructure elements
- Countermeasures to mitigate head and neck injuries to toddlers in frontal and lateral vehicle crash conditions
- Head injuries due to unrestrained objects during frontal collisions
- Fluid structure interaction of submerged metallic and composite plates subjected to low velocity impact loading
- 'Egg-box' panel for commercial vehicle front - compressive loading tests
- Scale modelling of aircraft fuselage: an innovative approach to evaluate and improve crashworthiness
- A numerical investigation of mid-femoral injury tolerance in axial compression and bending loading
- Bird impact effects on different types of aircraft bubble windows using numerical and experimental methods
- Development and evaluation of a finite element truck chassis crash model
- Erratum: Scaling head-neck response data and derivation of 5th percentile female side-impact dummy head-neck response requirements in NBDL test conditions



# 2009

## Issue 6

- Frontal crash severity in different road environments measured in real-world crashes
- Identification of lumped parameter automotive crash models for bumper system development
- Driven dart impact response and simulation of a multi-layer HDPE (high-density polyethylene)
- Automatic generation and validation of patient-specific finite element head models suitable for crashworthiness analysis
- Full-scale vertical drop test and numerical simulation of a crashworthy helicopter seat/occupant system
- Simulation analysis of human neck injury risk under high-level landing impact
- Effects of the triggering of circular aluminum tubes on crashworthiness
- Improving the crashworthiness characteristics of cylindrical tubes subjected to axial compression by cutting wide grooves from their outer surface
- Variation in crash severity depending on different vehicle types and objects as collision partner
- Bus rollover crashworthiness under European standard: an optimal analysis of superstructure strength using successive response surface method
- Analytical Matlab/Simulink model of pyrotechnical gas generators for airbags

## Issue 5

- Energy-absorption capability of multi-axial warp-knitted FRP tubes
- Variation of road traffic crashes among drivers and passengers
- Vibration of stiffened plates with cutout under concentrated load
- Numerical and experimental investigations on the behaviour of the sandwiched tube-type airbag
- Application of aluminium honeycomb model using shell elements to offset deformable barrier model
- Challenge and approach to real-world pedestrian protection – investigated by Polar-II pedestrian dummy
- Impact strength and response behaviour of CFRP (carbon fibre reinforced plastic) guarder belt for side collision of automobiles
- Investigating the possible role of placenta position in road accident consecutive foetal loss
- The effect of seatbelt tensioner for pregnant female drivers involved in rear-end vehicle collisions
- The effect of the implementation of circular holes as crush initiators to the crushing characteristics of mild steel square tubes: experimental and numerical simulation
- Three-dimensional multibody dynamics analysis of accidental falls resulting in traumatic brain injury
- Search for pedestrian protection regulations for commercial vehicles
- Erratum: The kinematic behaviour and responses of Hybrid III 3YO dummy and child human FE model in ISOFIX CRS in frontal impact

## Issue 4

- Effects of incidence angle in bird strike on integrity of aero-engine fan blade
- Mobile phone and seat belt usage and its impact on road accident fatalities and injuries in southeast Iran
- A method to improve the energy absorption capability of fibre-reinforced composite tubes

- Control-oriented modelling of occupants in frontal impacts
- Response of lower limb in full-scale car-pedestrian low-speed lateral impact - influence of muscle contraction
- Application of foam-filled conical tubes in enhancing the crashworthiness performance of vehicle protective structures
- Experimental investigation of the collapse modes and energy absorption characteristics of composite tubes
- [MADYMO](#) reconstruction of a real-world collision between a vehicle and cyclist
- The kinematic behaviour and responses of Hybrid III 3YO dummy and child human FE model in ISOFIX CRS in frontal impact

===Issue 3=== (Special Issue: Advanced Protection Systems (APROSYS): Part 2)

- Guest Editors' Note
- Scaling head-neck response data and derivation of 5th percentile female side-impact dummy head-neck response requirements in NBDL (Naval Biodynamics Laboratory) test conditions
- On the consequences of non linear constitutive modelling of brain tissue for injury prediction with numerical head models
- Influence of pedestrian head surrogate and boundary conditions on head injury risk prediction
- AlSi7 metallic foams - aspects of material modelling for crash analysis
- Robustness analysis through virtual testing

## Issue 2

- Finite element based robustness study of a truck cab subjected to impact loading
- A comparative study of design optimisation methodologies for side-impact crashworthiness, using injury-based versus energy-based criterion
- Comparison of human FE model and crash dummy responses in various child restraint systems
- Child safety analysis for forward-facing child restraint system in frontal impact
- The relationship of injury risk to accident severity in impacts with roadside barriers
- Off-axis compression behaviour of honeycomb core in WT-plane
- Emerging trend in motorisation and the epidemic of road traffic crashes in an economically growing country
- Preliminary investigation of driver head dynamics during impact of a small car with a high-containment safety barrier
- Design and analysis of Annisquam River Bridge railing
- Development of a finite element model of the knee-thigh-hip of a 50th percentile male including ligaments and muscles

## Issue 1

- Materials characterisation and crash modelling of composite-aluminium honeycomb sandwich material
- Energy absorption properties of braided glass/epoxy tubes subjected to quasi-static axial crushing
- A study on introduction of notch into thin-walled polygonal shell member to control plastic buckling behaviour in axial collapse
- Impact perforation of sandwich panels with Coremat®
- Improving the accuracy of vehicle crashworthiness response predictions using an ensemble of metamodels
- Crack analysis in PVB laminated windshield impacted by pedestrian head in traffic accident
- Thermal buckling of laminated composite conical shell panel with and without piezoelectric

layer with random material properties

- Improvement of crashworthiness behaviour for simplified structural models of aircraft fuselage
- Load path distribution within the pelvic structure under lateral loading

## 2008

===Issue 6=== (Special Issue: Advanced Protection Systems (APROSYS): Part 1)

- Editorial: Special Issue dedicated to the [EU](#) Integrated Project Advanced Protection Systems (APROSYS)
- APROSYS: Advances in secondary safety research
- A generic evaluation methodology for advanced safety systems
- Improvements to the protection of vulnerable road users: Retrofittable, energy-absorbing front end for heavy goods vehicles
- APROSYS in-depth database of serious pedestrian and cyclist impacts with vehicles
- A first step in computer modelling of the active human response in a far-side impact
- Injury criteria implementation and evaluation in FE models applications to lower limb segments
- Improved head injury criteria based on head FE model
- A new pre-crash system for side impact protection
- Reliability analysis of a crashed thin-walled s-rail accounting for random spot weld failures

### Issue 5

- A study of the pedestrian impact kinematics using finite element dummy models: the corridors and dimensional analysis scaling of upper-body trajectories
- BioRID II manikin and human seating position in relation to car head restraint
- The importance of muscle tension on the outcome of impacts with a major vertical component
- Impact behaviour of a multi-body system with energy dissipation
- Numerical simulation of aircraft interior components under crash loads
- Structural polyurethane foam: testing and modelling for automotive applications
- Effectiveness and evaluation of SEAS (secondary energy absorbing structure) of SUV in frontal impact
- Design optimisation of tapered thin-walled square tubes
- Compatibility between sports-utility vehicles and sedan-type vehicles
- Characterisation and modelling of short fibre reinforced polymers for numerical simulation of a crash
- Design of motorcyclist-friendly guardrail using finite element analysis
- Development of an embedded vehicle safety system for frontal crash detection

### Issue 4

- Experimental investigation of the collapse modes and the main crushing characteristics of composite sandwich panels subjected to flexural loading
- Modelling the effect of forming history in impact simulations: evaluation of the effect of thickness change and strain hardening based on experiments
- Analysis of traumatic brain injury due to primary head contact during vehicle-to-pedestrian impact
- Numerical (analytical-based) model for the study of vehicle frontal collision
- Polymer composites for the automotive industry: characterisation of the recycling effect on the strain rate sensitivity
- C IV class tram crashworthiness assessment

- Crash performance of X-shaped support base work zone temporary sign structures
- Virtual modelling of safety helmets: practical problems

### **Issue 3**

- Structural and impact behaviour of an innovative low-cost sandwich panel
- Energy-absorption capability of thin laminates subjected to heavy-mass projectile impact of varying nose geometries
- Simulated evaluation of pedestrian safety for flat-front vehicles
- Development of a fluid-filled catheter system for dynamic pressure measurement in soft-tissue trauma
- Design of ventilated helmets: computational fluid and impact dynamics studies
- A two-stage multi-objective optimisation of vehicle crashworthiness under frontal impact
- Frontal thoracic response to dynamic loading: the role of superficial tissues, viscera and the rib cage
- Development of a finite element model of the shoulder: application during a side impact
- Three-dimensional finite element simulation of pelvic fracture during side impact with pelvis-femur-soft tissue complex
- Role of gender and driver behaviour in road traffic crashes
- Predicting brain injury under impact with a strain measure from analytical models

### **Issue 2**

- Static axial collapse of foam-filled steel thin-walled rectangular tubes: experimental and numerical simulation
- Experimental observations of AA6061-T6 round extrusions under a cutting deformation mode with a deflector
- Design and application of an instrumented projectile for load measurements during impact
- Performance analysis of a bumper-pedestrian contact sensor system by using finite element models
- Multiphysics out of position airbag simulation
- Enhancing the impact energy absorption in roll over protective structures
- Aerodynamic design of high-sided coaches to reduce cross-wind sensitivity, based on wind tunnel tests
- Loading behaviour of 90° 'UREAD' energy channels
- Crashes with roadside objects along motorcycle lanes in Malaysia
- A reduced-order finite element model for the simulation of automotive side structure crash response
- Single-vehicle collisions in Europe: analysis using real-world and crash-test data

### **Issue 1**

- Investigating the effects of strengthening the crossbeam in frontal car-to-car impacts
- Interactions among structural components during complex impact events
- Influence of occupant restraint system on traumatic brain injuries
- Vehicle/occupant movement in moderate speed in-line collisions
- A measurement study of a pressure transducer subjected to water drop impact
- A review of airbag test and analysis
- Trailer truck-mounted attenuator
- Modelling motorcyclist injury severity resulting from sideswipe collisions at T-junctions in the United Kingdom: new insights into the effects of manoeuvres
- Optimum design for energy absorption of bitubal hexagonal columns with honeycomb core

- Bending of cylindrical steel tubes: numerical simulation using Grid computing

## 2007

### Issue 6

- The influence of seat structure and passenger weight on the rollover crashworthiness of an intercity coach
- A design optimization approach of vehicle hood for pedestrian protection
- Validation of the simplified super folding element theory applied for axial crushing of complex aluminium extrusions
- Development of simplified thin-walled beam models for crashworthiness analyses
- Diving versus roof intrusion: a review of rollover injury causation
- Child restraint seat design considerations to mitigate injuries to three-year-old children in side impact crashes
- Mechanism analysis of pedestrian knee-bending angle by SUV type vehicles using human FE model
- Reconstruction of pedestrian-vehicle accident using sequential linear programming optimizer
- Topology optimization of energy-absorbing structures
- Crash performance of cellular foams with reduced relative density part 1: rib thickness variation
- Crash performance of cellular foams with reduced relative density part 2: rib deletion

### Issue 5

- Model characterization and failure analysis of welded aluminium components including process history
- Numerical studies concerning upper neck and head responses in frontal crashes with seat-integrated safety belts
- Realistic simulation models for airbags and humans-new possibilities and limits of FE simulation
- Expansion of circular tubes by rigid tubes as impact energy absorbers: experimental and theoretical investigation
- Development of simplified finite element models for straight thin-walled tubes with octagonal cross section
- Material and structural crashworthiness characterization of paratransit buses
- Detailed tire modeling for crash applications
- Pre-crash investigation using a driving simulator and numerical analyses to determine the influence of the arms positions
- Consideration of vehicle handling and stability with improved roof strength
- The localized low-velocity impact response of aluminium honeycombs and sandwich panels for occupant head protection: experimental characterization and analytical modelling
- Issues in ALE simulation of airbags

### Issue 4

- Mechanism analysis of pedestrian knee-bending angle by sedan-type vehicle using human FE model
- The effect of brain mass and moment of inertia on relative brain-skull displacement during low-severity impacts
- Modelling the effects of an inflatable tubular structure (ITS) on occupant kinematics and injury risk in the rollover of a sports utility vehicle (SUV)

- Modelling and simulation of seat-integrated safety belts including studies of pelvis and torso responses in frontal crashes
- Evaluation of knee injury threshold in pedestrian-car crash loading using numerical approach
- Setting initial targets in vehicle side impact safety design using regression-based modeling
- A review of composite structures subjected to dynamic loading
- Smart head restraint system
- Multi-scale and multi-model methods for efficient crash simulation

### Issue 3

- Bicycle helmet retention system testing and evaluation
- Structural response of paratransit buses in rollover accidents
- Real accidents involving vulnerable road users: in-depth investigation, numerical simulation and experimental reconstitution with [PMHS](#)
- The development of a load sensing trolley for frontal offset testing
- Identification of the spongy bone mechanical behavior under compression loads: numerical simulation versus experimental results
- Crashworthiness optimization of empty and filled aluminum crash boxes
- Comparison of the load/displacement and energy absorption performance of round and square AA6061-T6 extrusions under a cutting deformation mode
- Benchmarking and accident characteristics of flat-fronted commercial vehicles with respect to pedestrian safety
- Experimental study on the interface fracture toughness of PVB (polyvinyl butyral)/glass at high strain rates
- Polymer foams to optimize passive safety structures in helmets
- Study of a device for controlling the pulses of sled testing
- Conditions of possible head impacts for standing passengers in public transportation: an experimental study

### Issue 2

- A new crash test configuration for car-to-car frontal collisions with small lateral overlap
- Experimental study of the bone behaviour of the human skull bone for the development of a physical head model
- Restrained occupant protection performance under rollover conditions using an intelligent rollover protection subsystem
- Safety barrier performance predicted by multi-body dynamics simulation
- Estimating bicyclist into pedestrian collision speed
- Car-car crash compatibility: development of crash test procedures in the VC-Compat project
- Experimental and simulated flexion tests of humerus
- Advanced smart airbags: The solution for real-life safety?
- Application of the finite element method to predict the crashworthy response of a metallic helicopter underfloor structure onto a hard surface
- An algorithm for optimised generation of a finite element mesh for folded airbags

### Issue 1

- Numerical simulations of motorcycle helmet impact tests
- An experimental methodology for evaluating survivability of an aeronautical construction from composite materials: An overview
- Natural optima in human skull: a low-velocity impact study
- Train's crashworthiness design and collision analysis

- Rollover far side roof strength test and simulation
- Reinforcement of vehicle roof structure system against rollover occupant injuries
- A new analytical model for high-velocity impact of thick composites
- Observations from repeatable dynamic rollover tests
- A road vehicle multibody model for crash simulation based on the plastic hinges approach to structural deformations

## 2006

### Issue 6

- An elastic-plastic free-free beam under asymmetric normal and oblique impact
- A methodology for the simulation of out-of-position driver airbag deployment
- Finite element analysis of seat belt bunching phenomena
- Thoracic deformation response of pedestrians resulting from vehicle impact
- A study of an Asian anthropometric pedestrian in vehicle-pedestrian accidents using real-world accident data
- Modeling of car seat and human body interaction under rear impact
- Multi-directional optimisation against biomechanical criteria of a head-helmet coupling
- The development of a new low-speed impact test to improve bumper performance and compatibility
- Efficiency and identification procedures of damage models in dynamic
- Implementation of composite roof structures in transit buses to increase rollover roof strength and reduce the likelihood of rollover
- Assessment criteria for assessing energy-absorbing front underrun protection on trucks

### Issue 5

- An experimental investigation on the behaviour of self-piercing riveted connections in aluminium alloy AA6060
- Evaluation of passenger railroad car roll over crashworthiness
- Experimental evaluation of the wheelchair occupant protection under different impact conditions using commercial wheelchairs
- Analysis of Nij in simulated real-world crashes with a 3-year-old Hybrid-III
- The effect of mobile phone use on driving style and driving skills
- Crash analysis and modeling of two vehicles in frontal collisions using two types of smart front-end structures: an analytical approach using IHBMA (Incremental Harmonic Balance Method)
- Computer modeling of lift trucks and operators to simulate lateral tipover
- Rollover crashworthiness of a rural transport vehicle using [MADYMO](#)

### Issue 4

- An offset rigid barrier-based test: equivalence to the Insurance Institute for Highway Safety frontal offset impact safety test
- Numerical simulation of fluid-structure interaction of liquid cargo filled tank during ship collision using the ALE finite element method
- Offset impact behaviour of bumper beam—longitudinal systems: experimental investigations
- Offset impact behaviour of bumper beam—longitudinal systems: numerical simulations
- Positioning of motorcyclist dummies in crash simulations
- Effects of pre-impact pedestrian position and motion on kinematics and injuries from vehicle and ground contact
- Elements of passive safety of railway vehicles in collision

- Effect of tensile properties on the energy-absorbing capacity of weld-bonded austenitic stainless steel profiles
- A hybrid technique for determining optimal restraint system characteristics

### Issue 3

- Bird strike simulation on a novel composite leading edge design
- Multi-scale human body model to predict side impact thoracic trauma
- Parametric effects on the performance of traffic light poles in vehicle crashes
- Optimisation of energy absorption of an A-pillar by metal foam insert
- Evaluation of frontal occupant protection system responses to crash pulse variations
- Bending collapse of thin-walled beams with channel cross-section
- Simplified modelling of thin-walled box section beam
- The influence of a flexible lumbar spine in far-side impact testing

### Issue 2

- Proposal of injury risk curves for evaluating pedestrian femur/pelvis injury risk using [EEVC](#) upper legform impactor based on accident reconstruction
- Dynamic response of laminated automotive glazing impacted by spherical featureless headform
- Finite element analysis of cyclist lower limb response in car—bicycle accident
- Experimental study on energy absorption characteristics of motorcycle front wheel—tyre assembly in frontal impact
- Development and testing of a non-energy-absorbing anchorage system for roadside poles
- Projectile impact on sandwich panels
- Numerical modeling of a dual crush mode welded aluminum crash structure
- Finite element modelling of the crushing response of composite sandwich panels with FRP tubular reinforcements

### Issue 1

- Influence of damage on the prediction of axial crushing behavior of thin-walled aluminum extruded tubes
- An improved representation of vehicle incompatibility in frontal NCAP tests using a modified rigid barrier
- A simplified test methodology for crashworthiness evaluation of aircraft seat cushions
- Bending of cylindrical steel tubes: numerical modelling
- Assessment of vehicle roof crush test protocols using FE models: inverted drop tests versus updated [FMVSS](#) No. 216
- Evaluation of head injury criteria using a finite element model validated against experiments on localized brain motion, intracerebral acceleration, and intracranial pressure
- Feedback control of occupant motion during a crash

## 2005

### Issue 6

- Influence of head restraint position on long-term [AIS](#) 1 neck injury risk
- Influence of muscle preactivation of the lower limb on impact dynamics in the case of frontal collision
- Limiting performance analysis of biomechanical systems for optimal injury control - Part 1:



Theory and methodology

- Limiting performance analysis of biomechanical systems for optimal injury control – Part 2: Applications
- Quantification of constant stiffness force-shortening model parameters for vehicles tested under United States side impact protocols
- Proposed variable stiffness of vehicle longitudinal frontal members
- Transition from progressive to global buckling of aluminium extrusions – a numerical study
- Load/displacement and energy absorption performances of AA6061-T6 tubes under a cutting deformation mode
- Combination of grey model GM(1, 1) with three-point moving average for accurate vehicle fatality risk prediction

## Issue 5

- Wind forces and aerodynamics: contributing factors to compromise bus and coach safety?
- Finite point method: a new approach to model the inflation of side curtain airbags
- Local structural force evaluation of a vehicle in side barrier impacts
- Modeling slip base mechanisms
- Test procedures for vehicle compatibility evaluation
- Evaluation of fleet systems model for vehicle compatibility
- Effects of front wheels and steering-suspension systems during vehicle oblique collisions with a flared guardrail terminal
- Numerical simulation of thin-walled metallic circular frusta subjected to axial loading
- Design, fabrication and testing of a component [HIC](#) tester for aircraft applications
- Design of HIC compliant aircraft bulkheads and cabin class divider panels
- Experimental and numerical analyses of the axial crushing behaviour of hat sections partially filled with aluminium foam

## Issue 4

- FE simulations of motorcycle—car frontal crashes, validations and observations
- Motorcycle crash tests — an overview
- Safety performance evaluation of secure mailboxes using finite element simulations and crash testing
- Sled tests and [CIREN](#) data illustrating the benefits of booster seats
- Design and sled testing of a high back booster seat prototype offering improved side impact protection
- Structural adaptivity in frontal collisions: implications on crash pulse characteristics
- Initiation and propagation of damage in laminated composite shells due to low velocity impact
- Nonlinear impact behaviour of laminated composite shells in hygrothermal environments
- Dynamic stability of stiffened plates with cutout subjected to harmonic in-plane partial edge loading
- Numerical simulation of mow strip subcomponents used with strong post guardrail systems

## Issue 3

- Crack initiation in laminated automotive glazing subjected to simulated head impact
- Initialisation of volume fraction in fluid/structure interaction problem
- Designing for head impact safety using a combination of lumped parameter and finite element modeling
- Development of FE meshes for folded airbags
- Finite element modeling and validation of a 3-strand cable guardrail system

- Bending hinge characteristic of thin-walled square tubes
- Axial crushing performance of braided composite tubes
- Cervical spine injuries sustained by motorcyclists in road crashes in Malaysia
- The effect of using universal anchorages in child restraint seats on the injury potential for children in frontal crash

## Issue 2

- Analysis of crush behaviours of a rail cab car and structural modifications for improved crashworthiness
- Wheel impact performance with consideration of material inhomogeneity and a simplified approach for modeling
- Comparison of shoulder range-of-motion and stiffness between volunteers, Hybrid III and THOR Alpha in static frontal impact loading
- Numerical simulations of multiple vehicle crashes and multidisciplinary crashworthiness optimization
- Crash simulation of a vertical drop test of a commuter-class aircraft
- A numerical study on the quasi-static axial crush characteristics of square aluminum tubes with chamfering and other triggering mechanisms
- Characteristics of 3.5 kg pedestrian headform impactor prototypes developed by JAMA-[JARI](#) and ACEA-TNO
- A study of injury parameters for rearward and forward facing 3-year-old child dummy using numerical simulation

## Issue 1

- An assessment of constitutive models of concrete in the crashworthiness simulation of roadside safety structures
- An experimental investigation into the energy absorption and force/displacement characteristics of aluminum foam filled braided stainless steel tubes under quasistatic tensile loading conditions
- Ear injury from air bag deployment noise?
- Modelling bird impacts on an aircraft wing - Part 1: Material modelling of the fibre metal laminate leading edge material with continuum damage mechanics
- Modelling bird impacts on an aircraft wing - Part 2: Modelling the impact with an SPH bird model
- Frontal collision behaviour: Comparison of onboard collision recorder data with car population characteristics
- Kinematics and injury pattern in rollover accidents of cars in German road traffic - an in-depth-analysis by GIDAS
- Dynamic characterization of polymers to improve numerical simulations for passive safety
- Cervical muscle response to trunk flexion in whiplash-type right lateral impacts
- Development of a mathematical model for evaluating child occupant behaviour in the case of a vehicle side impact simulation

## 2004

### Issue 6

- Development and validation of a vehicle suspension finite element model for use in crash simulations
- Evaluation of structural parameters for vehicle crash compatibility

- Car structural characteristics of fatal frontal crashes in Sweden
- The effect of occupant position in volunteers subjected to whiplash-type rear impacts
- Tolerance of the human leg and thigh in dynamic latero-medial bending
- Designing for safety during pregnancy through a system for automotive engineers
- Predicting fractures due to blunt impact: a sensitivity analysis of the effects of altering failure strain of human rib cortical bone
- A parametric study of the bending crash performance of empty and metal foam-filled box-beams
- Numerical modelling of quasi-static axial crush of square aluminium-composite hybrid tubes
- A new approach for safety crash test: using a genetic algorithm

## **Issue 5**

- A comprehensive failure model for crashworthiness simulation of aluminium extrusions
- A computational model of the human head and neck system for the analysis of whiplash motion
- A methodology to assess frontal stiffness to improve crash compatibility
- Design of train crash experimental tests by optimization procedures
- Static and dynamic roof crush simulation using LS-DYNA3D
- Tank instructor module crash simulation
- A study of modelling approaches for rail vehicle collision behaviour
- Crashworthiness analysis of the Placentia, CA rail collision
- Finite element modelling of the human head-neck: modal analysis and validation in the frequency domain
- Compartment strength and its evaluation in car crashes

## **Issue 4**

- Assessment of basic experimental impact simulations for coupled fluid/structure interactions modeling
- A visco-elastic foam as head restraint material – experiments and numerical simulations using a biorid model
- Design and analysis of an aluminum F-shape bridge railing
- Optimization of single skin surfaces for head injury prevention – a comparison of optima calculated for global versus local injury thresholds
- Failure analysis of arbitrarily shaped human skull due to impact
- Dynamic simulation and energy absorption of tapered tubes under impact loading
- Influence of FE model variability in predicting brain motion and intracranial pressure changes in head impact simulations
- An investigation into the head and neck injury potential of three-year-old children in forward and rearward facing child safety seats
- Finite element simulation of internally grooved thin-wall PVC tubes subjected to axial plastic collapse

## **Issue 3**

- Preliminary analysis of fuel tank impact
- Compatibility between passenger vehicles and road barriers during oblique collisions
- Evaluation of a singular value decomposition approach for impact dynamic data correlation
- Numerical simulation of the crushing process of composite materials
- Structural topology optimization for crashworthiness
- Simplified modelling of vehicle frontal crashworthiness using a modal approach
- Anisotropic damage for crashworthiness of vehicles

- Car frontal collisions: occupant compartment forces, interface forces and stiffnesses

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- Joining of aluminium using self-piercing riveting: Testing, modelling and analysis
- Quasi-static crushing of S-shaped aluminum front rail
- Head-neck finite element model of the crash test dummy THOR
- Contribution to the definition of a partial overlapping plastic strain rates domain for moderate loadings - application to tensile testing on metallic materials
- Quasi-static and dynamic axial crushing of thin-walled circular stainless steel, mild steel and aluminium alloy tubes
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- Radioss finite element model of the Thor dummy
- Tests and simulation of a w-beam rail-to-post connection
- Static and dynamic behaviour of a polypropylene for bumpers
- Crashworthiness of helicopters on water: Test and simulation of a full-scale WG30 impacting on water
- Occupant analysis and seat design to reduce neck injury from rear end impact
- Numerical modelling of the axial plastic collapse of externally grooved steel thinwalled tubes
- Velocity changes, mean accelerations and displacements of some car types in frontal collisions
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- Influence of crash severity and contact surfaces characteristics on the dynamic behavior of forward facing child occupants
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- Crash simulation with glassy polymers – constitutive model and application
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- Aluminium and magnesium castings – experimental work and numerical analyses
- Energy absorbing characteristics of circular frustra
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- Evaluation of the effectiveness of a bus and coach seat during rear end impact by means of sled tests
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- New injury reference values determined for TRL legform impactor from accident reconstruction test

- Finite element analysis of impacts on water and its application to helicopter water landing and occupant safety
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- Reconstruction of occupant kinematics and kinetics for real world accidents
- Topology optimization for crashworthiness of frame structures
- Towards a finite element head model used as a head injury predictive tool
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- Axisymmetric progressive crushing of circular tubes
- Measuring rollover roof strength for occupant protection
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- Crashworthiness analysis of a lock gate impacted by two different river ships
- Optimization of Vehicle Crash Pulses in Relative Displacement Domain
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- Pedestrian forward projection impact
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- Analysis of impact on soft soil and its application to aircraft crashworthiness
- Folding-crumpling of thin-walled aluminium frusta
- Car to car interaction in frontal collisions: A model for the behaviour of the car population and options for improved crashworthiness
- An investigation into the energy absorption characteristics of a four-spoke steering wheel armature subjected to impact loading

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- Finite element buckling analysis of laminated composite stiffened shells
- Full-scale crash test and simulation of a composite helicopter
- Some effects of Australian Design Rule (ADR) 69 on frontal crash outcomes
- Finite element modelling of anthropomorphic test devices for vehicle crashworthiness evaluation
- Structural Dynamic Responses with Generalised Explicit Finite Difference Models
- Crash strength and energy management of axially loaded extruded aluminium components reinforced with epoxy-based Terocore Foam
- Modelling of glass reinforced thermoplastic composite side-impact structures
- Inertia effects on some crashworthiness parameters for cylindrical shells under axial impact
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- New dummy head prototype : development, validation and injury criteria
- Gender-Related Spinal Injury Assessment Considerations in Military Aviation Occupant Protection Modelling
- The thoracic member under side impact: an Experimental Approach
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- Behaviour of frontal protection system in passenger vehicles
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- Axial crushing of hybrid square sandwich composite vehicle hollow bodyshells with reinforced core: Experimental
- Advantages of safety belts in heavy trucks - Results of real life crash analyses and of a crash test with a Mercedes-Benz ACTROS 1853
- Crashworthiness Evaluation Using Integrated Vehicle and Occupant Finite Element Models

- Finite Element Simulation of Energy Absorption Devices under Axial Static Compressive and Impact Loading
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- Finite element simulation of the axial collapse of thin-wall square frusta
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- Analysis of crash response of aluminium foam-filled front side rail of a passenger car
- Augmented Lagrangian procedure for implicit computation of contact-impact between deformable bodies
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- A Review of the effectiveness of seat belt systems: design and safety considerations
- A two-dimensional analysis of the biomechanics of frontal and occipital head impact injuries
- Prediction of head and neck injury in transport aircraft seats as a function of occupant size and seat configuration

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- Dynamic material properties and inelastic failure in structural crashworthiness
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- Elasto-plastic response of a free-free beam subjected to pulse loads at any cross-section
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- Characteristics and potential applications of a novel shock absorbing elastomeric composite for enhanced crashworthiness
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- Analysis and Design Consideration of an Energy Absorbing Steering System Using Orthogonal Arrays
- Interplay of factors influencing collapse modes in axially crushed tubes
- Two-Dimensional Collisions of Vehicles (Case of Consideration of Tire Forces During Impact)
- Axial collapse of hybrid square sandwich composite tubular components with corrugated core: Experimental
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- Biofidelity Evaluation of Dynamic and Static Response Characteristics of the Thor Lx Dummy Lower Extremity
- Designing for the critical impact point on a new bullnose guardrail system
- Validated crash simulation of the most common guardrail system in the USA
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- The bending of fibre-reinforced composite thin-walled tubular components: Numerical modelling
- Recycled paper-rolled tubes as potential energy absorbing elements

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- Development of a Detailed Vehicle Finite Element Model Part II: Material Characterization and Component Testing
- Airframe Water Impact Analysis
- Failure analysis of multiple delaminated composite plates due to low velocity impact
- Investigation on the Crash Behaviour of Knitted Glass Fibre Reinforced Poly(ethylene-terephthalate) Structures
- Lateral compression of empty and filled single tubes by short width indenters
- Developments in the simulation of real world car to pedestrian accidents using a pedestrian humanoid finite element model

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- Some Phenomena in the structural crashworthiness field
- Determination of the Energy Absorption of Cylindrical Shells under Axial Loading by Analysis of the Dynamic Buckling and Folding Process
- Experimental and analytical investigations on the energy absorption by tapering
- Study of axisymmetric crushing mechanisms by sequential limit analysis

- Development and validation of high fidelity vehicle crash simulation models
- Three-dimensional finite element modelling of vehicle crashes against roadside safety barriers
- Train crashworthiness and its impact on society
- Application of Computer-Aided analysis tools for aircraft occupant and seat crashworthiness problems

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- Development of a side facing seat and seat belt system for the Australian Army Perentie 4×4
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- Performance validation of two finite element models Of a side impact dummy
- Mechanisms of Ankle and Hind-foot Injuries to Drivers and Passengers in Frontal Crashes as Deduced from Field Studies
- Effects of temperature on the crash behaviour of glass fibre reinforced polyamide 12

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- High-speed passenger train crashworthiness and occupant survivability
- Modifications to Existing Rolling Stock to Improve Crashworthiness
- The prediction of frontal impact crashworthiness of a spaceframe sportscar
- Analysis of pedestrian head impacts to the bonnets of European vehicles
- The concept of double-walled sandwich columns for energy absorption
- Energy absorption of riveted structures
- Composite vehicle structural crashworthiness - A status of design methodology and numerical simulation techniques

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- Analysis and evaluation of a redesigned 3" ×3" slipbase sign support system using finite element simulations
- Multibody modelling of a side impact test apparatus
- Finite element modelling of the human body in vehicle side impact
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- A Study of Standards for Child Restraint System Sled Tests
- A feasibility study for an optimising algorithm to guide car structure design under side impact loading
- Finite element modelling of fracture in long bones

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- Frontal impacts with small partial [overlap](#): real life data from crash recorders
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- The response of square cross-section tubes under lateral impact loading
- Finite element transient dynamic analysis of laminated composite Pretwisted rotating plates subjected to impact

- Kinematics of SID on side-facing aircraft seat

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- A study on crushing characteristics of thick-walled aluminum tubes under axial loading
- Analysis of airbag depowering and related parameters in out of position environment
- Validation of an Analytical Model of a Right-Angle Collision between a Vehicle and a Fixed, Rigid Object
- Collapse of thin-walled empty and filled square tubes under lateral loading between rigid plates
- Serious neck injury in rollovers - is roof crush a factor?
- Static and dynamic bending strength of the leg
- International Crashworthiness Conference - IJCRASH'98

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- Side Impact Protection - Occupants in the Far-Side Seat
- Compatibility analysis of Mini cars in frontal collisions using MADYMO
- Tracking the energy in an energy absorbing guardrail terminal
- Injury mechanisms and criteria for the human foot and ankle under axial impacts to the foot
- Thermal influence on mild steel behaviour during a crash event
- An investigation on the impact performance of pipelines

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- Promoting safety using retrospective large databases
- Estimating crash performance for new car design
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- Benefit of in depth data for analysing injury mechanisms of accidents with bicyclists and motorcyclists
- Reconstructing crashes involving emergency braking on wet roads
- Taxonomy of heavy vehicle accidents

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- Effect of an Ultralight Metal Filler on the Torsional Crushing Behaviour of Thin-Walled Prismatic Columns
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- Paediatric Neck Modelling using Finite Element Analysis

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- Editorial: Regulations Vs. Crash Test Vehicle Rating Systems
- Finite element model and validation of a surrogate crash test vehicle for impacts with roadside objects
- Mathematical simulation of knee responses associated with leg fracture in car-pedestrian accidents

- A study on large deflection of thin-walled tubes under pure bending
- Automobile side impact modelling using ATB software

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- Improving bus rollover design through modal analysis
- The Development of a 'Smart Seat' Occupant Size and Position Sensing System for the Enhancement of Occupant Protection
- Mechanics of a mechanically triggered airbag head restraint system for occupant protection in rear end impact
- Brain kinematics in physical model tests with translational and rotational acceleration
- Biomechanics of cervical spinal cord injury in flexion and extension: A physical model to estimate spinal cord deformations
- Impact biomechanics of the human thorax-abdomen complex

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- Numerical simulation of the Lynx helicopter main lift-frame component collapse
- Aviation safety and crashworthy seat design
- Evaluation and design of vehicle structures for crash protection - a systems approach
- A multibody approach to the vehicle and occupant integrated simulation
- FASIM\_C++ - A versatile developing environment for vehicle dynamics simulation
- Vehicle Frontal Crashworthiness Analysis by Simplified Structure Modeling using Nonlinear Spring and Beam Elements
- Thoracic response and injury with belt, driver side airbag, and force limited belt restraint systems

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- Development of the Heathrow Express crashworthy rail vehicle
- Simulation of brain kinematics in closed head impact

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- Parameter estimation for head impacts and brain injury in crash reconstruction
- Energy absorption for a truck-front bumper bar
- A study on crushing behaviour and energy absorption capacity of a thin-walled rectangular tube under axial compression
- An investigation of fracture mechanisms of carbon epoxy laminates subjected to impact and compression-after-impact loading
- Computer simulation of impact damage on thin-skinned carbon fibre composite panels

- The effect of multiple impact damage on the residual compressive strength of composite structures
- Side impact protection: the use of 3-D reinforced composite panels

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- Development of energy absorbing devices using a kinetostatic multibody dynamics methodology
- A side airbag system to meet chest injury measures: evaluation by mathematical simulations
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- An evaluation of deformation based Chest Injury Criteria using a hybrid III finite element model
- Finite element impact response analysis of doubly curved composite sandwich shells Part-I: theoretical formulation
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- Lessons learned in modeling a moving deformable barrier (MDB) impacting a rigid wall
- Strain rate and inertial effects in free external inversion of tubes
- Non-destructive crash testing

## Weitere Infos

- <http://www.tandfonline.com/>
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