1. Introduction

Accidents are a daily occurrence in our lives, in many different activities and scenarios, from sports to traffic, from home to work environments, from non-intentional to criminal offences. The usual outcome is some kind of injury, which can range from minor, soft injuries to severe, lethal injuries.

Numerical and experimental methods have been continuously improved in order to provide better analysis of accident scenarios, evaluate their outcomes, and provide effective frameworks for their prevention.

This publication encloses a set of contributions on topics that include studies of human and environmental aspects prior to accidents; the type and severity of accidents; the design and implementation of passive and active protective devices; the biomechanics of impact and resulting injuries; and statistics and decision-making tools. The book highlights the importance of numerical and experimental methods, which can serve as a powerful tool to study and enhance safety.

2. Special Issue Papers

The topics just referred to were addressed in several chapter of the book. Regarding road and traffic aspects, Yim et al. discuss the “Development of Navigator Behavior Models for Evaluation of Collision Avoidance Behavior in the Collision-Prone Navigation Environment” [1] whereas Ptak addressed a “Method to Assess and Enhance Vulnerable Road User Safety During Impact Loading” [2] using numerical modeling and proposing some countermeasures for Vulnerable Road Users.

The role of numerical modeling was also addressed by Tierney and Simms, regarding the “Predictive Capacity of the MADYMO Multibody Human Body Model Applied to Head Kinematics During Rugby Union Tackles” [3].

Occupational and work-related accidents were addressed by Shafique and Rafiq, “An Overview of Construction Occupational Accidents in the Hong Kong: A Recent Trend and Future Perspectives” [4], whereas Kakhki and co-workers discussed the “Use of Logistic Regression to Identify Factors Influencing the Post-Incident State of Occupational Injuries in Agribusiness Operations” [5]. Also on the civil construction domain, Derlukiewicz discussed the “Application of a Design and Construction Method Based on a Study of User Needs In The Prevention of Accidents Involving Operators of Demolition Robots” [6].

Head protection devices to save lives deserved particular attention as demonstrated in Jamroziak et al., “The Ballistic Head Protection in the Light of Injury Criteria on the Example of the Wz.93 Model Combat Helmet” [7] and also by Fernandes et al. “Helmet Design Based on the Optimization of Biocomposite Energy Absorbing Liners Under Multi-Impact Loading” [8]. Sławiński
et al. outlined the problem regarding the development of soldiers’ injuries, caused as a result of strong effects of pulse forces, inside armored vehicles [9].

In the world of sports, this book presents the contribution “Mortality of NBA players: Risk Factors and Comparison with the General US Population”, by Martinez et al. [10].

Finally, because traffic accidents may also happen in other environments besides streets and highways, Youn and co-workers contributed with the work “Analysis of Lookout Activity in a Simulated Environment to Investigate Maritime Accidents Caused by Human Error” [11].

It becomes evident that the field of traffic safety is huge, and with plenty of room for continuous development. The present book sheds some light on some of its subtopics of relevance.

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Conflicts of Interest: The authors declare no conflict of interest.

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