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Journal of Forensic Biomechanics

Dr. Ali Erkan Engin
Editor-in-Chief

Professor Emeritus, The Ohio State University (1995-)
& University of South Alabama (2011-)
Department of Mechanical Engineering
Mobile, AL 36688 USA

Biography

- B.S. (Mechanical Engineering) Michigan State University, 1965
  M.S. (Engineering Mechanics) The University of Michigan, 1966
  Ph.D. (Engineering Mechanics) The University of Michigan, 1968

  1966-1968 Teaching Fellow, Engineering Mechanics Department of the University of Michigan.
  - 1968-1969 Associate Research Engineer, The Highway Safety Research Institute of the University of Michigan.
  - 1969-1970 Assistant Professor, Engineering Sciences Department of the Middle East Technical University, Ankara, Turkey.
  - 1970-1971 Associate Research Engineer, The Highway Safety Research Institute of the University of Michigan.
  - 1971-1974 Assistant Professor, Engineering Mechanics Department of The Ohio State University.
  - 1974-1977 Associate Professor, Engineering Mechanics Department of The Ohio State University.
  - 1977-1994 Professor, Engineering Mechanics Department and Director of Biomechanics Laboratory of The Ohio State University.
  - 1994-1995 Professor, Department of Aeronautical Engineering, Applied Mechanics and Aviation of The Ohio State University (Professor Emeritus, 1995 -).
  - 1995-2003 Professor and Chairman of Department of Mechanical Engineering, University of South Alabama.
  - 2003-2011 Professor, Department of Mechanical Engineering, University of South Alabama (Professor Emeritus, 2011-)

Research Interest

- Biomechanics: head injury problems, experimental and theoretical mechanics of the major articulating joints of the human body, biological material properties, biodynamic modelling of various parts of the human body.
- Mechanics: Continuum mechanics, emphasizing fluid-solid interaction problems, wave propagation theory, dynamic analyses of shells, optimization, and numerical methods.

Forensic Biomechanics can be defined as the application of biomechanics in the court of law.

TOPICS & RESEARCH AREAS IN BIOMECHANICS

- Basic Mechanical Properties of Biological Materials
- Analyses of Response to Internal Biological Forces
- Analyses of Response to External Forces
- Analyses of Response to Replaced Parts and Assistive Devices

BASIC MECHANICAL PROPERTIES OF BIOLOGICAL MATERIALS

- Individual Cells
- Various Tissues
- Organs and Complex Body Systems

ANALYSES OF RESPONSE TO INTERNAL, BIOLOGICAL FORCES

- Circulation and Microcirculation
- Respiration
- Locomotion Kinetics in Normal, Abnormal, and Amputee Gait

ANALYSES OF RESPONSE TO EXTERNAL FORCES

- Steady-State and Transient Pressure and Sound Applications
- Various Acceleration Environments

  a) Body Vibration

  b) Impact and Crash Protection (head, neck, chest and abdominal injury)

  c) Hypo and Hypergravity Conditions
- The Diagnostic and Therapeutic Sound and Force Applications.

ANALYSES OF RESPONSE TO REPLACED PARTS AND ASSISTIVE DEVICES

- External Orthoses/Prostheses
- Internal Orthoses/Prostheses
- Biomechanical Compatibility of previous two items.

Forensic biomechanics cases may be put into the following categories:

1. **Motor vehicle accidents and related injury cases (single and multiple vehicles involving single and multiple vehicle occupants and/or pedestrians),**
2. **Occupation related accidents and injury cases,**
3. **Product failure and related injury cases,**
4. **Sports and recreation related accident and injury cases,**
5. **Slip and fall accidents and related cases.**

Related Publications

- iospress.metapress.com/index/999f276fx7j7986h.pdf
- http://www.ncbi.nlm.nih.gov/pubmed/?term=15503456

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