



Mohd Hasnun Arif HASSAN

Curriculum Vitae

Education

2012
2016

Ph.D. in Mechanical Engineering, *Universiti Malaysia Pahang*, Pahang, MALAYSIA.

2010
2012

M.Eng. in Mechanical Engineering, *University of Malaya*, Kuala Lumpur, MALAYSIA, CGPA 3.84.

Master of Engineering (with Distinction)

2005
2010

Diplom-Ingenieur in Mechanical Engineering, *University of Applied Sciences Bingen*, Bingen, GERMANY, Notendurchschnitt 2,1 (equivalent to 2nd class upper).

PhD thesis

title *Modelling and Analysis of Soccer Heading and Protective Headgear to Understand and Prevent Mild Traumatic Brain Injury*

supervisor Prof. Dr. Zahari Taha

description Analytical modelling, finite element analysis and experimental quantification of linear and angular head acceleration due to soccer ball heading in addition to the analysis of protective headgear for soccer players.

Experience

Teaching

2012
2013

Part-time Lecturer, *Universiti Malaysia Pahang*, Pekan, Malaysia.

Teaching undergraduates.

Subjects taught:

- Dynamics
- Manufacturing Technology

*iMAMS Lab, Faculty of Manufacturing Engineering, Universiti Malaysia Pahang
26600 Pekan – Pahang, MALAYSIA*

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2012
2012

Research

Research officer, *Universiti Malaysia Pahang*, Pekan, Malaysia.

Sports Engineering Grant RDU110702.

The project involved research and development of the following sports equipment:

- Sports shoes
- Knee-pad
- Protective headgear

2008
2009

Internship

Intern, *Robert Bosch GmbH*, Feuerbach, Stuttgart, Germany.

Department: FeP/TEF 21 - Equipment design.

Main task:

- Performed amendments and completed the design of the pressing-in equipment for the diesel solenoid valves DMV25.2.
- Redesigned the feed handling of spring plates in the workpiece holder (three-dimensional design).
- Redesigned a jig to read the Data Matrix Code (DMC) of diesel solenoid valves DMV28T.

Achievements and Awards

- **2014** – Best Paper Award at the Movement, Health and Exercise (MoHE) Conference 2014 in Kuantan, Pahang, MALAYSIA
- **2014** – 3rd place in the ISEA Student Investigator Prize at the Engineering of Sport 10 conference in Sheffield, UK
- **2010-2016** – Scholarship from the Ministry of Higher Education Malaysia and Universiti Malaysia Pahang to pursue Master's and doctoral degree
- **2005-2010** – Scholarship from the Public Service Department of Malaysia to pursue bachelor's degree in Germany

Languages

Malay **Native**
English **Fluent**
German **Good**

Software Skills

Engineering

FEA Abaqus/CAE

CAD Solidworks

Productivity

Office Word, Excel, Powerpoint, \LaTeX

Research Interest

- Sports Engineering
- Sports Technology
- Finite Element Analysis (FEA) of Sports Equipment
- Impact-absorbing Materials

External Roles

Journal Article Reviewer

- Proceedings of the Institution of Mechanical Engineers, Part P: Journal of Sports Engineering and Technology
- Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine
- Movement, Health & Exercise (MoHE) Journal

Invited Talks

- Dec 4, 2013 **Sports and Engineering: Towards improving the athlete's performance.**
Seminar Teknologi Sukan 2013
Universiti Teknikal Malaysia Melaka (UTeM), Malacca, Malaysia
- Oct 17, 2014 **Engineering Sports towards Injury Prevention.**
Seminar Keselamatan dan Kesihatan Dalam Sukan 2014
Department of Occupational Safety & Health Pahang, Kuantan, Malaysia

Programme Committees

- 2015 **Movement, Health & Exercise (MoHE) Conference 2015.** *Webmaster.*
Georgetown, Penang, Malaysia
- 2014 **Movement, Health & Exercise (MoHE) Conference 2014.** *Organising Chairman.*
Kuantan, Pahang, Malaysia

Journal Publications

2016

Taha, Zahari and Mohd Hasnun Arif Hassan. "A reaction-force-validated soccer ball finite element model". In: *Proceedings of the Institution of Mechanical Engineers, Part P: Journal of Sports Engineering and Technology*. eprint: <http://pip.sagepub.com/content/early/2016/01/31/1754337115626636.full.pdf+html>.

2015

Taha, Zahari, Mohd Hasnun Arif Hassan, and Iskandar Hasanuddin. "Analytical modelling of soccer heading". In: *Sadhana* 40.5, pp. 1567-1578.

Conference Publications

- 2016 Taha, Zahari and Mohd Hasnun Arif Hassan. "Parametric Analysis of the Influence of Elastomeric Foam on the Head Response During Soccer Heading Manoeuvre". In: *The Engineering of Sport 11*. Vol. 147, pp. 139 -144.
- 2015 Hassan, Mohd Hasnun Arif and Zahari Taha. "Finite Element Analysis of Soccer Heading". In: *'The Impact of Technology on Sport VI' 7th Asia-Pacific Congress on Sports Technology, APCST2015*. Vol. 112, pp. 46-51.
- 2014 Taha, Zahari, Mohd Azri Aris, Zulkifli Ahmad, Mohd Hasnun Arif Hassan, and Nina Nadia Sahim. "A Low Cost 3D Foot Scanner for Custom-Made Sports Shoes". In: *Advanced Materials & Sports Equipment Design*. Vol. 440, pp. 369-372.
- 2014 Taha, Zahari and Mohd Hasnun Arif Hassan. "Finite Element Modelling of Soccer Ball". In: *Movement, Health & Exercise (MoHE) 2014*.
- 2014 Taha, Zahari, Mohd Hasnun Arif Hassan, and Mohd Azri Aris. "The Efficacy of Impact-Absorbing Materials during Collision with a Soccer Ball". In: *Advanced Materials & Sports Equipment Design*. Vol. 440, pp. 363-368.
- 2014 Taha, Zahari, Mohd Hasnun Arif Hassan, Iskandar Hasanuddin, Mohd Azri Aris, and Anwar P P Abdul Majeed. "Impact-absorbing Materials in Reducing Brain Vibration Caused by Ball-to-head Impact in Soccer". In: *The Engineering of Sport 10*. Vol. 72, pp. 515-520.
- 2013 Taha, Zahari, Mohd Azri Aris, and Mohd Hasnun Arif Hassan. "The influence of football boot construction on ball velocity and deformation". In: *2nd International Conference on Mechanical Engineering Research (ICMER 2013)*. Vol. 50. 1, p. 12028.
- 2013 Taha, Zahari, Mohd Hasnun Arif Hassan, Mohd Azri Aris, and Zulfika Anuar. "Predicting brain acceleration during heading of soccer ball". In: *2nd International Conference on Mechanical Engineering Research (ICMER 2013)*. Vol. 50. 1, p. 12023.