NASRUL HADI JOHARI
Lecturer
Faculty of Mechanical Engineering,
Universiti Malaysia Pahang,
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Academic Qualification

2009-2011 **M. Eng (Mechanical),**
Universiti Teknologi Malaysia (UTM), Malaysia

2004-2008 **B. Eng (Mechanical),**
Universiti Malaysia Pahang (UMP), Malaysia

Working Experiences / Appointment

February 2012-Present University Malaysia Pahang, Malaysia
Lecturer, Faculty of Mechanical Engineering

Aug. 2008 – January 2012 University Malaysia Pahang, Malaysia
Tutor, Faculty of Mechanical Engineering

Jan- Aug 2008 PERODUA Manufacturing Sdn. Bhd, Malaysia
Engineer, R&D Department

Research Interest

Biofluids, Computational Fluid Dynamics (CFD), Fluid Structure Interaction (FSI), biomechanics in sport and physical activity.

Research Project / Grant

1. "Effects of Cartilage Rings on Three Dimensional (3D) Simulated Airflow In The Trachea and Main Bronchi. (Researcher) - ScienceFund GRANT (MOSTI) -Researcher
2. "Development of High Performance Sports Shoes and Knee Pad for Malaysian Athletes" (Researcher). - MOHE Special Grant.-Member
3. "Mechanical and Metallurgical Characterization of Friction Stir Welding Joints of Aluminium and Steel Alloys" (Researcher)- RAGS Grant-Member
4. "Three-Dimensional (3D) Modelling of Human Airway using Fluid Structure Interaction (FSI) Technique"- Leader
5. Modelling of Vehicle Seat for Human Comfort of a Small Size Passenger Car (K-Car)-Member
6. Development of High Performance Sports Shoes and Knee Pad for Malaysian Athletes-Member
7. Development and Analysis of Bow and Arrow for Malaysian Athlete

List of Publications

Journal

1. **N.H.Johari,** K.Osman, Z.Salleh, J.Haron and M.R.A. Kadir (2012), *"The Effect of Different Locations of Tracheal Stenosis to the Flow Characteristics using Reconstructed CT-Scanned Image"*, Journal of Mechanics in Medicine and Biology, Volume 12, Issue 04, September 2012, DOI: 10.1142/S0219519412500662(LINK). (ISI, IF: 0.493)

2. **Nasrul Hadi Johari**, Kahar Osman, Nor Harris N. Helmi and Mohammed A. Rafiq abdul Kadir (2013), *"Comparative analysis of realistic CT-scan and simplified human airway models in airflow simulation",* Computer Methods in Biomechanics and Biomedical Engineering, (LINK) DOI:10.1080/10255842.2013.776548 (ISI, IF: 1.573)

3. **Nasrul Hadi J**., Kahar Osman, W.M Basri, Zulkifli Ahmad, Zuliazura Salleh, Mohd Harris Helmi, Mohammed Rafiq A. Kadir, *"The effect of tracheal stenosis at different locations and sizes on airflow in the trachea and main bronchi: A numerical modeling analysis",* Advances Science Letters (Impact Factor: 1.253). Accepted, In Press, 2013

Conference/Proceedings

1. **Nasrul Hadi Johari**, Kahar Osman, M.R.A. Kadir, *"The Effect of Tracheal Stenosis on Airflow in the Trachea and Main Bronchi: A Numerical Modeling Analysis"* ICIPT2013: 2013 8th International Conference on Information Processing, Management and Intelligent Information Technology (ICIPM, ICIIP), 1-3 April 2013, Seoul, South Korea
2. **Nasrul Hadi Johari**, Kahar Osman, Zulkifli Ahmad and Syifak Izhar Hisham, *A Quick Glance at Numerical Modeling in Obstructed Human Airway*, The Proceeding of 2012The First International Conference on Information Science and Management, 3-5 December 2012, Medan, Indonesia
3. **Nasrul Hadi Johari**, Kahar Osman, W.M.Basri, Zamani Ngali, *"Effect of tracheal stenosis at different locations on airflow in the trachea and main bronchi".* International Meeting of Advances in Thermofluids 4th IMAT 2011, 3rd-4th October 2011, Melaka, Malaysia (SCOPUS and AIP Index), AIP Conf. Proc. 1440, pp. 1325-1332; doi:http://dx.doi.org/10.1063/1.4704355 (8 pages)
4. **Johari N.H,** K.Osman, W.M. Basri, M.R.A. Kadir. *"The Effect of Mild Stenosis to Flow in Trachea"*, 2010 International Conference on Science and Social Research (IEEE Proceeding), December 5-7, 2010, Kuala Lumpur, Malaysia. (SCOPUS Index)
5. **Johari N.H**, K.Osman, Z.M.Salleh, J. Haron, M.R.A. Kadir. *"Simulation of stenosis effect on airflow pattern in trachea and main bronchi"*, 2010 International Conference on Science and Social Research (IEEE Proceeding), December 5-7, 2010, Kuala Lumpur, Malaysia. (SCOPUS Index)
6. **Johari N.H,** K.Osman, W. M. Haris, J. Haron, M.R.A. Kadir. *"Comparison of simplified and actual model of trachea and main bronchi in airflow simulation"*, 2010 International Conference on Science and Social Research (IEEE Proceeding), December 5-7, 2010, Kuala Lumpur, Malaysia. (SCOPUS Index)
7. **Johari N.H**., K.Osman, M.Z. Sulaiman, *"Computational Fluid Dynamics Simulation of Stenosis Effect in Upper Human Airways"*, International Meeting of Advance Thermofluids, November 16-17, 2009, Bogor, Indonesia.

8. Zamani Ngali, Kahar Osman, and **Nasrul Hadi Johari**, *"Splitting solver with immersed boundary extension for the analysis of backward-facing step flow".* International Meeting of Advances in Thermofluids 4th IMAT 2011, 3rd-4th October 2011, Melaka, Malaysia (SCOPUS and AIP Index), AIP Conf. Proc. 1440, pp. 1040-1048; doi:http://dx.doi.org/10.1063/1.4704319 (9 pages)
9. *A. Zulkifli1, A.K. Ariffin2, A.R. Ismail1, M.A. Hisham1, and **N.H. Johari1**, *Probabilistic analysis of the human vertebra under compressive loading*, 2nd Regional Conference on Applied and Engineering Mathematics 2012, 30-31 May 2012, Eastern & Oriental Hotel, Penang, Malaysia .
10. M A H M Adib1, F Adnan2, A R Ismail1, K Kardigama1, H A Salaam1, Z Ahmad1, **N H Johari1**, Z Anuar1 and N S N Azmi1, *Computational Analysis on Performance of Thermal Energy Storage (TES) Diffuser*, IOP Conf. Ser.: Mater. Sci. Eng. 36 012015 doi:10.1088/1757-899X/36/1/012015, 2012
11. Ahmad Rasdan Ismail, Mohd Azrul Hisham Mohd Adib, K. Kardigama, **Nasrul Hadi Johari**, Zulkifli Bin Ahmad@Manap, Hadi Abdul Salaam, Zulfika Anuar, Nor Saadah N. Azmi, 2011, *Review on Biomechanics: A Potential Research*, Proceeding of Malaysian Technical Universities International Conference on Engineering and Technology 2011 (MUiCET 2011), 13 -15 November 2011, Batu Pahat, Johor.

List of Books

Nasrul Hadi, Kahar Osman (2012). "*The effect of tracheal stenosis on airflow using numerical modelling*". Lambert Academic Publishing. ISBN: 978-3-8484-1981-4. Lambert Academic Publishing.

Research Skills

- Computer Modeling and Analysis by using: SolidWorks, Engineering Fluid Dynamics (EFD), Ansys Workbench, Fluent and Gambit, Mimics and Amira, Adina, MatLab, Catia.
- Knowledge for analysis: Computational fluid dynamics (CFD), Fluid Dynamics, Respiratory Physiology, Heat Transfer, Engineering Mathematics, Thermofluids, Principle of Biomechanics
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Professional Qualification / Membership / Affiliation / Experience

Graduate Engineer, Board of Engineer Malaysia (BEM)- GE 58854A

Degree / Final Year Supervision

NAME	TITLE	Status
Jagathis A/L Balaiyah	Effect of chronic obstructive pulmonary disease on airflow motion using numerical analysis – Bachelor degree	Completed
Siti Sarah Binti Abd Rahman	Finite Element of Head Impact for Human Skull – Bachelor degree	Completed
Nurhanis Sofiah Binti Abd Ghafar	Rapid prototyping development of normal Asian human`s skull– Bachelor degree	Completed
Nur Syazwani Binti Mohd Noor	Biomechanical analysis for forearm during archery activity– Bachelor degree	Completed
Muhammad `Azri Bin Mohd Razi	Benchmarking of established headband for Takraw sport.– Bachelor degree	Completed
Chang Chun Kit	Design of Water Bike for UMP Pekan Lake – Diploma	Completed
Barath A/L Ponnusamy	Magnet device for reduce fuel consumption of diesel engine- Diploma	Completed
Nik Ahmad Fairuz Bin Nik Adlan	Development hydrogen gas generator for dual fuel engine using capacitor water fuel cell method- Diploma	Completed

Nasheka Binti Mohmad Nur	Improvement of Archery Athletes Performance based on Biomechanical Analysis	Ongoing
Noor Zakiah Binti Md Zaid	Three-Dimensional (3D) Modeling of Human Airway Using Fluid Structure Interaction (FSI) Technique	Ongoing
Nabil Azmin Bin Ahmad Nazri	Finite Element Analysis of 3D ball impact	Ongoing
Muhamad Sahddam Bin Mohd Rozani	Fabrication of perpetual motion magnetic elevation toy-diploma	Completed
Muhamad Amin Bin Ab Rasak	Design and fabrication of drain cover by casting process-diploma	Completed
Muhammad Kamili Bin Zahidi	Design and fabrication of hole cover by casting process -diploma	Completed

Teaching Experience

Sem 1 Session 2008/2009
DMM 2432 Electronics Technology, 2 credits (33 students)
BMM 2613 Computer Aided Design, 3 credits (60 students)

Sem 1 Session 2011/2012
DMM 2523 Dynamics, 3 credits (29 students)
DMM 1412 Engineering Drawing, 2 credits (107 students)

Sem 2 Session 2011/2012
DMM 1512 Computer Aided Design, 2 credits (106 students)
DMM 2523 Dynamics, 3 credits (4 students)
DMM 3993 Industrial Training (2 students)

Sem 1 Session 2012/2013
BMM 1523 Engineering Materials, 3 credits (65 students)
DMM 2523 Dynamics, 3 credits (90 students)

Sem 2 Session 2012/2013
BMM 3623 Mechanical Design, 3 credits (25 students)
BMM 2613 Computer Aided Design, 3 credits (56 students)

Sem 1 Session 2013/2014
BMM 3623 Mechanical Design, 3 credits (27 students)
BMM 2613 Computer Aided Design, 3 credits (40 students)

Sem 2 Session 2013/2014
BMM 3623 Mechanical Design, 3 credits (49 students)
BMM 2613 Computer Aided Design, 3 credits (35 students)

Awards / Research / Achievements

1. Gold Medal in Creation, Innovation, Technology & Research Exposition (CITREX) 2014
2. Gold Medal in International Innovation and Design Expo (Innofest) 2014
3. Anugerah Perkhidmatan Cemerlang 2013

Administrative Experience

List of Activities/ Contribution	Level
Ahli Mesyuarat Jawatankuasa Akademik Fakulti, Fakulti Kejuruteraan Mekanikal	Universiti
Penyelaras dan Penasihat Aktiviti Pelajar Fakulti Kejuruteraan Mekanikal	Universiti
Felo, Kolej Kediaman Pelajar Lima, UMP Pekan	Universiti
Ahli Perarakan Akademik, Sempena Konvokesyen ke-6, 2011	Universiti
Coordinator Subject Engineering Drawing (DMM1412)	Universiti
Coordinator Subject Dynamics (DMM2523)	Universiti
Researcher, Research Focus Group, Sport and Human Engineering Group, (SHEG)	Universiti
Invited Speaker for Soft skill Enhancement for Undergraduate Students, April 2012	Universiti

REFERENCES

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Ir. Dr. Haji Nik Zuki b. Nik Mohamed
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26600 Pekan Pahang MALAYSIA
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