

College of Engineering Academic Staff Profile



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|---------------------------------|--|-------|---------------|------|--------------------|-------------|
| Full Name | Assoc.Prof. Dr. Md. Mujibur Rahman | | | | | |
| Staff ID/No. | U 10197 | | | | | |
| E-mail | mujibur@uniten.edu.my | | | | | |
| Contact No | 03-89287269/019-3030175 | | | | | |
| Department | Mechanical Engineering | | | | | |
| Academic Qualifications | <ol style="list-style-type: none"> 1. Ph. D. in Mechanical Engineering UKM 2001 2. M. Sc. in Mechanical Engineering UKM 1998 3. B. Eng. (Hons.) in Petroleum Engineering UIR 1993 | | | | | |
| Current Position | Associate Professor | | | | | |
| Working Experience | <ol style="list-style-type: none"> 1. Two years as engineer 2. 10 years as lecturer | | | | | |
| Courses Taught in Uniten | <ul style="list-style-type: none"> • Manufacturing process • Statics • Dynamics • Thermodynamics • Heat transfer • Finite element method • Mechanics of fluids • Mechanical engineering analysis • Research methodology • Advanced materials processing <p style="text-align: right;">} degree programme</p> <p style="text-align: right;">} Masters programme</p> | | | | | |
| Professional Bodies | <ul style="list-style-type: none"> • Malaysian Association for Computational mechanics (MACM) • International Association for Computational Mechanics (IACM) • Bangladesh Society of Mechanical Engineers (BSME) • Indonesian Petroleum Association (IPA) • Ikatan Ahli Teknik Perminyakan Indonesia (IATMI) | | | | | |
| Research (any ongoing / | No | Grant | Project Title | Role | Start and End Date | Amount (RM) |

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|---|---|----------------------------------|---|--------|--------------------|-----------|
| completed research project) | 1 | IRPA | Experimental & Numerical Analysis of Porous Materials/Powder under Loading | Leader | 2/04-7/06 | 166,900 |
| | 2 | IRPA | Improving Boiler Performance through Computer Modelling and Experimentation | Member | 7/04-6/08 | 235,000 |
| | 3 | IRPA | Numerical Analysis For Loaded and Unloaded Wood Component at Elevated Temperature | Member | 2/04-1/07 | 174,000 |
| | 4 | IRPA | Energy Absorption in Polymer Composite Materials for Crashworthiness Application: Finite Element Modeling and Experimental Verification | Member | 9/04-8/06 | 199,000 |
| | 5 | IRPA | Computer Simulation of Combustion Characteristics of Coal-Fired Boiler | Member | 2/04-1/07 | 155,000 |
| | 6 | Science Fund | An Improved High Strength Alumina-Based Structural Ceramics for Industrial Applications | Member | 12/06-11/08 | 170,000 |
| | 7 | Science Fund | Development Of Empirical Formula to Predict the Fire Resistance of Structural Wood Column | Member | 07/07-06/09 | 127,000 |
| | 8 | Science Fund | The Effects of the Impact of Viscoelastic Rods Using the Standard Linear Solid Model | Member | 07/07-06/09 | 125,000 |
| | 9 | Science Fund | Development of Structural Life Assessment Software | Member | 07/07-06/09 | 194,500 |
| Consultancy (any ongoing / completed project) | Client | Project Title | | Role | Start and End Date | Amount |
| | TNBR | Dynamic Thermal Conductor Rating | | Member | 8/06-7/07 | RM 50,000 |
| Publications | <u>International Journals:</u> | | | | | |
| | 1. M. M. Rahman & A. K. Ariffin. Temperature Dependent Elliptical Cap Yield Criterion for Metal Powder Materials, <i>International Journal of Mechanical Sciences</i> , December 2006. | | | | | |
| | 2. M. M. Rahman & A. K. Ariffin. Finite Element Analysis of The Dimensional Changes during The Solid-State Sintering of Metal Powder Compacts, <i>Computer Methods in Applied Mechanics and Engineering</i> , November 2006. | | | | | |
| | 3. M. M. Rahman & A. K. Ariffin. Finite Element Modelling of the Deformation of Metal Powder at Elevated Temperature, <i>International Journal of Powder Metallurgy</i> , August 2005. | | | | | |
| | 4. M. M. Rahman , S. S. M. Nor, & A. K. Ariffin. An Experimental Analysis of Powder Metal under Loading, <i>Powder Metallurgy International</i> , January 2005. | | | | | |
| | 5. M. M. Rahman & Y. M. Ling. Heat Transfer Performance Enhancement through the Usage of Inner Grooved Copper Tube, <i>Journal of Heat Transfer</i> , September 2004. | | | | | |
| | 6. M. M. Rahman & A. K. Ariffin. Non-isothermal Yield Criteria in Modelling the Deformation of Metal Powder at Elevated Temperature, <i>Powder Metallurgy International</i> , July 2003. | | | | | |
| | 7. M. M. Rahman & A. K. Ariffin, A Finite Element Model of Warm Compaction Process, <i>International Journal for Numerical Methods in Engineering</i> , February 2002. | | | | | |
| | 8. A. K. Ariffin, Md. Mujibur Rahman , N. Muhamad & J. Sahari, Thermal-Mechanical Model of Warm Powder Compaction Process, <i>Journal of Materials Processing Technology</i> , October 2001. | | | | | |
| | <u>National Journals:</u> | | | | | |
| 1. M. M. Rahman & A. K. Ariffin. Near-Net-Shape Manufacturing of Mechanical Components through Warm Compaction Route- A Finite Element Analysis of the Green | | | | | | |

Compact Generation, *The AEESEAP Journal*, January 2007.

2. **M. M. Rahman**, Chin Wai Meng & Adrian Ng. Air Conditioning and Water Heating- An Environmental Friendly and Cost Effective Way of Waste Heat Recovery, *The AEESEAP Journal*, January 2008.
3. A. K. Ariffin & **M. M. Rahman**, The Study of Warm Metal Powder Compaction, *Journal of the Institute of Materials Malaysia*, January 2003.
4. A. K. Ariffin & **Md. Mujibur Rahman**, Analysis of Warm Powder Compaction Process Using Finite Element Method, *Jurnal Mekanikal*, December 2001.
5. A. K. Ariffin, **Md. Mujibur Rahman**, N. Muhamad & J. Sahari, Thermo-mechanical Model of Metal Powder Compaction. *Journal Institute of Materials Malaysia*. December 2001.

International Conference Papers:

1. **M. M. Rahman**, A. K. Ariffin & S. S. M. Nor, Analysis of Warm Metal Powder Compaction Process- An Experimental Investigation, *Powder Metallurgy 2006 (PM'2006)*, Busan-Korea, Sept. 2006.
2. **M. M. Rahman** & Adrian Ng, An Environmental Friendly and Cost Effective Way of Water Heating through the Recovery of Waste Heat from Split Air Conditioning System, *International Conference on Energy and Environment (ICEE 2006)- Recent Trends and Issues in Energy and Environment*, Kuala Lumpur, August 2006.
3. **M. M. Rahman**, A. K. Ariffin, S. Ramesh, Sintering Characteristics of Iron Powder Compact Prepared through Warm Compaction Route with Different Lubricant Content, *5th International Materials Technology Conference & Exhibition*, Kuala Lumpur, July 2006.
4. **M. M. Rahman**, S. Ramesh, A. K. Ariffin, S. S. M. Nor & M. R. Jamli, Manufacturing of Mechanical Components through Warm Compaction Process- A Finite Element Analysis and Experimental Investigation, *9th Japan International SAMPE Symposium & Exhibition (JISSE-9)*, Tokyo-JAPAN, November 29-December 2, 2005.
5. **M. M. Rahman** & S. S. M. Nor, Finite Element Analysis of Metal Powder Forming Process through Warm Compaction Route, *Regional Conference & Exhibition on Scientific and Analytical Methods in Manufacturing (SAMM 2005)*, Sungai Petani-Malaysia, August 2005.
6. **M. M. Rahman**, Chin Wai Meng, & Adrian Ng, Air Conditioning and Water Heating- A Cost Effective Way of Waste Heat Recovery, *Brunei International Conference on Engineering and Technology (BICET 2005)*, Bandar Seri Begawan-Brunei Darussalam, August 2005.
7. **M. M. Rahman**, Faris Tarlochan, A. K. Ariffin, S. S. M. Nor & M. R. Jamli, Near-Net-Shape Manufacturing of Mechanical Components through Warm Compaction Route, *Brunei International Conference on Engineering and Technology (BICET 2005)*, Bandar Seri Begawan-Brunei Darussalam, August 2005.
8. **M. M. Rahman**, Chin Wai Meng, & Adrian Ng, An Environmental Friendly and Cost Effective Way of Waste Heat Recovery from Split Air Conditioning System, *The AEESEAP Conference- Engineering a Better Environment for Mankind*, Kuala Lumpur, June 2005.
9. **M. M. Rahman**, A. K. Ariffin, S. S. M. Nor & M. R. Jamli, Near-Net-Shape Manufacturing of Mechanical Components through Warm Compaction Route- A Finite Element Analysis, *The AEESEAP Conference- Engineering A Better Environment for Mankind*, Kuala Lumpur, June 2005.
10. **M. M. Rahman**, F. Tarlochan, S. Ramesh, A. K. Ariffin, S. S. M. Nor, & M. R. Jamli, Production of Near-Net-Shape Metal Powder Compact through Warm Compaction Route- An Experimental Investigation, *International Conference on Recent Advances in Mechanical & Materials Engineering (ICRAMME 2005)*, Kuala Lumpur, May 2005.
11. **M. M. Rahman**, Ramesh Singh, & M. R. Jamli, Final Density and Dimension Prediction of Metal Powder Compacts during Sintering, *1st International Conference on Product Design*

and Development, Kota Kinabalu-Malaysia, December 2004.

12. **M. M. Rahman**, Chin Wai Meng, & Adrian Ng, Waste Heat Recovery from Split Air Conditioning System, *1st International Seminar on Heat Pipes and Heat Recovery Systems*, Kuala Lumpur-Malaysia, December 2004.
13. **M. M. Rahman**, A. K. Ariffin, M. Z. Yusoff & A. M. Amiruddin, Finite Element Analysis of Friction Behaviour during the Warm Forming Process. *2nd BSME-ASME International Conference on Thermal Engineering*, Dhaka-Bangladesh, January 2004.
14. **M. M. Rahman**, M. Z. Yusoff, L. A. Ling & L. T. Seng, Establishment of a Waste Heat Recovery Device from Split Air Conditioning System, *2nd BSME-ASME International Conference on Thermal Engineering*, Dhaka-Bangladesh, January 2004.
15. **M. M. Rahman**, A. K. Ariffin, M. Z. Yusoff and M. A. M. Yusoff, A Temperature Dependent Pressure-Density Relationship for Metal Powders, *The 2nd Asian Particle Technology Symposium*, Penang-Malaysia, December 2003.
16. **M. M. Rahman**, A. K. Ariffin, M. Z. Yusoff & Sany Shahrman, Establishment of a Temperature Dependent Yield Criterion for Metal Powder, *The 3rd International Conference on Advances in Strategic Technologies*, Kuala Lumpur, August 2003.
17. **Md. Mujibur Rahman**, A. K. Ariffin & Adzly Anuar, Finite Element Method for the Analysis of Warm Metal Powder Compaction Process, *The 2nd World Engineering Congress- Manufacturing Engineering, Automation & Robotics*, Kuching-Malaysia, July 2002.
18. **Md. Mujibur Rahman**, A. K. Ariffin & Adzly Anuar, A Yield Criterion for the Compaction of Warm Metal Powder, *The 2nd World Engineering Congress- Manufacturing Engineering, Automation & Robotics*, Kuching-Malaysia, July 2002.
19. M. M. El-Awad, K. H. Eng, I. Hussein & **M. Mujibur Rahman**, Probability of Gas Turbine Power Augmentation by Fog-Cooling and Steam Injection, *The 2nd World Engineering Congress- Mechanical & Aerospace Engineering*, Kuching-Malaysia, July 2002.
20. M. M. El-Awad, K. H. Eng, M. Z. Yusoff & **M. Mujibur Rahman**, Vectorized Implementation of the Finite Element Method, *The 2nd World Engineering Congress- Mechanical & Aerospace Engineering*, Kuching-Malaysia, July 2002.
21. A. K. Ariffin & **Md. Mujibur Rahman**, Analysis of Warm Metal Powder Compaction Process: Displacement Based Finite Element Method, *BSME-ASME International Conference on Thermal Engineering*, Dhaka-Bangladesh, January 2002.
22. A. K. Ariffin, **Md. Mujibur Rahman** & Aida Jumahat, An Experimental Investigation of Warm Powder Compaction Process, *BSME-ASME International Conference on Thermal Engineering*, Dhaka-Bangladesh, January 2002.
23. **Md. Mujibur Rahman**, A. K. Ariffin & Azmi Ahmad, Establishment of Temperature Dependent Yield Criterion for Particulate Materials, *Experimental and Theoretical Mechanics 2002 (ETM 2002)*, Bali- Indonesia, March 2002.
24. A. K. Ariffin & **Md. Mujibur Rahman**, Modelling of Densification and Dimensional Change of Metal Powder Compact during Sintering. *The 2nd International Seminar on Numerical Methods in Engineering*. Batam Island-Indonesia, March 2001.

National Conference Papers:

1. M. M. Rahman & Y. M. Ling, Heat Transfer Enhancement through Inner Grooved Copper Tubes, *The Scientific Conference III*, UKM, 19 January 2008.
2. M. M. Rahman, L. K. Haur, Building Integrated Photovoltaic System (BIPV)- A Feasibility Study for Malaysian Environment, *The Scientific Conference III*, UKM, 19 January 2008.
3. **M. M. Rahman**, F. Tarlochan, A. K. Ariffin, & S. S. M. Nor, Establishment of Metal Powder Properties through Warm Compaction Experiment, *National Seminar on Computational & Experimental Mechanics (CEM)*, Bangi-Malaysia, May 2005.

4. **M. M. Rahman**, F. Tarlochan, A. K. Ariffin, & S. S. M. Nor, A Phenomenological Model of Warm Metal Powder Compaction, *National Seminar on Computational & Experimental Mechanics (CEM)*, Bangi-Malaysia, May 2005.
5. S. S. M. Nor, **M. M. Rahman**, & A. K. Ariffin, Investigations of Iron Powder Characteristics during Warm Compaction Process in Producing Near-Net Shape Mechanical Components, *The National Postgraduate Colloquium (NAPCOL 2004)*, Penang-Malaysia, December 2004.
6. S. S. M. Nor, **M. M. Rahman**, F. Tarlochan, & A. K. Ariffin, Near-Net Shape Component Manufacturing through Warm Compaction Route- An Experimental Investigation, *Technical Postgraduate Symposium (TECHPOS 2004)*, Kuala Lumpur-Malaysia, December 2004.
7. M. R. Jamli, **M. M. Rahman**, & Ramesh Singh, Sintering Characteristics of Iron Powder Compact Prepared Through Warm Compaction Route, *The National Postgraduate Colloquium (NAPCOL 2004)*, Penang-Malaysia, 8-9 December 2004.
8. M. R. Jamli, **M. M. Rahman**, & Ramesh Singh, An Experimental Investigation of the Sintering of Powder Compact Prepared Through Warm Compaction Route, *Technical Postgraduate Symposium (TECHPOS 2004)*, Kuala Lumpur-Malaysia, December 2004.
9. **M. M. Rahman**, S. S. M. Nor, and A. K. Ariffin, Numerical Analysis of Metal Powder under Loading, *The National Seminar of Science Technology and Social Sciences (STSS 2004)*, Kuantan-Malaysia, June 2004.
10. **M. M. Rahman**, A. K. Ariffin & M. Z. Yusoff, Non-isothermal Yield Criterion for Metal Powder, *Malaysian Science and Technology Congress 2002 (MSTC2002)*, Johor Bahru-Malaysia, September 2002.
11. **Md. Mujibur Rahman** & A. K. Ariffin, Finite Element Modelling and Experimental Validation of Warm Powder Compaction Process, *Malaysian Science and Technology Congress 2001 (MSTC2001)*. Melaka-Malaysia, October 2001.
12. A. K. Ariffin, & **Md. Mujibur Rahman**, Finite Element Modelling of Solid State Sintering Process, *Seminar on Advanced Materials Development in Malaysia*. Johor Bahru-Malaysia, May 2001.
13. A. K. Ariffin, Aida Jumahat & **Md. Mujibur Rahman**, The Simulation of Die Movement in Designing P/M Parts, *National Design Seminar- Design for the New Millennium*, Johor Bahru-Malaysia, January 2001.
14. Ahmad Kamal Ariffin & **Md. Mujibur Rahman**, Pembangunan Model Unsur Terhingga Pemasukan Serbuk Hangat. *Prosiding Penyelidikan & Pengembangan Jabatan Kejuruteraan Mekanik*, UKM, Oct. 2001.
15. Ahmad Kamal Ariffin & **Md. Mujibur Rahman**, Kajian Eksperimen Pemasukan Serbuk Hangat. *Prosiding Penyelidikan & Pengembangan Jabatan Kejuruteraan Mekanik*, UKM, Oct. 2001.

Uniten Conference Papers:

1. **M. M. Rahman** & Zulkifli Ahmad, Heat Transfer Performance Analysis of Inner Grooved Copper Tubes, *The UNITEN Students' Conference on Research and Development (UNITEN SCORED 2007)*, Universiti Tenaga Nasional, May 2007.
2. S. S. M. Nor, **M. M. Rahman** & J. Purbolaksono, Thermal Stress Analysis in Boiler Tube due to Scale, *The UNITEN Students' Conference on Research and Development (UNITEN SCORED 2007)*, Universiti Tenaga Nasional, May 2007.
3. **M. M. Rahman** & Sukahar, Finite Element Analysis (FEA) of Tube Temperature Distribution of a Water Tube Boiler in a Thermal Power Station, *The UNITEN Students' Conference on Research and Development (UNITEN SCORED 2007)*, Universiti Tenaga Nasional, May 2007.
4. Ahmad Kamal Kadir & **M. M. Rahman**, Advantages and Hurdles of Metal Injection Molding (MIM) Process, *The UNITEN Students' Conference on Research and Development*

(*UNITEN SCOReD 2007*), Universiti Tenaga Nasional, May 2007.

5. **M. M. Rahman** & Hariyono, The Effect of Scale Thickness on Condenser Efficiency in Steam Power Plant, *The UNITEN Students' Conference on Research and Development (UNITEN SCOReD 2007)*, Universiti Tenaga Nasional, May 2007.
6. S. S. M. Nor, **M. M. Rahman**, F. Tarlochan & A. K. Ariffin, The Effect of Lubrication in Reducing Net Friction in Warm Powder Compaction Process, *Students Conference on Research and Development (SCOReD)*, Universiti Tenaga Nasional, December 2005.
7. S. S. M. Nor, **M. M. Rahman**, Faris Tarlochan, & A. K. Ariffin, The Correlation Between Experimental Factors to Yield Criteria during Warm Compaction Process, *Students Conference on Research and Development (SCOReD)*, Universiti Tenaga Nasional, December 2004.
8. M. R. Jamli, **M. M. Rahman**, & Ramesh Singh, Study of Sintering Process of Powder Compact Prepared through Warm Compaction Route, *Students Conference on Research and Development (SCOReD)*, Universiti Tenaga Nasional, December 2004.

Book Chapters:

1. Ahmad Kamal Ariffin & **Md. Mujibur Rahman**, Warm Metal Powder Forming Process, *Advances in Materials Processing*, Institute of Materials Malaysia, 2003

Thesis:

1. Md. Mujibur Rahman, Finite Element Modelling of Warm Powder Compaction Process, *PhD Thesis*, Universiti Kebangsaan Malaysia, 2001.
2. Md. Mujibur Rahman, Thermomechanical Modelling of Powder Compaction Process, *MSc Thesis*, Universiti Kebangsaan Malaysia, 1998.
3. Md. Mujibur Rahman, Reservoir Characterization of "X" Field, *Sarjana Teknik Thesis*, Universitas Islam Riau, 1993.
4. Md. Mujibur Rahman, Fundamentals of Reservoir Characterization, *Sarjana Muda Teknik Dissertation*, Universitas Islam Riau, 1992.