

# Curriculum Vitae

## I. Personal Particulars

**Name:** Dr. Zuhailawati Hussain

**Current position:** Associate Professor

**Contact Details:** School of Material & Mineral Resources Engineering

Engineering Campus,

Universiti Sains Malaysia,

14300 Nibong Tebal, Seberang Perai Selatan,

Pulau Pinang.

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e-mail: zuhaila@eng.usm.my; zuhailawati@yahoo.com

## II. A. Academic and Professional Qualifications

Year	Degree	Discipline	University
1997	B.Eng	Materials Engineering	Universiti Sains Malaysia
1998	MSc	Materials Engineering	Universiti Sains Malaysia
2003	PhD	Composite Materials	Universiti Sains Malaysia

## B. Titles of postgraduate theses

(i) MSc - Studies on Non-Uniformity of Electrical Properties of ZnO Varistor

(ii) PhD - Fabrication and Performance of Resistance Spot Welding of Copper-Tungsten Carbide Electrode Tips

## III. Work Experience

Year	Position	Field of Work	Place of Work
Nov 2003-Jan 2004	Part Time Lecturer	Teaching Materials Engineering program's student	School of Materials & Mineral Resources Engineering, USM
Jan 2004 – April 2007	Lecturer	Teaching Materials Engineering program's student	School of Materials & Mineral Resources Engineering, USM
May 2007 - Present	Senior Lecturer	Teaching Materials Engineering program's student	School of Materials & Mineral Resources Engineering, USM

## IV. Main Current Research Areas

1. Metallurgy
2. Metal Matrix Composite
3. Metal joining
4. Nanomaterials

<b>1.0</b>	<b>RESEARCH AND PUBLICATION</b>
<b>1.1</b>	<b>Research Publications</b>
(a)	<p><b>Book</b></p> <p>1. Indra Putra Almanar and <b>Zuhailawati Hussain</b> * Basic considerations for Weldment Formation in Friction Stir Welding, Nova Science Publishers, Inc., New York (2011) Nova Science Publishers, Inc., New York ISBN 978-1-61324-586-6</p>
(b)	<p><b>Chapter In Research Book</b></p> <p>1. <b>Zuhailawati Hussain</b> and Indra Putra Almanar Chapter in book: Friction Stir Welding: Flow Behaviour And Material Interactions Of Two Similar And Two Dissimilar Metals And Their Weldment Properties for an edited book of Welding: Processes, Quality, And Applications, Nova Science Publishers, Inc., New York (2010) pp.227-261</p> <p>2. <b>Zuhailawati Hussain</b> , Indra Putra Almanar and Nurfateen Fakhariah Ahmad Chapter in book: Densification and Characterization of Nanostructured Cu-NbC Composite Synthesized By In-situ Reaction of Niobium and Graphite Powders; for edited Book of Niobium: Properties, Production and Applications, Nova Science Publishers, Inc., New York (2011) <i>In Press</i></p> <p>3. <b>Zuhailawati Hussain</b> and Mahani Yusoff Chapter in book: Fabrication and characterization of in-situ synthesis of niobium carbide reinforced iron composite by mechanical alloying; for edited Book of Metal Matrix Composites, ,Nova Science Publishers, Inc., New York (2011) <i>In Press</i></p> <p>4. Indra Putra Almanar, Salina Budin and <b>Zuhailawati Hussain</b> Chapter in book: A Review on Motions of Vial and Charge Materials and Energy Transfer in Mechanical Milling; for edited Book of Milling: Operations, Applications and Industrial Effects, Nova Science Publishers, Inc., New York (2011) <i>In Press</i></p>
(c)	<p><b>International Journal</b></p> <p>1. <b>Zuhailawati Hussain</b> and Leong Chee Kit. Properties and spot welding behaviour of copper-alumina composites through ball milling and mechanical alloying. Materials &amp; Design. Vol. 29, Issue 7 (2008) pp. 1311-1315 Impact factor: 1.028</p> <p>2. <b>Zuhailawati Hussain</b>, Radzali Othman, Bui Duc Long and Minoru Umemoto. Synthesis of copper-niobium carbide composite powder by in-situ processing. Journal of Alloys and Compounds. Vol. 464 (2008) pp. 185-189 Impact factor: 1.455</p> <p>3. P.K. Ting, <b>Z. Hussain</b> and K.Y. Cheong Synthesis and characterization of silica–titania nanocomposite via a combination of sol–gel and mechanochemical process. Journal of Alloys and Compounds. Vol. 466 (2008) pp.304-307 Impact factor: 1.455</p> <p>4. <b>Zuhailawati Hussain</b> and Mahani Yusoff. Effects of milling time on hardness and electrical conductivity of in-situ Cu-NbC composite produced by mechanical alloying. Journal of Alloys and Compounds. 476 (2009), pp. 142-146 Impact factor: 1.455</p> <p>5. <b>H. Zuhailawati</b> and T.L.Yong Consolidation of dispersion strengthened copper-niobium carbide composite prepared by in-situ and ex-situ methods Materials Science &amp; Engineering A Vol. 505, Issues 1-2 (2009) pp. 27-30</p>

Impact factor: 1.457

6. **H. Zuhailawati**, R.Othman, D.L Bui and M. Umemoto,  
Synthesis and characterization of in-situ copper-niobium carbide composite.  
AIP Conference Proceeding of the International Conference on Neutron & X-Ray Scattering 2007, 29<sup>th</sup>  
July-31<sup>st</sup> July 2007, Serpong, Indonesia  
(2008) vol. 989, Publisher: American Institute Physics  
ISI listed
7. **H. Zuhailawati** and S.B. Jamaludin  
Studies On Mechanical Alloying Of Copper-Tungsten Carbide Composite For Spot Welding Electrode.  
Journal of Materials Engineering and Performance. Volume 18, Issue 9 (2009), Page 1258.  
Impact factor: 0.403
8. Ervina Efzan, M.N., **Zuhailawati, H.** , Ismail, A.B., Sharif, N.M., Ariga, T.  
Low temperature of Bi-In-Zn lead-free solder alloy  
Materials Science and Technology Conference and Exhibition 2009, MS and T'09  
25-29<sup>th</sup> October 2009, Pittsburgh,  
(2009) vol. 1, pp.124-131,  
Scopus listed
9. Ahmad Fauzi M.N., Uday M.B., **Zuhailawati H.**, Ismail A.B.  
Microstructure and Mechanical Properties of Alumina-6061 Aluminum Alloy joined by Friction Welding  
Materials & Design Vol. 31, Issue 2, (2010), pp. 670-676  
Impact factor: 1.1
10. **Hussain Zuhailawati**, Mohd Salihin Hassin and Mahani Yusoff,  
Microstructure and properties of copper composite containing in-situ NbC reinforcement: Effects of  
milling speed  
Journal of Alloys and Compounds. Vol. 489, Issue 2, (2010), pp. 369-374  
Impact factor: 1.455
11. **Hussain Zuhailawati**, Tan Chew Geok and Projjal Basu  
Microstructure and hardness characterization of mechanically alloyed Fe-C elemental powder mixture  
Materials & Design Vol. 31, Issue 4 (2010) pp. 2211-2215  
Impact factor: 1.518
12. **Hussain Zuhailawati**, Alaa Muhsin Saeed, Ahmad Badri Ismail, Zahurin Samad, Tadashi Ariga  
Spot resistance brazing of titanium/nickel joint with metal filler  
Welding Journal, Vol 89, No 5 (2010) pp.101-104S  
Impact factor: 0.426
13. **Zuhailawati Hussain**, Alaa Muhsin Saeed, Ahmad Badri, Tadashi Ariga  
The effects of welding parameters on the weldability of different materials using brazing alloy fillers  
Materials & Design, Vol. 31, Issue 7, ( 2010) pp. 3339-3345  
Impact factor: 1.518
14. Siti Aishah Kamarul Zaman, Samayamutthirian Palaniandy, **Zuhailawati Hussain**  
Mechanochemical synthesis of nanostructured SiO<sub>2</sub>-SiC composite through high-energy milling  
Journal of Alloys and Compounds, Vol. 502, Issue 1 (2010), pp. 250-256  
Impact factor: 2.135
15. B.D. Long, **H. Zuhailawati**, M. Umemoto, Y. Todaka, R. Othman  
Effect of ethanol on the formation and properties of a Cu-NbC composite  
Journal of Alloys and Compounds, Vol. 503, Issue 1 (2010) pp. 228-232  
Impact factor: 2.135
16. B. D. Long, R. Othman, M. Umemoto, **H. Zuhailawati**  
Spark plasma sintering of mechanically alloyed in situ copper-niobium carbide composite  
Journal of Alloys and Compounds, Vol. 505, Issue 2 (2010) pp. 510-515  
Impact factor: 2.135
17. Ervina Efzan, M.N., **Zuhailawati, H.** , Ismail, A.B., Sharif, N.M., Ariga, T.  
Low temperature of Bi-In-Zn lead-free solder alloy  
Materials Science and Technology Conference and Exhibition 2009, MS and T'09

25-29<sup>th</sup> October 2009, Pittsburgh,  
(2009) vol. 1, pp.124-131,  
Scopus listed

18. Mhd Noor Ervina Efzan, Mohd Sharif Nurulakmal, Kuan Yew Cheong, Tadashi Ariga, Ahmad Badri Ismail and **Zuhailawati Hussain**  
Wettability and strength of In-Bi-Sn lead-free solder alloy on copper substrate  
Journal of Alloys and Compounds, Vol. 507, Issue 1, (2010) pp. 290-296  
Impact factor: 2.135
19. Uday, M.B., Ahmad Fauzi, M.N., **Zuhailawati, H.**, Ismail, AB,  
Advances in friction welding process: a review.  
Science and Technology of Welding and Joining, 2010. **15**(7): p. 534-558.  
Impact factor: 1.327
20. **Zuhailawati Hussain** and Indra Putra Almanar  
Properties and spot welding performance of copper composite reinforced with recycled tungsten carbide  
Advanced Materials Research, vol. 154-155 (2011) 1485-1488  
ISI listed
21. Indra Putra Almanar, **Zuhailawati Hussain** and Mohd Afian Omar  
Single step of binder thermal debinding and sintering of injection moulded 316L stainless steel  
Advanced Materials Research, vol. 154-155 (2011) 1518-1521  
ISI listed
22. M.B. Uday, M.N. Ahmad Fauzi, H. Zuhailawati, A.B. Ismail  
Evaluation of interfacial bonding in dissimilar materials of YSZ–alumina composites to 6061 aluminium alloy using friction welding  
Materials Science and Engineering: A, 2010, In Press  
Impact factor: 1.901
23. B.D. Long, M. Umemoto, Y. Todaka, R. Othman, **H. Zuhailawati**  
Fabrication of high strength Cu - NbC composite conductor by high pressure torsion  
Materials Science and Engineering: A,  
In Press (2010)  
Impact factor: 1.901
24. Saidatulakmar Shamsuddin, Shamsul Baharin Jamaludin, **Zuhailawati Hussain** and Zainal Arifin Ahmad  
The effects of Al<sub>2</sub>O<sub>3</sub> amount on the microstructure and properties of Fe-Cr matrix composites  
Metallurgical and Materials Transaction A, 41 (2010) pp. 3452-3457  
Impact factor: 1.564
25. Nur Hawadah Mohd Subhi, **Zuhailawati Hussain** and Radzali Othman,  
Fabrication of Titanium Carbide Reinforced Copper Matrix Composite by In-Situ Processing  
Advanced Materials Research Vol. 173 (2011) pp 111-115  
ISI listed
26. Mohd Salihin Hassin, **Zuhailawati Hussain** and Samayamutthirian Palaniandy,  
Formation of TiC Reinforced Iron Based Composite through Carbothermal Reduction of Hematite and Anatase  
Advanced Materials Research, 502 (2010) 250-256  
ISI listed
27. Mahani Yusoff, **Zuhailawati Hussain** and Radzali Othman  
Microstructure Investigations of In-Situ Copper Tungsten Carbide Composite  
Advanced Materials Research, Vol. 173 (2011) pp 67-71  
ISI listed
28. Mohd Salihin Hassin, **Zuhailawati Hussain** and Samayamutthirian Palaniandy  
Sintering of Fe-TiC Composite Prepared by Carbothermal Reduction of Hematite and Anatase  
Key Engineering Materials Vols. 471-472 (2011) pp 670-673  
ISI listed

29. Siti Zalifah Md Rasib and **Zuhailawati Hussain**  
Effect of Milling Speed on properties of Fe-NbC Composite Prepared by Mechanical Alloying  
Key Engineering Materials Vols. 471-472 (2011) pp 804-808  
ISI listed
30. Emea Marina Salleh and **Zuhailawati Hussain**  
Characterization of Tantalum Carbide Reinforced Copper Composite Developed Using Mechanical Alloying  
Key Engineering Materials, Vols. 471-472 (2011) pp 798-803  
ISI listed
31. Saidatulakmar Shamsuddin, Shamsul Baharin Jamaludin, **Zuhailawati Hussain**, Zainal Arifin Ahmad  
Heating Rate Effects on Properties of Powder Metallurgy Fe-Cr-Al<sub>2</sub>O<sub>3</sub> Composites  
Advanced Materials Research Vol. 173 (2011) pp 84-89
32. Aiza Jaafar, Azmi Rahmat, **Zuhailawati Hussain**, Ismail Zainol  
Effect of Mg, Si and Cu content on the microstructure of dilute 6000 series aluminium alloys Original  
*Journal of Alloys and Compounds, Volume 509, Issue 35, 1 September 2011, Pages 8632-8640*
33. Mahani Yusoff, Radzali Othman, **Zuhailawati Hussain**  
Mechanical alloying and sintering of nanostructured tungsten carbide-reinforced copper composite and its characterization  
*Materials & Design, Volume 32, Issue 6, June 2011, Pages 3293-3298*
34. T.K. Jauhari, I.P. Almanar and **H. Zuhailawati**,  
Mathematical Model for Multi-Component Forces and Torque Determination in Friction Stir Welding, Advanced Materials Research Vols. 230-232 (2011) pp 1255-1259

#### **National Journal**

1. **Zuhailawati Hussain.** and Koay Han Keong  
Studies on alumina dispersion-strengthened copper composites through ball milling and mechanical alloying method  
Jurnal Teknologi  
Serial A (2005) No.43, p1-10, UTM
2. **Zuhailawati Hussain** and Norshihana Hamzah Effect of reinforcement particle size on the properties of dispersion strengthened Al-SiC composite  
Journal of Engineering Research and Education  
(2005) Vol. 2, p103-110, KUKUM
3. **Zuhailawati, H.,** Samayamutthirian, P. and Mohd Haizu, C. H.  
Fabrication of low cost of aluminium matrix composite reinforced with silica sand.  
Journal of Physical Science  
(2007) Vol. 18(1), p47-55, USM
4. Mary Donnabelle Balela, V. Vannaladsaysy and **Zuhailawati Hussain**  
A review on alumina based ceramic composites as cutting and machining tool materials  
Journal of Engineering Research and Education  
Vol. 4, (2007), p74-80, UNIMAP
5. Saidatulakmar Shamsuddin, Shamsul Baharin Jamaludin, **Zuhailawati Hussain** and Zainal Arifin Ahmad  
Characterization of Fe-Cr-Al<sub>2</sub>O<sub>3</sub> Composites Fabricated by Powder Metallurgy Method with Varying Weight Percentage of Alumina  
Journal of Physical Science  
Vol. 19(1), 89–95, 2008, USM

	<ol style="list-style-type: none"> <li>6. <b>Zuhailawati Hussain</b> and Yong Tuck Leong, Densification Of In-Situ Copper-Niobium Carbide Composite Synthesized By Mechanical Alloying, Journal Of Nuclear And Related Technologies Vol. 6, (1), Special Edition, 2009, 137-142</li> <li>7. Norarney Ahmad, <b>Zuhailawati Hussain</b> and Nurulakmal Mohd Sharif, Morphology of Oxide Scale on Iron Aluminide Alloy Grown at High Temperature Bulletin of the Electron Microscopy Society of Malaysia, June 2010,pp. 3-6</li> <li>8. A. Norarney, <b>H. Zuhailawati</b> and M.S. Nurulakmal Studies on chromium alloyed iron aluminides at high temperature oxidation Malaysia Journal of Microscopy Vol. 5 (2009) pp158-163</li> <li>9. Nur Surianni Ahamad Suffin, Hafizatul Bazilah Kamarudin and <b>Zuhailawati Hussain</b> The Influences Of Foaming Agent On The Properties Of Aluminum Foam Malaysia Journal of Microscopy Vol. 5 (2009)</li> <li>10. C.N. Aiza, A. Rahmat, A. Aziz And <b>Z. Hussain</b> A Hardness And Tem Studies Of Precipitate In Dilute Al-Mg-Si Alloys Malaysia Journal of Microscopy (2010) In Press</li> <li>11. K. Sunisa, A.B. Ismail, <b>Z. Hussain</b>, P. Kritsada Fabrication And Characterization Of Hypereutectic Aluminum-Silicon Lightweight Alloy By Powder Metallurgy Malaysia Journal of Microscopy (2010) In Press</li> </ol>
(c)	<p><b><u>Proceeding</u></b></p> <p><b><u>International Proceeding</u></b></p> <ol style="list-style-type: none"> <li>1. <b>Zuhailawati, H.</b>, Luay, B.H. and Shamsul, J.B. Time and Heat Treatment Effects of Mechanically Alloyed Tungsten Carbide Reinforced Copper- Based Electrodes During Spot Welding. Proceedings of the 3<sup>rd</sup> International Conference on Recent Advances in Materials, Minerals and Environment (2003) p142-150. University Sains Malaysia, Malaysia</li> <li>2. <b>Zuhailawati, H.</b>, Luay, B.H. and Shamsul, J.B. Spot Welding Characteristics Of Galvanized And Stainless Steel Welded Using Copper-Recycle Tungsten Carbide Composite Electrode. Proceedings of 4<sup>th</sup> International Materials Technology Conference and Exhibition. (2004) p654-661. Institute of Materials Malaysia, Malaysia</li> <li>3. Bui Duc Long, Radzali Othman, <b>Zuhailawati Hussain</b>, Nguyen Hong Hai, Minoru Omemoto Properties of Dispersion Strengthened Copper Made by Mechanical Alloying of Copper-Niobium- Graphite Powders. Proceeding of 6<sup>th</sup> AUN/SEED-Net Field-Wise Seminar for Materials Engineering on Biomaterials, Nanomaterials, Advanced Materials &amp; Composites. (2005) p101-102. Universiti Sains Malaysia, Malaysia</li> <li>4. Bui Duc Long, Radzali Othman, <b>Zuhailawati Hussain</b>, Nguyen Hong Hai, Minoru Omemoto Synthesis of nanocrystalline Cu-NbC composite by mechanical alloying of copper-niobium-graphite powders. Proceeding of 9<sup>th</sup> AUN/SEED-Net Field-Wise Seminar on Nanomaterials and Nanocomposites: Processing and performance, January 8-9, 2007 (2007) Ho Chi Minh City University of Technology, Vietnam</li> <li>5. <b>Zuhailawati Hussain</b>, Zuraidah Mohamad Yassin, Ahmad Badri Ismail and Luay Bakir Hussain,</li> </ol>

Mechanical properties studies on Cr alloyed FeAl.  
 Proceeding of PSU-UNS International Conference on Engineering and Environment-ICEE-2007, May 10-11, 2007  
 (2007)  
 Prince of Songkla University, Thailand

6. **H. Zuhailawati**, M. N. Ahmad Fauzi,  
 Mechanical properties of iron alumininides intermetallic alloy with molybdenum addition, Proceeding of International Conference on Advancement of Materials and Nanotechnology 2007 (ICAMN 2007), 29<sup>th</sup> May – 1<sup>st</sup> June, (2007) p.119  
 SIRIM, Malaysia

7. Saidatulakmar Shasuddin, Shamsul Baharin Jamaludin, **Zuhailawati Hussain**, Zainal Ariffin Ahmad, **Zuhailawati Hussain**  
 Influence of binder in iron matrix composites.  
 Proceeding of International Conference on Advancement of Materials and Nanotechnology 2007 (ICAMN 2007), 29<sup>th</sup> May – 1<sup>st</sup> June, (2007) p.248  
 SIRIM, Malaysia

8. **Z. Hussain**, M. Yusoff  
 In-situ formation of NbC in mechanical alloyed Cu-Nb-C at different temperature  
 Proceeding of VI International Conference on Mechanochemistry and Mechanical Alloying 2008 (INCOME2008), 1<sup>st</sup> 4<sup>th</sup> Dec 2008, (2008), p. 72  
 National Metallurgical Laboratory, India

9. Tan Wai Kian, **Zuhailawati Hussain**  
 The Effect of Solution Treatment Duration on Cu-Al-Ni Shape Memory Alloy  
 Proceeding of Minerals to Materials Conference (M2M) 2008, 15<sup>th</sup> -18<sup>th</sup> Dec 2008, (2008)  
 Central Metallurgical Research and Development Institute of Egypt, Egypt

10. Ervina Efzan Mhd Noor, Ahmad Badri Ismail, Nurulakmal Mohd Sharif, Tadashi Ariga and **Zuhailawati Hussain**  
 Characteristic of Low Temperature of Bi-In-Sn solder Alloy  
 33<sup>rd</sup> International Electronics Manufacturing Technology Conference 2008 (page 55)  
 Penang, Malaysia

11. Ervina Efzan Mhd Noor, **Zuhailawati Hussain**, Nurulakmal Mohd Sharif, Cheong Kuan Yuew, Y.T.Chin, Tadashi Ariga and Ahmad Badri Ismail  
 Contact angle of Bi-InpZn lead free solder system on Cu and tin surface finish  
 2<sup>nd</sup> International Conference on Science and Technology; Application in industry and education 2008 (page 29)  
 Universiti Teknologi MARA, Penang, Malaysia

8. Uday M.B., Ahmad Fauzi M.N., **Zuhailawati H.**, Ismail, A.B.  
 Microstructural Observation of Friction Welded Alumina-Yttria Stabilized Zirconia (YSZ) composite with 6061 Al alloy  
 Proceeding of 4th International Conference on Recent Advances in Materials, Minerals & environment and 2nd Symposium on Materials and Processing (RAMM & ASMP 2009), 1st – 3rd June 2009, (2009) p. 120  
 USM, Malaysia

9. Malek Ali, Projjal Basu, **Zuhailawati Hussain**  
 Effects of Process Parameters on the mechanochemical synthesis of titanium carbide from alternative source of raw materials  
 Proceeding of 4th International Conference on Recent Advances in Materials, Minerals & environment and 2nd Symposium on Materials and Processing, 1st – 3rd June 2009, (2009) p. 98  
 USM, Malaysia

**10. H. Zuhailawati**

The Influence of Annealing Treatment on Spot Welding Performance of Cu-WC Composite Electrode  
The International Conference on Advances in Materials and Processing Technologies (AMPT2009),  
(2009) p.52,  
International Islamic University Malaysia, Malaysia

**11. H. Zuhailawati and M. N. Mohamad Aizuddin**

Properties of aluminum foam fabricated using sintering dissolution process with different compaction pressure and space holder  
The International Conference on Advances in Materials and Processing Technologies (AMPT2009),  
(2009) p.24,  
International Islamic University Malaysia, Malaysia

**12. Evolution of Oxide Scale on Iron Aluminide Alloy during Cyclic Oxidation at High Temperature**

Norarney Ahmad, Khor Boon Yee, **Zuhailawati Hussain** and Nurulakmal Mohd. Sharif  
The International Conference on Advances in Materials and Processing Technologies (AMPT2009),  
(2009) p.97,  
International Islamic University Malaysia, Malaysia

**13. Norarney Ahmad, Zuhailawati Hussain and Nurulakmal Mohd. Sharif**

The Effect of Alloying Element on the Alumina Scale Morphology Grown by High Temperature Isothermal Oxidation  
The International Conference on Advances in Materials and Processing Technologies (AMPT2009),  
(2009) p.96,  
International Islamic University Malaysia, Malaysia

**14. Uday M. B., Ahmad Fauzi M.N., Zuhailawati H., Ismail A.B.**

Microstructural Observation of Friction Welded Alumina-Yttria Stabilized Zirconia (YSZ) Composite with 6061 Al Alloy.  
RAMM & ASMP 2009. Penang, Malaysia.

**15. Uday M. B., Ahmad Fauzi M.N., Zuhailawati H., Ismail A.B.**

Effect of deformation behavior on the grain size of the 6061 aluminum alloy joint with alumina by friction welding  
The International Conference on Experimental Mechanics and The 9th Asian Conference on Experimental Mechanics. 2010: Legend Hotel, Kuala Lumpur, Malaysia

**16. Siti Aishah Kamarul Zaman, Samayamutthirian Palaniandy, Zuhailawati Hussain.**

Mechanochemical synthesis of nanostructured SiC through high energy milling.  
Proceedings of 3rd Regional Conference Interdisciplinary on Natural Resources and Materials Engineering, Langkawi 25-26 October 2010.

**17. Tran Bao Trung, Keiichi Ishihara, Zainal Arifin Ahmad, Zuhailawati Hussain**

Microstructure evolution of WC/10 wt.% AISI304-stainless steel hard metal fabricated by powder metallurgy  
Proceedings of 3rd Regional Conference Interdisciplinary on Natural Resources and Materials Engineering, Langkawi 25-26 October 2010.

**National Proceeding**

**1. Tan Cheow Geok, Projjal Basu, Zuhailawati Hussain**

Characterization of a Fe-C system alloy prepared by mechanical alloying  
Proceedings of 3<sup>rd</sup> Colloquium on Postgraduate Research National Post-graduate Colloquium on Materials, Mineral Resources and Polymers 2007, 10-11 April 2007  
(2007) p212-213  
Universiti Sains Malaysia, Malaysia

**2. Pang, F.J., B. Projjal, H., Zuhailawati**

Synthesis of nanostructured vanadium carbides from industrial ferro-vanadium through mechanical activation  
Proceedings of 3<sup>rd</sup> Colloquium on Postgraduate Research National Post-graduate Colloquium on Materials, Mineral Resources and Polymers 2007, 10-11 April 2007,  
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3. Saidatulakmar Shamsuddin, Shamsul Baharin Jamaludin, **Zuhailawati Hussain**, Zainal Arifin Ahmad  
Compaction Study of Particulate Iron-Chromium Matrix Composite Reinforced with Alumina,  
Proceeding of National Metallurgical Conference  
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Universiti Teknologi Malaysia, Malaysia
4. Nur Hawadah Mohd Subhi, **Zuhailawati Hussain**, Radzali Othman  
Phase and Microstructure Change in Cu-W-C Mixture Powder during Mechanical Alloying,  
Proceeding of 17<sup>th</sup> EMSM Scientific Conference  
(2008) p41-42  
Universiti Teknologi MARA, Malaysia
5. Tran Duc Huy, Nurulakmal Mohd Sharif, **Zuhailawati Hussain**, Eiji Yamasue, Hideyuki Okumura,  
Keiichi N. Ishihara  
Characterization of FeAl by Powder Metallurgy Route,  
Proceeding of 17<sup>th</sup> EMSM Scientific Conference  
(2008) p46  
Universiti Teknologi MARA, Malaysia
6. Ervina Efzan Mohd Noor, **Zuhailawati Hussain**, Nurulakmal Mohd Sharif, Cheong Kuan Yew,  
Tadashi Ariga, Ahmad Badri Ismail  
Effect of Temperature on the Formation of Interfacial Between Bi-In-Zn and Bi-In-Zn Solders on Cu,  
Proceeding of 17<sup>th</sup> EMSM Scientific Conference  
(2008) p48  
Universiti Teknologi MARA, Malaysia
7. Nur Surianni Ahamad Suffin, Hafizatul Bazilah Kamarudin, **Zuhailawati Hussain**  
The Influences of Foaming Agent on the Properties of Aluminium Foam,  
Proceeding of 17<sup>th</sup> EMSM Scientific Conference  
(2008) p60  
Universiti Teknologi MARA, Malaysia
8. Alaa Muhsin Saeed, **Zuhailawati Hussain**, Ahmad Badri Ismail, Zahurin Samad  
The Effect of Welding Parameter on the Weldability of Titanium Nickel using Micro spot Brazing,  
Proceeding of 17<sup>th</sup> EMSM Scientific Conference  
(2008) p61  
Universiti Teknologi MARA, Malaysia
9. Norarney Ahmad, **Zuhailawati Hussain**  
Studies on Chromium Alloyed Iron Anuminides at High Temperature Oxidation,  
Proceeding of 17<sup>th</sup> EMSM Scientific Conference  
(2008) p74  
Universiti Teknologi MARA, Malaysia
10. Ervina Efzan Mhd Noor, **Zuhailawati Hussain**, Nurulakmal Mohd Sharif, Cheong Kuan Yew,  
Y.T.Chin, Tadashi Ariga and Ahmad Badri Ismail  
Effect of temperature on the formation of Interfacial between Bi-In-Sn solder on Cu and Ni Surface  
Finish  
Malaysian Metallurgical Conference (MMC)  
2008 (page 10)  
Universiti Kebangsaan Malaysia, Malaysia
11. **Hussain Zuhailawati**, Alaa Muhsin Saeed, Ahmad Badri Ismail, Tadashi Ariga. The Influence Of  
71Ag-28Cu-1Mg Filler Alloy On Microstructure And Properties Of Spot Brazed Titanium/Nickel Joint.  
Malaysian Metallurgy Conference 2009
12. Bui Duc Long, **Zuhailawati Hussain**, Radzali Othman, Umemto Minoru,  
Effect of spark plasma sintering on property of Cu-NbV composite.  
18th Electron Microscopy Society Malaysia (EMSM) Scientific Conference,  
15-17 Dec 2009, Mines Resort City
13. Min Hai Lim, **Zuhailawati Hussain**,  
Fabrication and properties of in-situ Cu-TiC-NbC composite,

	<p>18th Electron Microscopy Society Malaysia (EMSM) Scientific Conference, 15-17 Dec 2009, Mines Resort City</p> <p>14. Uday, M.B., Ahmad Fauzi, M.N., <b>Zuhailawati, H.</b>, Ismail, AB. Mechanical properties of Alumina-YSZ composite and 6061 Al Alloy joints fabricated by friction welding method. Malaysian Metallurgical Conference '09 (MMC2009). 2009. Kuala Perlis, Perlis.</p>
(d)	<p><b><u>Conference Presentation</u></b></p> <p><b><u>International</u></b></p> <ol style="list-style-type: none"> <li>1. <b>Zuhailawati H.</b>, Othman R., Mahani Y., Umemoto M. Effect Of Milling Time On Phase And Properties Of In-Situ Copper Base Composite Prepared By Mechanical Alloying Technique International Conference And Exhibition On Composite Material &amp; Nano-Structures, 5th - 7th August 2008, Melaka, (2008), Malaysia Science &amp; Technology Research Institute Of Defence (Stride) Ministry Of Defence, Oral Presentation</li> <li>2. <b>Zuhailawati Hussain &amp; Yong Tuck Leong</b> Densification of In-situ Copper-Niobium Carbide Composite Synthesized by Mechanical Alloying, The 4<sup>th</sup> International Conference on X-Rays and Related Techniques in Research and Industries 2008 (ICXRI 2008), Kota Kinabalu, Sabah, Malaysia, 2-6<sup>th</sup> June 2008, (2008) p28 MNS-XAPP Malaysia Oral Presentation</li> <li>3. Projjal Basu, Kok Yi Seong, Lee Siew Shyuan, Gan Sing Seng, Abdul Kadir Masrom, <b>Zuhailawati Hussain</b>, Azizan Aziz Synthesis of nanostructured carbides of titanium and vanadium for metal oxides and ferroalloys through high energy milling and heat treatment. Proceeding of International Conference on Advancement of Materials and Nanotechnology 2007 (ICAMN 2007), 29<sup>th</sup> May – 1<sup>st</sup> June, (2007) p.79 SIRIM, Malaysia Poster presentation</li> </ol> <p><b><u>National</u></b></p> <ol style="list-style-type: none"> <li>1. Preparation of nanocrystalline copper-niobium carbide composite by powder technology. Bengkel Nanomaterial, NanoMIG, USM, 2005 Oral Presentation</li> <li>2. <b>Zuhailawati Hussain</b>, Ahmad Fauzi Mohd Noor and Zainal Ariffin Ahmad. The study of inhomogeneity in ZnO varistor. Proceedings of 7<sup>th</sup> Scientific Conference Electron Microscopy Society Malaysia. (1998) p164-170. Universiti Sains Malaysia. Malaysia Oral Presentation</li> <li>3. <b>Zuhailawati, H.</b>, Luay, B.H. and Shamsul, J.B. Microstructure of copper-tungsten carbide composite for resistance spot welding application. Proceedings of 9<sup>th</sup> Scientific Conference Electron Microscopy Society Malaysia. (2000) p71-74. Universiti Putra Malaysia. Malaysia Oral Presentation</li> <li>4. <b>Zuhailawati, H.</b>, Luay, B.H. and Shamsul, J.B. Studies of resistance spot welding performance using dispersion hardening electrodes of Cu-10vol%WC.</li> </ol>

	<p>Proceedings of First Colloquium on Post-graduate Research 2000. (2000) p59-62. Universiti Sains Malaysia. Malaysia Oral Presentation</p> <p>5. <b>Zuhailawati, H.</b>, Luay, B.H. and Shamsul, J.B. Spot welding performance of galvanized steel using newly design Cu-WC composite electrodes. Proceedings of National Seminar on Advanced Materials Development in Malaysia-2001. (2001) p96-101. University Teknologi Malaysia. Malaysia Oral Presentation</p> <p>6. <b>Zuhailawati, H.</b>, Luay, B.H. and Shamsul, J.B. Mechanical alloying of copper-tungsten carbide. Materials and Minerals Proceedings of Post Graduate Research Papers 2001/2002. (2002) p37-38. Universiti Sains Malaysia. Malaysia Oral Presentation</p> <p>7. <b>Zuhailawati, H.</b>, Luay, B.H. and Shamsul, J.B. Consolidation by cold working and properties of dispersion-hardened copper composite. Proceedings of 2<sup>nd</sup> National Post-graduate Colloquium on Materials, Mineral Resources and Polymers 2004. (2004) p309-313. Universiti Sains Malaysia. Malaysia Oral Presentation</p> <p>8. Bui Duc Long, <b>Zuhailawati Hussain</b>, Radzali Othman, Minoru Umemoto and Nguyen Hong Hai Synthesis of copper-niobium carbide composite powder by in situ processing. Proceeding of 1st Malaysian Powder Metallurgy Symposium &amp; Exhibition 2006. (2006) AMREC. Malaysia Oral Presentation</p> <p>9. <b>Zuhailawati Hussain</b> and Nurul Hafiza Ramli Properties of in situ nanocrystalline copper-niobium carbide composite by powder technology. Proceeding of One-Day Seminar on Nanotechnology: "Today's Challenges, Tomorrow's Opportunities." (2006) pp61-63 Universiti Sains Malaysia, Malaysia Poster Presentation</p> <p>10. Bui Duc Long, Radzali Othman, <b>Zuhailawati Hussain</b>, Nguyen Hong Hai, Minoru Omemoto Effect of Heat Treatment Temperature on Synthesis of Nanocrystalline Copper-Niobium Carbide. Proceeding of One-Day Seminar on Nanotechnology: "Today's Challenges, Tomorrow's Opportunities." (2006) pp71-73 Universiti Sains Malaysia, Malaysia Poster Presentation</p> <p>11. Tiong King Hock, <b>Zuhailawati Hussain</b>, Luay Bakir Hussain Studies on heat treatment of Cu-Al-Ni shape memory alloy prepared by arc melting. Proceeding of National Metal Conference. (2006) pp75-76 Kolej Universiti Kejuruteraan Utara Malaysia, Malaysia Poster Presentation</p> <p>12. Zuraidah Mohd Yasin, <b>Zuhailawati Hussain</b> and Sunara Purwadaria Studies on corrosion behavior of Fe-Al intermetallic in sodium chloride solution. Proceeding of National Metal Conference. (2006) pp77-78 Kolej Universiti Kejuruteraan Utara Malaysia, Malaysia Poster Presentation</p> <p>13. Nga Kok Hau, Abdul Kadir Masrom and <b>Zuhailawati Hussain</b> Fabrication and Characterization of Nanoparticle TiO<sub>2</sub>-Reinforced Aluminum Matrix Composite, 6th International Materials Technology Conference &amp; Exhibition, 24 - 27 August 2008, Kuala Lumpur,</p>
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	<p>(2008) p44 Institute of Materials Malaysia, Malaysia Oral Presentation</p> <p><b>14. Malek Ali, Projjal Basu, Zuhailawati Hussain</b> Synthesis of titanium carbide from oxide through high energy ball milling 6th International Materials Technology Conference &amp; Exhibition, 24 - 27 August 2008, Kuala Lumpur, (2008) p42 Institute of Materials Malaysia, Malaysia Poster Presentation</p>
(e)	<p><b>Patent</b></p> <p><b>1. Paten Malaysia</b> A method for dspot welding and an apparatus to perform the method Patent Application Number PI 2010003982 Prof Madya Dr Indra Putra Almanar, Dr Zuhailawati Hussain, Jauhari Tahir Khairuddin, Farkhan</p>

<b>1.3</b>	<b>Research Grant</b>
(a)	<p><b>International</b></p> <p><b>(i) Project Head</b></p> <p><b>1. AUN/SEED-Net JICA.</b> USD1900 1/10/2007-10/3/2008. Title: Carbothermal Synthesis of Titanium Carbides Nanoparticles for Engineering Application Co-Researcher: Dr. Projjal Basu</p> <p><b>2. AUN/SEED-Net JICA.</b> USD 10,000 Oct. 2008 - March 2010 Title: Synthesis and consolidation of nanocrystalline metal matrix composite by mechanical alloying of metal-transition metal-graphite mixture Co-Researcher: Prof. Radzali Othman</p> <p><b>3. AUN/SEED-Net JICA.</b> USD 15,000 1/6/2010- 30/5/2012 Title: Fabrication of WC/Stainless steel hard metals system by mechanical alloying and its characterization Co-Researcher: Prof. Dr. Zainal Arifin Ahmad</p> <p><b>(ii) Co-researcher</b></p> <p><b>1. AUN/SEED-Net JICA.</b> USD3795 1/3/2005-28/2/2007. Title: Properties of dispersion strengthened copper made by mechanical alloying of copper-niobium-graphite powders. Researcher: Prof. Radzali Othman</p> <p><b>2. Intel Research Grant Under CORT</b> RM60,000 1/1/2006-31/12/2007 Title: The effect of surface treatment on interfacial reaction between Tin based lead free solder Researcher: Assoc. Prof Dr.Luay Bakir Hussain, Mr. Ahmad Badri, Dr. Nurulakmal Sharif, Dr.</p>

	<p>Cheong Kuan Yew</p> <p>3. <b>AUN/SEED-Net JICA.</b>  USD 8,000  October 2007-March 2009  Title: Properties and deformation behavior of in situ copper-niobium carbide composite  Researcher: Prof. Radzali Othman</p> <p>4. <b>AUN/SEED-Net JICA.</b>  USD 10,000  October 1008 – March 2010  Title: Development of Porous Material for Automotive Application  Researcher: Mr. Ahmad Badri Ismail</p>
(b)	<p><b>National</b></p> <p><b>(i)_Project Head</b></p> <p>1. <b>Sciencefund</b>  RM311,520.00  May 2007-April 2009  Title: Development of niobium carbide reinforced copper matrix composites by in situ processing  Researcher: Prof. Radzali Othman, Prof. Umemoto Minoru, Dr. Projjal Basu</p> <p>2. <b>FRGS</b>  RM165,980.00  July 2007-Jun 2010  Title: Oxidation of chromium alloyed iron aluminides in oxidizing and nitriding environment at high temperature  Researcher: Dr. Nurulakmal Sharif, Assoc. Prof. Rizal Astrawinata, Assoc. Prof. Dr. Azmi Rahmat</p> <p>3. <b>FRGS</b>  RM24,000  1 May 2010-30 April 2012  Title:Carbothermal reduction of mechanical activated hematite and anatase mixture for synthesis of iron based composite  Researcher: Dr. Zuhailawati Hussain, Dr. Samayamutthirian Palaniandy</p> <p><b>(ii) Co-researcher</b></p> <p>1.<b>Sciencefund</b>  RM 188,950.00  Dis 2006-Nov 2007  Title:Ti-Al Alloys Development: Effect of Alloying Elements and Surface Treatment on the High-Temperature Oxidation Behavior.  Researcher: Dr. Nurulakmal Sharif, Assoc. Prof. Rizal Astrawinata, Assoc. Prof. Dr. Azmi Rahmat</p> <p>2. <b>FRGS</b>  RM80,000,  15/10/2007-15/10/2010  Title: Carbothermal synthesis of nanostructure titanium carbide by mechanical activation  Researcher: Dr. Projjal Basu, Mr. Samayamutthirian Palaniandy</p>
(c)	<p><b>University</b></p> <p><b>(i) Project Manager</b></p> <p>1. <b>USM Insentif Grant</b>  RM1000  2005</p>

**2. USM Short Term**

RM16,942,

15/4/2005-14/4/2007.

Title: Effect of alloying elements on properties aluminide-base intermetallic material developed via powder metallurgy route.

Researcher: Assoc. Prof. Dr. Luay Bakir Hussain, Mr. Ahmad Badri Ismail

**3. USM Short Term**

RM19,260

31/8/2006-1/9/2008

Title: Arc melting and thermal treatment of CuAlNi Shape memory alloy

Researcher: Assoc. Prof. Dr. Luay Bakir Hussain

**4. USM Short Term**

RM 17,624

1/6/2008 – 31/5/2010

Fabrication of aluminum foams by powder sintering process

Researcher: Mr. Ahmad Badri Ismail

**5. USM Short Term**

RM39,621.00,

15/5/2011-14/5/2013

Powder Metallurgy of Transition Metal Carbide with Stainless Steel AISI 347 Binder , USM

**(ii) Co-researcher**

**1. USM Short Term Grant.**

RM 17,336

15/3/2007-14/3/2009

Title: Studies on improving mechanical properties and microstructures of steel heat treated under an applied electric field.

Researcher: Dr.Projjal Basu

**2. USM Research University Grant**

RM220,000

1/5/2010 – 30/4/2012

Title: Development of resistance stir spot welding method for joining of similar and dissimilar metals

Researcher: Prof. Madya Dr Indra Putra Almanar, Dr.-Ing Yupiter HP Manurung, Dr. Jamaludin Abdullah

**3. USM Research University Grant**

RM90,000

2009 – 2011

Title: Synthesis Of Nanostructured SiC From SiO<sub>2</sub> And C Via Mechanochemical And Sonication Process

Researcher: Dr. Samayamutthirian Palaniandy

2.0	SUPERVISION
(a)	<p><b>Graduate Supervision</b> (i) <b>Ph.D</b></p>
b)	<p><b><u>Main Supervisor-PhD student</u></b></p> <ol style="list-style-type: none"> <li>1. Ervina Efzan Binti Mhd Noor, Title: The Study of Tin Based Lead Free Solder Alloy composition and its Effect on Surface Finish Number of supervisor: 2 Status: On-going</li> <li>2. Alaa Muhsin Saeed, Title: The effect of welding parameters on the weldability of different material using brazing filler alloy Number of supervisor: 3 Status: Graduated</li> <li>3. Mahani Yusoff Title: Properties of nansotstructured coppber matrix composite fabricated by in-situ processing Number of supervisor: 2 Status: On-going</li> <li>1. Tran Bao Trung Fabrication of WC/Stainless steel hard metals system by mechanical alloying and its characterization Number of supervisor: 3 Status: On-going</li> </ol> <p><b><u>Co-Supervisor - PhD student</u></b></p> <ol style="list-style-type: none"> <li>1. Saidatulakmar Shamsuddin, Title: Metal matrix composite of iron reinforced with alumina particles Number of supervisor: 3 Status: Graduated</li> <li>2. Che Nor Aiza Binti Jaafar, Title: The effect of Mg, Si and Cu and heat treatment on the ageing response, microstructure and properties of some dilute 6000 series alloys. Number of supervisor: 2 Status: Graduated</li> <li>3. Bui Duc Long, Title: Fabrication of Cu-NbC composite for electrical applications by powder metallurgy and high pressure torsion methods Number of supervisor: 2 Status: Graduated</li> <li>4. Malek Ali Abdo Alsalem, Title: Carbothermal synthesis of nano structured titanium carbide by mechanical activation Number of supervisor: 2 Status: Graduated</li> <li>5. Tran Duc Huy, Title: Fabrication of Fe-Cr/Y2O3 ODS steel by mechanical alloying Number of supervisor: 2 Status: Graduated</li> <li>6. Uday M. Basheer Title: Development of upgraded zirconia/alumina ceramic aluminium particle matrix composite for diesel engine application</li> </ol>

Status: On-going

7. Tuti Katrina Abdullah  
Study of the redox and acido-basic properties of a complex silicate glass: Application to the high temperature corrosion of Ni superalloys and ceramic materials  
Status: On-going

**(ii) Master Degree (Research)**

**Main Supervisor - MSc Student**

1. Nurhawah Binti Mohd Subhi  
Title: Fabrication and characterization of nanostructure Cu-NbC composite for electrical use  
Number of supervisor: 2.  
Status: Graduated
2. NorArney Binti Ahmad  
Title: Carbothermal synthesis of nanostructure titanium carbide (TiC) by mechanical activation of titanium oxide and titanium ferroalloy  
Number of supervisor: 2  
Status: Graduated
3. Le Minh Hai  
Title: Synthesis and consolidation of nanocrystalline metal matrix composite by mechanical alloying of metal-transition metal-graphite mixture  
Number of supervisor: 2  
Status: Graduated
4. Nur Surianni  
Title: Microstructure and properties of aluminum foam fabricated using nacl foaming agent  
Number of supervisor: 2  
Status: Graduated
5. Mohd Salihin Bin Hassin  
Title: Fabrication of TiC-Reinforced Iron Based Composite Through Carbothermal and Reduction and Mechanical Activation  
Number of supervisor: 2  
Status: On-going
6. Emee Marina Salleh  
Title: Microspot welding of copper alloy  
Number of supervisor: 2  
Status: On-going
7. Siti Zalifah Binti Md Rasib  
Title: Studies on mechanical properties and microstructure of steel heat treated under an applied electric field.  
Number of supervisor: 2  
Status: On-going
6. Lee Chee San  
Title: Intemetallic growth of Tin based lead free solder on different metal substrates  
Number of supervisor: 2  
Status: On-going

**Co-Supervisor-MSc student**

1. Bui Duc Long  
Title: Production of niobium carbide particle-reinforced copper composite by mechanical alloying method  
Number of supervisor: 2  
Graduated: 2007



	<ol style="list-style-type: none"> <li>2. Sunisa Khamsuk Title: Development of Porous Material for Automotive Application Number of supervisor: 2 Graduated: 2010</li> <li>3. Siti Aishah Kamarul Zaman Synthesis of SiC using mechanical alloying and sonication of silica Number of supervisor: 2 Status: On-going</li> <li>4. Jauhari Tahir Khairuddin (School of Mechanical Engineering) Torque and temperature measurement fixture for friction stir welding Number of supervisor: 2 Status: On-going</li> <li>5. Zarina Tardan (School of Electrical and Electronic Engineering) Fabrication of tin oxide using rf sputtering Number of supervisor: 2 Status: On-going</li> </ol>
	<p><b><u>(iii) Master's Dissertation (Mixed Mode)</u></b></p> <ol style="list-style-type: none"> <li>1. Tan Chew Geok Title: Synthesis and characterization of in situ iron-iron carbide composite produced by mechanical alloying Graduation year: 2007</li> <li>2. Pang Fee Jian Title: Synthesis of nanostructured vanadium carbides from industrial ferro-vanadium through mechanical alloying Graduation year: 2007</li> <li>3. Mahani Bt Yusoff Title: Synthesis and characterization of nanostructured Cu-NbC composite produced by mechanical alloying Graduation year: 2008</li> <li>4. Nurfateen Fakhariah Ahmad Densification and characterization of nano-structured Cu-Nb-C composite by cold pressing Graduation year: 2010</li> <li>5. Nurulhuda Bashimom Preparation and properties of dispersion-strengthened copper with nbc and tic by mechanical alloying Graduation year: 2010</li> <li>6. Hasniyati Md Razi Title: Fe/TiC Metal Matrix Composite Powder Prepared by Carbothermal Reduction Method Status: Graduated</li> </ol>
(d)	<p><b>Professional Service</b></p> <p><b>(i) Continuous Education</b></p> <ol style="list-style-type: none"> <li>1. <b>2 day Training course on Introduction to Heat Treatment for MISIF (Invited Speaker)</b> Date: 24-25 April 07 Organizer: Malaysian Iron &amp; Steel Industry Federation (MISIF) Venue: MISIF Training Room, Worldwide Business Park, Shah Alam. <ol style="list-style-type: none"> <li>(i) Lecture 1 – Introduction</li> <li>(ii) Lecture 2 – Introduction to Steel</li> <li>(iii) Lecture 6 – Strengthening of plain carbon steel</li> <li>(iv) Lecture 10 - Cast Iron</li> </ol> </li> </ol>

	<p><b>2. 2 day Training course on Advanced Metallurgy for MISIF (Invited Speaker)</b>  Date: 16 - 17 June 2008  Organizer: Malaysian Iron &amp; Steel Industry Federation (MISIF)  Venue: MISIF Training Room, Worldwide Business Park, Shah Alam.</p> <p>(i) Lecture 1 – Tool of Metallurgist  (ii) Lecture 5 – Strengthening Mechanism in Metals  (iii) Lecture 7 – Annealing – Hot and Cold working  (iv) Lecture 10- Cast Iron and Its Heat Treatment</p> <p><b>3. 2 days Short Course on Metallurgy and Processes for BBraun Medical Industrues (Invited Speaker)</b>  16-17<sup>th</sup> June 2010  Organizer: BBraun Medical Industries (BMI), Prai Industrial</p> <p>(i) Lecture 1 : Materials Characterisations  (ii) Lecture 2 : Properties of Stainless Steel (SS)</p> <p><b>4. 2 days Shortcourse on Basic Metallurgy And Advanced Metallurgy for Southern Steel (M) Bhd (Invited Speaker)</b>  27-28<sup>th</sup> September 2010  Organizer: Southern Steel (M) Bhd</p> <p>1. Lecture 1 - Structure of Crystalline Solids and Imperfection  2. Lecture 2 - Metallography and tool of metallurgist  3. Lecture 3 - Mechanical Properties</p> <p><b>5. Short Course on Basic Metallurgy and Metallographic Evaluation (Hands-on) (Speaker and demonstrator)</b>  15-16<sup>th</sup> Dec 2010  Organizer: School of Materials &amp; Mineral Resources Engineering</p> <p>1. Lecture 1 - Science of metallurgy</p> <p><b>(ii) Supervision of research asistant:</b></p> <p>1. Hariyanti  2. Yanny Marliana Baba Ismail  3. Zarina Omar  4. Tg. Shuhaidi Tg. Ibrahim  5. Nurazreena Ahmad  6. Ahmad Fauzi Mohd Nordin  7. Nur Surianni Ahmad Suffin</p>
3.0	<b>ACADEMIC RECOGNITION AND LEADERSHIP</b>
(a)	<p><b>Academic Awards (Recognition from a prestigious body for academic achievement)</b></p> <p><b><u>International</u></b></p> <p>1. Thomson-CSF Passive Components (M) Sdn. Bhd. Scholarship Award, 1997</p> <p>2. International Centre for Theoretical Physics (ICTP) Grant, 2007 awarded by Neutron Scattering Laboratory National Nuclear Energy of Indonesia (BATAN) for attending International Conference on Neutron &amp; X-Ray Scattering 2007, 29<sup>th</sup> July-31<sup>st</sup> July 2007 in Serpong, Indonesia</p> <p>3. Marquis Who's Who in the World, Biographic inclusion in the 2010 Edition of Who's Who in the World as one of the leading achievers from around the globe.</p> <p><b><u>National</u></b></p> <p>1. Sanggar Sanjung (Hall of Fame Award) 2007, Universiti Sains Malaysia, Publication Category  Journal: Journal of Alloys and Compounds  Manuscript: Synthesis of copper-niobium carbide composite powder by in-situ processing.  Role: Main author</p>

	<ol style="list-style-type: none"> <li>2. Sanggar Sanjung (Hall of Fame Award) 2007, Universiti Sains Malaysia, Publication Category Journal: Journal of Alloys and Compounds Manuscript: Synthesis and characterization of silica–titania nanocomposite via a combination of sol–gel and mechanochemical process, Role: Co-author</li> <li>3. Hadiah Sanjungan (Merit Award) 2007, Universiti Sains Malaysia, Publication Category Journal: Materials &amp; Design Manuscript: Properties and spot welding behaviour of copper-alumina composites through ball milling and mechanical alloying. Role: Main author</li> <li>4. Anugerah Sanggar Sanjung (Hall of Fame Award) 2008, Universiti Sains Malaysia, Publication Category Journal: Journal of Alloys and Compounds Manuscript: Effects of milling time on hardness and electrical conductivity of in-situ Cu-NbC composite produced by mechanical alloying. Role: Main author</li> <li>5. Hadiah Sanjungan (Merit Award) 2008, Universiti Sains Malaysia, Publication Category Journal: Materials Science &amp; Engineering A Manuscript: Consolidation of dispersion strengthened copper-niobium carbide composite prepared by in-situ and ex-situ methods Role: Main author</li> <li>6. Hadiah Sanjungan (Merit Award) 2009, Universiti Sains Malaysia, Publication Category Microstructure and hardness characterization of mechanically alloyed Fe-C elemental powder mixture Role: Main author</li> <li>7. Hadiah Sanjungan (Merit Award) 2009, Universiti Sains Malaysia, Publication Category Studies On Mechanical Mechanical Alloying Of Copper-Tungsten Carbide Composite For Spot Welding Electrode. Role: Main author</li> <li>8. Hadiah Sanjungan (Merit Award) 2009, Universiti Sains Malaysia, Publication Category Microstructure and Mechanical Properties of Alumina-6061 Aluminum Alloy joined by Friction Welding Role: Co-author</li> </ol>
(b)	<p><b>Assessor / Examiner</b></p> <p><b>(i) External Examiner for Thesis:</b></p> <p><b><u>Master 's</u></b></p> <ol style="list-style-type: none"> <li>1. Nurhidayah Ahmad Zaidi. \Fabrication and properties of cobalt implant composites". MSc student from Pusat Pengajian Kejuruteraan Bahan, KUKUM Date for Viva: 21 June 2007</li> <li>2. Josef Hadipramana Study of microstructure and ageing characteristics of aluminium alloy reinforced with glass particulates Sarjana Sains (Kejuruteraan Bahan) Universiti Malaysia Perlis 4 March 2009</li> <li>3. Zuliani Zulkoffl Kajian penghasilan aloi dan komposit magnesium menggunakan kaedah pemprosesan serbuk pepadatan panas Sarjana Sains (Fakulti Kejuruteraan &amp; Alam Bina) Universiti Kebangsaan Malaysia Date: 21 Jan 2010</li> </ol>

(ii) **Internal Examiner for Thesis:**

**Doctor of Philosophy**

1. Mohd Nazree Derman.  
Kajian fabrikasi dan penganodan komposit matriks aluminium diperkuat gentian pendek alumina saffil TM.  
Date for Viva: 2005
2. Thesis re-examination for Mohd Nazree Derman.  
Kajian fabrikasi dan penganodan komposit matriks aluminium diperkuat gentian pendek alumina saffil TM.  
Date for meeting: 2006.
3. Mohamad Zaky Bin Noh  
Study of performance of metal-ceramic joining fabricated via friction welding  
Date for Viva: 26 Oktober 2007
4. Thesis re-examination for Mohamad Zaky Bin Noh  
Study of performance of metal-ceramic joining fabricated via friction welding  
Date for Viva: 2008
5. Khairul Rafizi Ahmad  
Kajian terhadap penghasilan dan pencirian komposit aluminium tulen diperkuat partikel alumina melalui kaedah metalurgi serbuk  
Date for Viva: 20 April 2009
6. Farhad Bilal Bahaideem (Kejuruteraan Mekanik)  
Synthesis of electroless Ni-p-Cg (graphite)-SiC composite coating on piston rings of a small two stroke utility engine  
Date for Viva: 5 May 2010
7. Md Amin Hashim,  
Evaluation of Interconnect Solder materials used in microelectronic packaging  
Date for Viva: 25 Jun 2010
8. Kahtan S Mohammed  
Study of the effect of densification parameters on different sintering techniques of W-bronze composite and the characterization of the outcome structures  
Date for Viva: 3 June 2010
9. Salina Budin  
A study of energy used in single particle size reduction process using a single ball approach moving in agitation mode  
Date for Viva: 22 November 2010

**Master's**

1. Tran Thi Thien Ly  
The influence of equal channel angular pressing (ECAP) process on the workability of copper electrodes for resistance spot brazing application  
Date for viva: 20 July 2007
2. Mohamad Fadley Bin Zakaria  
The influence of gallium addition on the properties of Sn3.0Ag0.5Cu lead free solder  
Date for viva: May 2008
3. Marwa Liwa Kh Alfaris  
Synthesis & Characterization of molybdenum disilicide through mechanical activation for high temperature application  
Date for Viva: 24 November 2010

	<p><b><u>Master's (Mixed Mode)</u></b></p> <ol style="list-style-type: none"> <li>1. Mohd Mustafa Al Bakri Abdullah. Penyediaan dan pencirian komposit alumina terliat zirkonia melalui penekanan isostatik sejuk dan penekanan hidraulik. Date for viva: 2005</li> <li>2. Noraziana Parimin. Kajian kesan suhu persinteran terhadap komposit matriks Ferum-kromium diperkuat 10% berat silikon karbida. Date for viva: 2005</li> <li>3. Amirah Che Zakaria. The effect of heat treatment on properties of thermal diffusion joining of high carbon steel. Date for viva: 29 Mei 2006</li> <li>4. Malek Ali AlSalem Corrosion behavior of bronze-40%W and brass-40%W composite use in fishing tackles application Date for viva: 28 May 2007</li> <li>5. Hossein Fallahiarezoodar, Effect of addition of Fe and Indium on reliability of Sn-3.5Ag-0.9Cu solder Date for viva: May 2010</li> </ol>
(c)	<p><b>(i) Visiting Lecturer / Visiting Scientist / Visiting Fellow / Visiting Professor (minimum appointment period of 1 month).</b></p> <p><b><u>International</u></b></p> <ol style="list-style-type: none"> <li>1. Exchange Visitor Center for Innovative Sintered Products, The Pennsylvania State University, United State March 2001-August 2001</li> <li>2. Short term Visit to Japan University of Toyohashi Technology 4-9 March 2006</li> </ol>
(d)	<p><b>(i) <u>Reviewing Book</u></b></p> <ol style="list-style-type: none"> <li>1. Title of Manuscript: Buku Asas Logam ( Metallurgy Basic Book) Publisher: Universiti Malaysia Perlis Date: 5 July 2010</li> </ol> <p><b>(ii) <u>Reviewing Articles in Academic Journals</u></b></p> <p><b><u>International</u></b></p> <ol style="list-style-type: none"> <li>1. Philippine Engineering Journal (PEJ) Title of article: Fabrication and Characterization of Cu-Zn-Sn Shape Memory Alloy Date: 2 March 2007</li> <li>2. Journal of the American Ceramic Society Title of article: JACERS-25225: Role of Surface State in Hydrodynamic Interaction of Al<sub>2</sub>O<sub>3</sub> Particle in Slurries Prepared by Different Milling Methods Date: 28 Oct 2008</li> <li>3. Powder Metallurgy Manuskrip: POM1562 Nano-structure Cu-Cr alloy with high dissolved Cr-contents obtained by the mechanical alloying process Date: 16/4/2009</li> </ol>

	<p>4. Powder Metallurgy POM1604-Effect of Ball Milling Time on the Properties of Al-Al<sub>2</sub>O<sub>3</sub> Nano-Composite Produced by Mechanical Milling Date: 10/10/2009</p> <p>5. Journal of Alloys and Compound Title of article: JALCOM-D-09-04298 - Mechanical properties of tri-modal Al matrix composites reinforced by nano- and submicro-sized Al<sub>2</sub>O<sub>3</sub> particulates developed by wet attrition milling and hot extrusion Date: 26/11/2009</p> <p>6. Proceeding of First Joint Advanced Electron Microscopy School for Nanomaterials and the Workshop on Nanomaterials (<i>AEM-NANOMAT09</i>)organized by Laboratory of Microscopy and the Department of Advanced Materials at the Research Center for Applied Chemistry (CIQA) (Mexico). Title of article: M0730439 Alumina-Copper Composites with High Fracture Toughness and Low Electrical Resistance. Date: 9/9/09</p> <p>7. Proceeding of First Joint Advanced Electron Microscopy School for Nanomaterials and the Workshop on Nanomaterials (<i>AEM-NANOMAT09</i>)organized by Laboratory of Microscopy and the Department of Advanced Materials at the Research Center for Applied Chemistry (CIQA) (Mexico). <i>Second review</i> Title of article: M0730439 Alumina-Copper Composites with High Fracture Toughness and Low Electrical Resistance. Date: 23/10/09</p> <p>8. Prosiding of Advances in Materials and Processing Technologies 2009, organized by UIAM Title of article: 339 Casting of net inserted aluminum alloy composite strip Date: 18/8/2009</p> <p>9. Prosiding of Advances in Materials and Processing Technologies 2009, organized by UIAM Title of article: 625 The effect of thermal aging on wear behaviour of al-4si-4mg alloy containing cerium Date: 18/8/2009</p> <p>10. Post-proceeding of Regional Conference on Materials 2009 Title of article: RCM09/42 Static recovery process modeling of engineering metallic alloys Date: 10/7/2009</p> <p>11. Post-proceeding of Regional Conference on Materials 2009 Title of article: RCM09/44 Wear and tool life characteristics when machining aerospace materials Date: 10/7/2009</p> <p>12. Post-proceeding of Regional Conference on Materials 2009 Title of article: RCM09/59 Ti-based bulk metallic glasses synthesized by mechanical alloying and spark plasma sintering Date: 10/7/2009</p> <p>13. Post-proceeding of Regional Conference on Materials 2009 Title of article: Manuscript RCM09/33 NbAl intelligent material through mechanical alloying and spark plasma sintering Date: 10/7/2009</p> <p>14. Proceeding of ICPER2010 Conference Title of article: Manuscript #1569258353 Development and Strengthening of 2219 Aluminium alloy by mechanical work and heat treatment Date: 29 March 2010</p> <p>15. Proceeding of ICPER2010 Conference Title of article: Manuscript #1569258295 A Study of Bonding Mechanism of Expandable Graphite Based Intumescent Coating on Steel Substrate Date: 29 March 2010</p>
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16. Powder Metallurgy  
Title of article: Manuscript POM1645 The Fe<sub>3</sub>Al/TiC nanocomposite produced by mechanical alloying  
Date: 16 April 2010
17. Journal of Alloys and Compounds  
Title of article: Manuscript JALCOM-D-10-00863 Crystal interstitial site contribution to nitrogen supersaturation in mechanically alloyed Fe-Cr-Mn-N alloys  
Date: 3 March 2010
18. Powder Metallurgy  
Title of article: POM 1674 Rapid synthesis Mo<sub>5</sub>Si<sub>3</sub>-Al<sub>2</sub>O<sub>3</sub> nanocomposite powders by mechanochemical reduction method  
Date: 7 July 2010
19. Rev. Metal Madrid  
Title of article: Manuscript 1024 Strength and thermal stability of Cu-Al<sub>2</sub>O<sub>3</sub> composite obtained by internal oxidation  
Date: 26 April 2010
20. Materials & Science Technology  
Title of article: Manuscript MST9350 Structure and Mechanical properties of SiCP Reinforced and Al<sub>2</sub>O<sub>3</sub> Reinforced Al-Si alloy Composites  
Date: 26 Jan 2010
14. Indian Journal of Engineering & Materials Sciences  
Title of article: Manuscript EMS2927 Investigation of elevated temperature effects of shot peening on the fatigue strength of P/M steels  
Date: 20 Oct. 2010

**National**

1. Jurnal Mikroskopi Malaysia.  
Title of article: Metals/Alloys 2: Corrosion effect on anodized PM aluminum matrix composite reinforced with 15wt% saffil™ alumina short fibre  
Date: 13 July 2007
2. Jurnal Mikroskopi Malaysia.  
Title of article: Metals/Alloys 3: Correlation between the bending strength and the thickness interlayer of alumina-mild steel friction welded at lower rotational speed  
Date: 13 July 2007
3. Jurnal Mikroskopi Malaysia.  
Title of article: Metals/Alloys 10: Pore structure development of metal injection moulding (MIM) green parts using palm stearin-polyethylene binder system  
Date: 13 July 2007
4. Jurnal Mikroskopi Malaysia.  
Title of article: Metals/Alloys 15: Fabrication of open cell aluminum foam through powder sintering process  
Date: 13 July 2007
5. Jurnal Mikroskopi Malaysia.  
Title of article: Metals/Alloys 16: The influence of preform processing on the fabrication of aluminum foam through powder metallurgy technique  
Date: 13 July 2007
6. Journal Of Physical Science (USM)  
A study of silicon anisotropic etching for corrugated diaphragm using KOH solution  
Date: 4 Januari 2008
7. Jurnal Teknologi UTM-KELUARAN KHAS  
Title of article: The effect of Process Parameters on the Heat-Affected Zone in Gas Metal Arc Welding Process (JTA/2008/14K)

	<p>Date: 4 March 2008</p> <p>8. Jurnal Mikroskopi Malaysia Title of article: Characterization Of Porous Biphasic Calcium Phosphate For Bone Tissue Engineering Application. Date: 11 June 2008</p> <p>9. Jurnal Mikroskopi Malaysia Title of article: Synthesis Of Silicon Carbide (SiC) Nanopillar Via A Catalyst-Free Vertical Chemical Growth (CVG) Route Date: 11 June 2008</p> <p>10. Jurnal Mikroskopi Malaysia Title of article: Formation Of Nanostructures Cuo Thin Film By Chemical Solution Deposition Process. Date: 11 June 2008</p> <p>11. Jurnal Mikroskopi Malaysia Title of article: Microstructural and dielectric analysis of alumina-based glass ceramic Date: 6 Oct 2010</p> <p>12. Jurnal Mikroskopi Malaysia Title of article: Effect of sintering temperature on aluminum composite Date: 6 Oct 2010</p> <p>13. Jurnal Mikroskopi Malaysia Title of article: Morphologies study of sub-micron aluminium nitride (AlN) addition on dry wear properties Al-Si alloy Date: 21 Sept. 2010</p> <p>14. Advanced Materials Research 2010, Trans Tech Publications Ltd Title of article: Characterization Of Porous Anodic Aluminium Oxide Film on Aluminium Templates formed in Anodizing Process Date: 8 August 2010</p> <p>15. Advanced Materials Research 2010, Trans Tech Publications Ltd Title of article: Microstructural Analysis of Iron Aluminide Fabricated from Iron Mill Scale by Powder Metallurgy Date: 8 August 2010</p> <p><b>(iii) Technical Assessor / Assessor for Grant Application</b></p> <p>1. Assessor Panel for SCIENCEFUND Industry Cluster Application under Ministry of Science &amp; Technology Malaysia, No 4/2011 (Materials Science), 29-30 September 2011</p>
(e)	<p><b>Editorial Board</b></p> <p><b>(i) International</b></p> <p>1. Editorial Board of International conference of RAMM &amp; ASMP 2009, Penang, Malaysia 2. Editor, ASEAN Engineering Journal, 2011</p> <p><b>(i) National</b></p> <p>1. Editorial Board of MicroSom Vol7. No 1 (2009-2010) 2. Buletin of the Electron Microscopy Society of Malaysia, EMSM</p>
(f)	<p><b>Keynote Speaker (Conference / Seminar / Symposium and other similar academic forums)</b></p> <p>1. Invited Speaker in BIT's 1st Annual World Congress of Nano-S&amp;T 23/10/2011 - 26/10/2011, Dalian, China, Nanostructuring copper matrix composite using solid state plastic deformation techniques, Organizer: Information Research Center of International Talent, China State Administration of Foreign Experts A.</p>



<p>(g)</p>	<p><b>Awards for Innovation</b></p> <ol style="list-style-type: none"> <li>1. <b>ITEX 2010 (14 – 16 MEI 2010) – Silver Award</b> Multiforces component detection system for friction stir welding (MfCDS-FSW) <b>Dr Zuhailawati Hussain</b>, Prof Madya Dr Indra Putra Almanar, Jauhari Tahir Khairuddin, Emeem Marina Salleh, Normariah Che Maideen</li> <li>2. <b>ITEX 2010 (14 – 16 MEI 2010) – Gold Award</b> MECD-Device (Multi-Error-Component-Detection Device) for high precision calibration Prof Madya Dr Indra Putra Almanar, <b>Dr Zuhailawati Hussain</b>, Jauhari Tahir Khairuddin, Emeem Marina Salleh, Normariah Che Maideen, Dr Abdul Rahim Othman, Dr Lim Chin Keong, Karim Ghani</li> <li>3. <b>Malaysia Technology Expo 2010 (4<sup>th</sup> – 6<sup>th</sup> Feb 2010) –Silver Award</b> Ceramic-metal joining for advance thermal application. Prof. Ahmad Fauzi Mohd Noor, Uday M. Basheer, <b>Dr. Zuhailawati Hussain</b>, Mr. Ahmad Badri Ismail</li> <li>4. <b>Malaysia Technology Expo 2011 (17<sup>th</sup> – 19<sup>th</sup> Feb 2011)– Gold Award</b> Novel SURREAL Alloy Assembled Components Dr Zuhailawati Hussain, Prof Madya Dr Indra Putra Almanar and Dr. Anasyida Abu Seman</li> <li>5. <b>Malaysia Technology Expo 2011 (17<sup>th</sup> – 19<sup>th</sup> Feb 2011)– Silver Award</b> <b>MF</b> Ceramic-metal joining Prof. Ahmad Fauzi Mohd Noor, Uday M. Basheer, <b>Dr. Zuhailawati Hussain</b>, Mr. Ahmad Badri Ismail</li> </ol>
<p>(h)</p>	<p><b>Member in Professional / Academic Associations</b></p> <p><b>(i) Member (per society)</b></p> <p><b><u>National</u></b></p> <ol style="list-style-type: none"> <li>1. Board of Engineer Malaysia Registered Engineer</li> <li>2. Institute Materials Malaysia (#481) Ordinary Member</li> <li>3. USM Cooperative Ltd. (#CM004893) Ordinary Member</li> <li>4. NANOMIG Ordinary Member</li> </ol> <p><b>(iii) Committee Member (Conference / Seminar /Workshop)</b></p> <p><b><u>International</u></b></p> <ol style="list-style-type: none"> <li>1. Comitttee member - AUN-SEED/Net Fieldwise Seminar 2004 on “Joining of Materials, Prospective and Application”</li> <li>2. Secretary II - 8<sup>th</sup> AUN/SEED-Net Field-Wise Seminar on Advanced Materials: “Processing and Characterisation” , 22-24 May 2006, Holliday Inn, P.Pinang</li> <li>3. Secretary I- 10<sup>th</sup> AUN/SEED-Net Field-Wise Seminar on “Engineering Material: Current Advances and Potential Application”, 6-7 June 2007, P.Pinang</li> </ol> <p><b><u>National</u></b></p> <ol style="list-style-type: none"> <li>1. Treasurer- Seminar Nano Research 2006 One-Day Seminar on Nanotechnology: “Todays Challenges, Tomorrow’s Opportunities, 22 Jun 2006, Kampus Kejuruteraan</li> </ol>

	<ol style="list-style-type: none"> <li>2. Technical Talk by Prof. Umemoto Minoru dari Toyohashi Universiti of Technology in School of Materials &amp; Mineral Resources Engineering Seminar I: Dispersion in Metal Matrix Achieved by Mechanochemical Means (24/8/05, 2.30 pm) Seminar II: The Impact of Nanotechnology in Metallurgy/Metals Industry (25/8/05, 9.30am)</li> <li>3. Committee member - Short course on "Production of high quality steels through secondary refining/processing", School of Materials &amp; Mineral Resources Engineering, 12 – 13 May 2008</li> <li>4. Treasurer – Workshop on "Nanoparticles for composites: Synthesis and characterization", 12-15 January 2009</li> <li>5. Treasurer – Shortcourse on "Sol-gel science and Technology: Coatings in nanocentury" 10-11 February 2009</li> <li>6. Editorial Board, MicroSom Bulletin, Bulletin of the Electron Microscopy Society of Malaysia, EMSM 2009-2010</li> <li>7. Coordinator, Shortcourse on Basic Metallurgy And Advanced Metallurgy for Southern Steel (M) Bhd, 27-28 September 2010</li> </ol> <hr/> <ol style="list-style-type: none"> <li>8. AJK Short Course Statistical &amp; Experimental Design, 2011</li> <li>9. AJK Short Course On Basic Metallurgy and Metallographic Evaluation (Hands-on) 2011</li> <li>10. AJK Material Characterisation using XRD, 2011</li> <li>11. AJK Projek Ferosimen</li> <li>12. AJKProjek keronsang daripada manic</li> <li>13. Pengerusi, Ahli Jawatankuasa Kecil Penyediaan Prosedur Pengurusan Projek Konsultansi &amp; Ujian, PPKBSM</li> </ol>
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