

## CURRICULUM VITAE



<b>Name</b>	<b>SHAFINAZ BINTI SHAHIR</b>
<b>Date of Birth</b>	6 <sup>th</sup> August 1971
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<b>Educational Qualification</b>	<b>Ph.D in Biochemistry-(Biosensors &amp; Microarray Technology) (2006)</b> IMPERIAL COLLEGE LONDON, United Kingdom.  <b>MSc in Chemistry-Biotechnology (1997)</b> UNIVERSITI TEKNOLOGI MALAYSIA (UTM), Malaysia.  <b>B. Applied Science (HONOURS) in Chemical Technology-Microbiology (1995)</b> UNIVERSITY OF SOUTH AUSTRALIA (UNISA), Australia.  <b>BSc in Chemistry and Applied Microbiology (1994)</b> UNIVERSITY OF SOUTH AUSTRALIA (UNISA), Australia.

<b>Field of Expertise</b>	<b>Environmental Biotechnology &amp; Biosensors</b>
<b>Appointments</b>	<p><b>Research Assistant (1995-1996)</b>  Department of Chemistry, Faculty of Science  Division of Biotechnology &amp; Biochemistry  Universiti Teknologi Malaysia  Skudai Johor</p> <p><b>Research Officer (1997-1998)</b>  Department of Chemistry, Faculty of Science  Division of Biotechnology &amp; Biochemistry  Universiti Teknologi Malaysia  Skudai Johor</p> <p><b>Lecturer DS45 (28/02/1998)</b>  Department of Biology, Faculty of Science  Universiti Teknologi Malaysia</p> <p><b>Confirmation of Appointment (28/02/2001)</b>  Department of Biology, Faculty of Science  Universiti Teknologi Malaysia</p> <p><b>Senior Lecturer DS52 (03/11/2008)</b>  Department of Biological Sciences  Faculty of Biosciences &amp; Bioengineering  Universiti Teknologi Malaysia</p> <p><b>Head of the Dept. of Biological Sciences (25/02/08 - 24/02/10)</b>  Faculty of Biosciences &amp; Bioengineering  Universiti Teknologi Malaysia</p> <p><b>Head of the Dept. of Biological Sciences (01/06/10 – 31/10/12)</b>  Faculty of Biosciences &amp; Bioengineering  Universiti Teknologi Malaysia</p> <p><b>Head of the Dept. of Biosciences &amp; Health Sciences (01/11/12 – 31/12/14)</b>  Faculty of Biosciences &amp; Medical Engineering  Universiti Teknologi Malaysia</p>

<p><b>Courses Taught (Undergraduate Level)</b></p>	<p>Basic Chemistry (SSK1003)</p> <p>Basic Chemistry Lab (SSK1801)</p> <p>General Chemistry Lab (SSK1821)</p> <p>Biochemistry Lab (SSK1003)</p> <p>General Biology Lab I (SSB1801)</p> <p>General Biology Lab II (SSB1811)</p> <p>Biochemical Cell and Metabolism Lab (SSB2811)</p> <p>Microbiology (SSB3303/3203)</p> <p>Microbiology Lab (SSB 3801)</p> <p>Bioremediation and Biodegradation (SSB3552)</p> <p>Molecular Biotechnology (SSB3212)</p> <p>Molecular and Cellular Biology (SSB2143)</p> <p>Genetic Engineering Lab (SSG 2153)</p> <p>Extremophiles (SQG/SQBS 3413)*- course coordinator</p> <p>Physiology and Screening of Industrial Microorganisms (SSG2313/SQG 2313/SQBS 3323)* - course coordinator</p> <p>Biosensor Technology (SSB4692/SSG3692/SQG/SQBI 4693)*- course coordinator</p>
<p><b>Courses Taught (Postgraduate Level)</b></p>	<p>Emerging Issues in Biotechnology (MQT 1352)</p> <p>Molecular Mechanisms in Gene Expression and Regulation (MQT 1153)</p> <p>Techniques in Biotechnology (MQT 1802)</p> <p>Bioremediation Technology (MQT 1553)</p> <p>Protein Engineering (MQT 1683)</p> <p>Environmental Bioengineering (MQT 1563)</p>

<b>Society Membership</b>	<p>Full Member : Society of Biology (Professional Society): 1 Oct 2012</p> <p>Member of AFOB (ASEAN Federation of Biotechnology)</p> <p>Life Member of the Malaysian Society of Microbiology (MSM)</p> <p>Member of the Malaysian Microscope Society</p>																				
<b>Service Award</b>	<p><b>Award</b> for Excellent Service at Faculty of Biosciences and Bioengineering (2010)</p>																				
<b>Intellectual Property</b>	<p>PATENT</p> <p>Patent Pending for Invention : "BOD-RAP : A Microbial Biosensor for Rapid Detection of Biochemical Oxygen Demand in Water Systems. (IP Disclosure Submitted)</p> <p>Inventors: Shafinaz Shahir, Rahmalan Ahamad, Abd Khamim Ismail, Khor Beng Hooi</p> <p>COPYRIGHT : UTM OpenCourseware</p> <p>Webpage : <a href="http://ocw.utm.my/course/view.php?id=74">http://ocw.utm.my/course/view.php?id=74</a></p> <p>SQG 3692 BIOSENSOR TECHNOLOGY</p> <table border="1" data-bbox="692 1355 1493 1798"> <thead> <tr> <th></th> <th>TITLE OF PRODUCT</th> <th>INVENTOR</th> <th>FACULTY</th> <th>FILING DATE</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>BIOSENSORS-AN INTRODUCTION</td> <td>SHAFINAZ SHAHIR</td> <td>CENTRE OF TEACHING &amp; LEARNING (CTL)</td> <td>11 SEPT 2013</td> </tr> <tr> <td>2</td> <td>BIOLOGICAL SENSING ELEMENTS</td> <td>SHAFINAZ SHAHIR</td> <td>CENTRE OF TEACHING &amp; LEARNING (CTL)</td> <td>11 SEPT 2013</td> </tr> <tr> <td>3</td> <td>IMMOBILIZATION OF BIOLOGICAL SENSING ELEMENTS</td> <td>SHAFINAZ SHAHIR</td> <td>CENTRE OF TEACHING &amp; LEARNING (CTL)</td> <td>11 SEPT 2013</td> </tr> </tbody> </table>		TITLE OF PRODUCT	INVENTOR	FACULTY	FILING DATE	1	BIOSENSORS-AN INTRODUCTION	SHAFINAZ SHAHIR	CENTRE OF TEACHING & LEARNING (CTL)	11 SEPT 2013	2	BIOLOGICAL SENSING ELEMENTS	SHAFINAZ SHAHIR	CENTRE OF TEACHING & LEARNING (CTL)	11 SEPT 2013	3	IMMOBILIZATION OF BIOLOGICAL SENSING ELEMENTS	SHAFINAZ SHAHIR	CENTRE OF TEACHING & LEARNING (CTL)	11 SEPT 2013
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<p><b>Theses</b></p>	<p>Ph.D Thesis- “Engineering the Maltose Binding Protein for Metal Ions Sensing”. Imperial College London (2006)</p> <p>MSc Thesis- “Characterisation and Bioleaching Potential of Iron-Oxidising Bacteria Isolated from a Local Mining Environment”. UTM (1997)</p> <p>B.Appl. Sci Thesis- “ Acidication Power Test and Its Application to the Dairy Industry”. University of South Australia (1994).</p>
<p><b>Chapters in Book</b></p>	<ol style="list-style-type: none"> <li>1. <b>Shafinaz Shahir</b>. Ensiklopedia Sains &amp; Teknologi (EST) Publisher – Dewan Bahasa &amp; Pustaka Entry – 1. Bakteria (Bacteria) – pg. 32           2. Kaldu (Broth)       - pg 187</li>   <li>2. <b>Shafinaz Shahir</b>, Zaharah Ibrahim and Chun Siang Ling. Chapter 7 Immobilised Whole Cell Biosensor for Styrene Detection pg 91-104. In Advances in Biosciences and Bioengineering (Volume 2) 2008. Publisher: UTM. ISBN: 978-983-52-0555-2</li>   <li>3. Zaharah Ibrahim, Pamela Baldwin Thomas and <b>Shafinaz Shahir</b>,. Chapter 4 Isolation of styrene-rich Petrochemical Wastewater using Pseudomonas sp. pg 53-60. In Advances in Biosciences and Bioengineering( Volume 3) 2008. Publisher: UTM. ISBN: 978-983-52-0554-5.</li>   <li>4. Mohd Saufi Sidek, Wan Azlina Ahmad and <b>Shafinaz Shahir</b>. Chapter 6 The Removal of Hexavalent Chromium and Phenol using Locally Isolated Bacteria pg 85-97. In Bacteria in Environmental Biotechnology The Malaysian Case Study-Analysis, Waste Utilization and Wastewater Remediation. Publisher: Nova Science. ISBN: 978-1-61728-350-5.</li>   <li>5. Quek Hsiao Pei, Wan Azlina Ahmad and <b>Shafinaz Shahir</b>. Chapter 8 Interaction between Acinetobacter Haemolyticus and Cr(VI) : The XAFS perspective pg 115-130. In Bacteria in Environmental Biotechnology The Malaysian Case Study-Analysis, Waste Utilization and Wastewater Remediation. Publisher: Nova Science. ISBN: 978-1-61728-350-5.</li> </ol>

**Publications (indexed and refereed journals)**

1. Belinda Tiong, Zaratulnur Mohd Bahari, Nor Sahslin Irwan Shah Lee, Jafariah Jaafar, Zaharah Ibrahim & **Shafinaz Shahir**. Cyanide Degradation by *Pseudomonas pseudoalcaligenes* strain W2 Isolated from Mining Effluent. *Sains Malaysiana* (2014) Status: *in proof*. **IF: 0.408**.
2. Velayudhan Ranjani, Štefan Janeček, Kian Piaw Chai, **Shafinaz Shahir**, Raja Noor Zaliha Raja Abdul Rahman, Kok-Gan Chan & Kian Mau Goh. Protein engineering of selected residues from conserved sequence regions of a novel *Anoxybacillus*  $\alpha$ -amylase. *Scientific Reports*, Vol.4, Article number: 5850. (July 2014) **IF : 2.927** doi:10.1038/srep05850
3. Beng Hooi Khor, Abd. Khamim Ismail, Rahmalan Ahamad, **Shafinaz Shahir**. *Chromobacterium Violaceum* for Rapid Measurement of Biochemical Oxygen Demand. *Jurnal Teknologi (Sciences and Engineering)* Vol 69:1 (2014) 9-15 (SCOPUS)
4. Fazilah Abd Manan, Zaharah Ibrahim, **Shafinaz Shahir**. Plants in Antarctica: Current and Future Phytoremediation Potential. *Jurnal Teknologi (Sciences and Engineering)* Vol 69:1 (2014) 59-65 (SCOPUS)
5. Somayeh Asadi, **Shafinaz Shahir**, Zaharah Ibrahim, Adibah Yahya, Madiah Md Salleh, Norahim Ibrahim, Haryati Jamaluddin, Mohd Firdaus Abdul Wahab, Fazilah Abd Manan, Huszalina Hussin, Chong Chun Shiong, Wan Rosmiza Zana Wan Dagang. Isolation and Characterization of Metal and Antibiotic Resistant Psychrotrophic Bacteria from Refrigerated Spoiled Food. *Jurnal Teknologi (Sciences and Engineering)* Vol 69:1 (2014) 131-135 (SCOPUS)
6. Hui Han Bay, Chi Kim Lim, Thuan Chien Kee, Ismail Ware, Giek Far Chan, **Shafinaz Shahir**, Zaharah Ibrahim. Recalcitrant auto-oxidation coloured by-products using an acclimatised mixed bacterial culture. *Environ Sci Pollut Res Int*. **2014** Mar 29;21(5):3891-906. Epub 2013 Nov 29. (**IF: 2.618**)
7. Zaratulnur Mohd Bahari, Wahid Ali Hamood Altowayti, Zaharah Ibrahim, Jafariah Jaafar, **Shafinaz Shahir**. Biosorption of As (III) by non-living biomass of an arsenic hypertolerant *Bacillus cereus* strain SZ2 isolated from a gold mining environment: Equilibrium and kinetic study. *Applied Biochemistry and Biotechnology* (**IF: 1.893**) (Published online 15 Sept 2013). DOI 10.1007/s12010-013-0490-x.

8. Salwa Hussin, Abd Khamim Ismail, **Shafinaz Shahir**. A BOD Sensor Using Immobilized Consortium in Aliginate-based Matrix for Rapid Detection of River Water Pollution. *Jurnal Teknologi (Sciences and Engineering)* 59 Special Edition 1 (2012) 37-41 (SCOPUS)
9. Teoh Wei Kheng, Zaharah Ibrahim, **Shafinaz Shahir**. *Bacillus licheniformis* Coated Bioparticles for Hydrogen Peroxide Degradation. *Jurnal Teknologi (Sciences and Engineering)* 59 Special Edition 1 (2012) 5-9 (SCOPUS)
10. Han Gan Ming, **Shafinaz Shahir** and Adibah Yahya. Cloning and Funtional Analysis of the Genes Coding for the 4-aminobenzenesulfonate 3,4-dioxygenase from Hydrogenophaga sp. PBC. *Microbiology (IF: 2.957)*. Published online ahead of print May 18, 2012, doi: 10.1099/mic.0.059550-0.
11. Nor Aziah Buang, Fatirah Fadil, Zaiton Abdul Majid and **Shafinaz Shahir**, Characteristic of Mild Acid Functionalized Multiwalled Carbon Nanotubes towards high dispersion with low low structural defects. *Digest Journal of Nanomaterials and Biostrutures* Vol. 7, No. 1, January - March 2012, p. 33 – 39 (**ISI IF : 2.078**)
12. **Shafinaz Shahir**, Chun Siang Ling and Rahmalan Ahamad, Application of an Acclimated Microbial Consortium for Rapid Detection of Biochemical Oxygen Demand. *Asian Journal of Biotechnology* 3(5):519-529 (2011) (Thomas Reuters)
13. **Shafinaz Shahir**, Tai Boon Kai, Zaiton Abdul Majid and Nor Aziah Buang. Covalent Immobilization of Tyrosinase onto Commercial Multi-walled Carbon Nanotubes and Its Potential for Phenol Biosensing. Vol 7, No. 1 (2011) 82-88. *Journal of Fundamental Science* 2011 (ISSN: 1823-626X). (Google Scholar)
14. Han Ming Gan, Zaharah Ibrahim, **Shafinaz Shahir** and Adibah Yahya, Identification of genes involved in the 4-aminobenzenesulfonate degradation pathway of Hydrogenophaga sp.PBC via transposon mutagenesis. *FEMS Microbiol Lett* 318 : 108-114 (2011). (**IF: 2.04**)
15. Han Ming Gan, **Shafinaz Shahir**, Zaharah Ibrahim, Adibah Yahya, Biodegradation of 4-aminobenzenesulfonate by *Ralstonia* sp. PBA and *Hydrogenophaga* sp. PBC isolated from textile wastewater treatment plant. *Chemosphere* 82(4):507-13 (2011). (**IF: 3.155**)

	<p>16. Zaiton Abdul Majid, Nur Anis Mohammad Sabri, Nor Aziah Buang, <b>Shafinaz Shahir</b>. Role of oxidant in surface modification of carbon nanotubes for tyrosinase immobilization. <i>Journal of Fundamental Sciences</i> Vol. 6, No. 1 (2010) 51-56. (Google Scholar)</p> <p>17. Tai Boon Kai, Zaiton Abdul Majid, and <b>Shafinaz Shahir</b>. Covalent Immobilization of Tyrosinase onto Commercial Multi-walled Carbon Nanotubes and Its Effect on Enzymatic Activity. 2010 International Conference on Enabling Science and Nanotechnology 1-3 December, 2010, KLCC, MALAYSIA, ESciNano 2010-Proceedings, art. no. 5701046. IEEE (<i>indexed under SCOPUS</i>)</p> <p>18. Quek Hsiao Pei, <b>Shafinaz Shahir</b>, Liu Tao, Wan Azlina Ahmad Determination of Chromium(VI) Reduction by <i>Acinetobacter haemolyticus</i> using X-ray Absorption Fine Structure Spectroscopy. 4 (2008): 415-422 <u>Journal of Fundamental Science</u> ISSN 1823 626X-(Google Scholar).</p> <p>19. Quek Hsiao Pei, <b>Shafinaz Shahir</b>, A.S. Santhana Raj, Zainul Akmar Zakaria, Wan Azlina Ahmad. Chromium(VI) Resistance and Removal by <i>Acinetobacter haemolyticus</i>. 25 (2009): 1085-1093 <u>World J Microbiol Biotechnol.</u> DOI 10.1007/s11274-009-9989-2. (<i>IF : 1.214</i>)</p>
<p><b>Proceedings (National &amp; International)-refereed &amp; non-refereed</b></p>	<p>1. Somaieh Asadi, Zaratulnur Mohd Bahari, Norsahslin Irwan Shah Lee, Neoh Chin Hong, Norahim Ibrahim, Haryati Jamaluddin, Zaharah Ibrahim, <b>Shafinaz Shahir</b>. ISOLATION AND CHARACTERIZATION OF PSYCHROTROPHIC METAL RESISTANT BACTERIA : POTENTIAL BIOREMEDIATORS OF HEAVY METALS IN COLD ENVIRONMENTS. 6th Malaysian International Seminar on Antarctica 2013 (MISA6). 8th -9th October 2013, Parkroyal Hotel Resort, Batu Feringgi, Penang, Malaysia. (to be published)</p> <p>2. Zaratulnur Mohd Baharia, Zaharah Ibrahim, Jafariah Jaafar, <b>Shafinaz Shahir</b>. Microbial oxidation of arsenite by <i>Bacillus cereus</i> and <i>Microbacterium foliorum</i> bacteria isolated from a gold mining environment (IBS 2012), 16-21 Sept 2012, Daegu, Korea. (abstract)</p> <p>3. Hui Han Bay; Chi Kim Lim; Thuan Chien Kee; Lee Suan Chua; Giek Far Chan; <b>Shafinaz Shahir</b>; Zaharah Ibrahim. BIODECOLOURISATION OF TEXTILE DYES USING A NOVEL BAC-ZS CONSORTIUM (IBS 2012), 16-21 Sept 2012, Daegu, Korea (abstract)</p>



4. **Shafinaz Shahir**. Rapid Pollution Sensing: Improving Environmental Sustainability. The 2nd International Biotechnology & Biodiversity Conference (BIOJOHOR 2010), July 6-8, 2010, Johor Bahru, Johor, Malaysia. ISBN 978-983-42420-4-6.
5. Alias Mohd Yusof, Abdull Rahim Mohd Yusoff , Noor Aini Abdul Rashid, **Shafinaz Shahir**, Nurul Asyikin Kamaruzaman. Synthesis and Characterization of Selenium Nanoparticles Induced by Ultrasonication Irridiation with Ascorbic Acid as Oxidizing Agents. Faculty of Science Postgraduate Conference (FSPGC 2010), 5-7 Oct 2010, Ibnu Sina Institute, Universiti Teknologi Malaysia, Johor Bahru. ISBN: 978-983-9805-93-2.
6. Wong Ee Lin and **Shafinaz Shahir**. (2009). Tagging the DsRed Protein and Its Effect on Copper(II) Binding. Proceedings of ICORAFSS 2009 2-4 June 2009, The ZON Regency, Johor Bahru, Malaysia. Vol IV: 135-139. ISBN : 978-983-9805-76-5
7. Siti Intan Rosdianah Damis, **Shafinaz Shahir**, Rosli Md. Illias. (2009) The Whole Genome Sequence Finishing of *Bacillus* sp. G1 by Polymerase Chain Reaction (PCR) Strategy. Proceedings of ICORAFSS 2009 2-4 June 2009, The ZON Regency, Johor Bahru, Malaysia. Vol IV: 78-81. ISBN : 978-983-9805-76-5
8. Alias Mohd Yusof, Abdull Rahim Mohd Yusof, **Shafinaz Shahir**, Shakil Mohammad Arif (2009) Immobilization of Cholesterol Oxidase in Functionalized Ordered Mesoporous Silica Based Materials and Its Activity Study. Proceedings of ICORAFSS 2009 2-4 June 2009, The ZON Regency, Johor Bahru, Malaysia. Vol I: 116-119. ISBN : 978-983-9805-73-4.
9. Nor Aziah Buang, Zaiton Abd Majid, **Shafinaz Shahir**, Fatirah Fadil (2009). Stable Colloidal System of Mild Acid Functionalized Multiwalled Carbon Nanotubes. Proceedings of ICORAFSS 2009 2-4 June 2009, The ZON Regency, Johor Bahru, Malaysia. Vol I: 255-259. ISBN : 978-983-9805-73-4.
10. Belinda Tiong, Jafariah Jaafar, Zaharah Ibrahim, **Shafinaz Shahir** (2012). Isolation and Characterization of Cyanide Degrading Bacteria from Mining Wastewater. 3rd International Biotechnology and Biodiversity Conference & Exhibition (BIOJOHOR 2012), June 9-11, 2012, Johor Bahru, Johor, Malaysia.
11. Khor Beng Hooi, Rahmalan Ahamad, Abd. Khamim Ismail, **Shafinaz shahir** (2012). A Microbial Biosensor Based on UME for Measuring Biochemical Oxygen Demand. 3rd International Biotechnology and Biodiversity Conference & Exhibition (BIOJOHOR 2012), June 9-11, 2012, Johor Bahru, Johor, Malaysia.

12. Zaratulnur Mohd Bahari, Zaharah Ibrahim, Jafariah Jaafar, **Shafinaz Shahir** (2012). Arsenite Oxidizing Bacteria and Its Potential Application in Bioremediation of Arsenic-Contaminated Mining Effluent. 3rd International Biotechnology and Biodiversity Conference & Exhibition (BIOJOHOR 2012), June 9-11, 2012, Johor Bahru, Johor, Malaysia.

13. Tai Boon Kai, Zaiton Abdul Majid, and **Shafinaz Shahir**. Covalent Immobilization of Tyrosinase onto Commercial Multi-walled Carbon Nanotubes and Its Effect on Enzymatic Activity. 2010 International Conference on Enabling Science and Nanotechnology, 1-3 December, 2010, KLCC, MALAYSIA.

14. Chun Siang Ling, **Shafinaz Shahir**, and Rahmalan Ahamad (2008). A BIOCHEMICAL MEDIATOR DEMAND BIOSENSOR FOR ENVIRONMENTAL MONITORING. PROCEEDINGS OF THE International Conference and Expo on Environmental Management and Technologies (ICEEMAT'08) December 10th – 12th, 2008 Putra World Trade Centre Malaysia.

15. Salwa Hussin, **Shafinaz Shahir** and Zaharah Ibrahim (2008). Immobilized Cells as Sensing Material for Rapid Biochemical Oxygen Demand (BOD) Detection. PROCEEDINGS OF THE International Conference and Expo on Environmental Management and Technologies (ICEEMAT'08) December 10th – 12th, 2008 Putra World Trade Centre Malaysia.

16. Pamela Baldwin Thomas, Zaharah Ibrahim and **Shafinaz Shahir** (2008). Degradation of Volatile Organic Compound From Petrochemical Wastewater by *Bacillus cereus* STY9. PROCEEDINGS OF THE International Conference and Expo on Environmental Management and Technologies (ICEEMAT'08) December 10th – 12th, 2008 Putra World Trade Centre Malaysia.

17. Tee Soo Yee, **Shafinaz Shahir**, Zaharah Ibrahim & Chun Siang Ling “*Development of a cell-based biosensor for rapid determination of biochemical oxygen demand (BOD).*” 17th Scientific Meeting of MSMBB 23-25 June 2008 Saujana Kuala Lumpur (Seminar Abstract)

18. Quek Hsiao Pei, **Shafinaz Shahir**, Liu Tao & Wan Azlina Ahmad “Analysis of Chromium in *Acinetobacter haemolyticus* Using X- ray Absorption Fine Structure Spectroscopy. Regional Annual Fundamental Science Seminar 27-29 May 2008 Institut Ibnu Sina, UTM

19. Pamela B. Thomas, Zaharah Ibrahim, **Shafinaz Shahir** “*Degradation of styrene by Pseudomonas sp from petrochemical wastewater.*” 29<sup>th</sup> Symposium for the Malaysian Society of Microbiology. Kuala Terengganu 24-26 November 2007.

20. **Shafinaz Shahir** & Tony Cass, "Engineering the Maltose Binding Protein for Biosensing Applications". RAFSS 2007, Ibnu Sina Institute of Fundamental Science Studies, Universiti Teknologi Malaysia, Skudai Johor 28-29 May 2007.

21. **Shafinaz Shahir** & Tony Cass, "Engineering the Maltose Binding Protein for Metal Ions Sensing". International Conference on Bionanotechnology Research: BioNano3, Brighton, UK, 19-21 Sept 2005.

22. Zaharah Ibrahim, **Shafinaz Shahir**, Cianra Drahman and Izeliwani Ismail, "The Potential of Mixed Bacterial Cultures Isolated from industrial waste-water to secrete exopolymeric substances (EPS)" Proceedings of the 11<sup>th</sup> Scientific Meeting for Malaysian Society for Molecular Biology and Biotechnology, 2001.

23. Caroljit Kaur Dain, Zaharah Ibrahim, **Shafinaz Shahir** and Wan Azlina Ahmad, "Simulated Biocorrosion Study of Alloy Steel Coupons" Proceedings of the 12<sup>th</sup> National Biotechnology Seminar, 2000.

24. Rahmah Sukhairi, Zaharah Ibrahim, Wan Azlina Ahmad and **Shafinaz Shahir**, "Bioleaching of Gold Bearing Ores Using *Thiobacillus ferrooxidans*". Proceedings of the 10<sup>th</sup> National Biotechnology Seminar, SIRIM, Selangor, 1998.

25. **Shafinaz Shahir**, Rahmah Sukhairi, Zaharah Ibrahim and Wan Azlina Ahmad, "Isolation and Characterization of Iron-Oxidising Bacteria from Malaysian Gold Mines". Proceedings of the International Biohydrometallurgy Symposium, Sydney, Australia, 1997.

26. Wan Azlina Ahmad, **Shafinaz Shahir**, Rahmah Sukhairi and Zaharah Ibrahim, "Iron-Oxidising Bacteria - Potential Applications in Heap Leaching" Oral Presentation - Indonesian Biotechnology Conference, Jakarta, Indonesia, 16-19 June 1997.

27. Wan Azlina Ahmad, **Shafinaz Shahir**, Zaharah Ibrahim, Wan Anuar Ibrahim and Rosdi Baharum, "The Malaysian Gold Mining Industry - Prospects of Bioleaching" in the Proceedings of the International Seminar on Biotechnology & Its Global Impact, Braunschweig, Germany, 7 - 11 October 1996.

28. **Shafinaz Shahir**, Wan Azlina Ahmad and Zaharah Ibrahim, "Bioleaching: An Emerging Technology for the Malaysian Gold Mining Industry" in the Proceedings of the 8<sup>th</sup> National Biotechnology Seminar, Johor Bahru: 25-27 November 1996.

<p><b>Technical Reports and other Publications</b></p>	<ol style="list-style-type: none"> <li>1. End of Project Report for RUG Tier 1 Vote Number 00H85, "Biological Oxidation of Arsenic using Locally Isolated Microorganisms for on-site Treatment of Arsenic Contaminated Mining Effluent, 2013</li> <li>2. End of Project Report for FRGS Vote Number 78414, "Metabolism and Enzymology of Cyanide Biodegradation by Locally Isolated Bacteria", 2012</li> <li>3. End of Project Report for FRGS Vote Number 78309, "Molecular Engineering of Proteins for Unidirectional Immobilization onto Solid Supports and its Effect on Protein Activity", 2011.</li> <li>4. <b>Shafinaz Shahir</b> (2007) Application of Bioparticle for Treatment of Sewage Wastewater. Pg 1-60. Research Monograph. Publisher : UTM. ISBN978-967-353-606-1.</li> <li>5. <b>Shafinaz Shahir</b> (2008) Isolation and Screening of Peroxide-Degrading Microbes from Textile Bleaching Effluents. Pg 1-61. Research Monograph. Publisher : UTM. ISBN 978-967-353-995-6.</li> </ol>
<p><b>Research Awards</b></p>	<ol style="list-style-type: none"> <li>1. <b>Shafinaz Shahir</b>, Rahmalan Ahamad, Abd Khamim Ismail and Khor Beng Hooi: <b>BOD-Rap for Rapid Pollution Sensing</b>. 14<sup>th</sup> Industrial Art and Technology Exhibition (INATEX) 2012. Dewan Sultan Iskandar, UTM, Johor Bahru, Malaysia, 3 – 5 Oct 2012. (<b>Bronze Medal</b>).</li> <li>2. Alias Mohd Yusof, Abdull Rahim Mohd Yusoff, Noor Aini Abdul Rashid, <b>Shafinaz Shahir</b>, Nurul Asyikin Kamaruzaman and <b>Nik Ahmad Nizam</b>. Product title: HyperSiliSel: <b>Glucose Oxidase-Functionalized-Selenium Nanoparticles-Mesoporous Silica as a Glucose Biosensor</b>. Industrial Art and Technology Exhibition (INATEX 2010), Universiti Teknologi Malaysia, Skudai, Johor, Malaysia, 5 Aug 2010 – 7 Aug 2010. (<b>Silver Medal</b>)</li> <li>3. Alias Mohd Yusof, Abdull Rahim Mohd Yusoff, Noor Aini Abdul Rashid, <b>Shafinaz Shahir</b>, Shakil Muhammad Arif, Nurul Asyikin Kamaruzaman and <b>Dr Nik Ahmad Nizam</b>. Product title: <b>CHOL-E-SENSE a Cholesterol Biosensor Based On Cholesterol Oxidase Immobilized onto Functionalized Mesoporous Silica</b>. International Technology Exhibition (ITEX 2011) Kuala Lumpur Convention Centre (KLCC), 20 May 2011 – 22 May 2011. (<b>Bronze Medal</b>)</li> </ol>
<p><b>Reviewer</b></p>	<ol style="list-style-type: none"> <li>1. Manuscript Title: Colorimetric Detection of Melamine in Milk Products Based on Gold Nanoparticles (SNB-D-14-01657) Journal: Sensor and Actuators: B Publisher : Elsevier Date review required: 21 Aug 2014</li> </ol>

<p><b>Research Grants Acquired</b></p>	<p>2. Manuscript Title: Label-free glucose sensing with temperature modulation (CAP-D-14-00421) Journal: Current Applied Physics Publisher : Elsevier Date reviewed : 17 June 2014</p> <p>3. Manuscript Title: Evaluation of antibacterial properties of leather treated with silver nanoparticles. (961-969-1-RV) Journal: Jurnal Teknologi UTM (SCOPUS) Publisher : UTM Date reviewed : 16 June 2012</p> <p>4. Manuscript title: Isolation of Metal tolerant bacteria from polluted wastewater. (JTAS-0267-2010) Journal : Pertanika UPM (SCOPUS) Publisher: UPM Date reviewed : 14 March 2011</p> <p>5. Manuscript Title: Electrochemical DNA biosensor for detection of <i>Trichoderma harzianum</i> from ionic liquid/ZnO nanoparticles/chitosan/AuE using acridine orange redox-indicator. Journal: Analytical Biochemistry (SCOPUS) Publisher : Academic Press Date reviewed: 2010</p> <p>6. Manuscript Title : Evaluation of the combined Cr (VI) removal capacity of sawdust and sawdust-immobilized <i>Acinetobacter haemolyticus</i> supplied with brown sugar. Journal: Water, Air and Soil Pollution. (SCOPUS, SCI) Publisher: Springer Date reviewed : Nov 2008</p> <p>7. Manuscript Title: Influence of Cr (VI) Addition at Different Growth Phases of <i>Acinetobacter haemolyticus</i> on Cr (VI) Reduction. Journal: Environmental Engineering Science (SCI) Publisher: Mary Ann Liebert Inc. Publishers Date reviewed: Jan 2009</p> <p>8. Reviewer of EST article titled James Dewey Watson published by Dewan Bahasa Pustaka (2005)</p> <p>1. Type of Grant : <b>Short Term/Fundamental Research</b> Status : <b>Researcher</b> Grant No. : 71652 Amount : <b>RM 18,000 (2000-2001)-completed</b> Title : Potential Applications of Biofilm in Diverse Industrial Waters.</p>
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	<p>2. Type of Grant : <b>Short Term/IRGS</b>  Status : <b>Researcher</b>  Grant No. : 73202  Amount : <b>RM10,000 (2000-2001)-completed</b>  Title : Biocorrosion and Biofouling Control in Industrial Water Cooling System</p> <p>3.Type of Grant : <b>Short Term/Fundamental Research</b>  Status : <b>Researcher</b>  Grant No. : 71795  Amount : <b>RM 20,000 (2000-2001)-completed</b>  Title : Microbial Production of Surfactant.</p> <p>4.Type of Grant : <b>Short Term/Fundamental Research</b>  Status : <b>Leader</b>  Grant No. : 71797  Amount : <b>RM 19,000 1/12/01-30/11/02- completed</b>  Title : Development of an Electrochemical Biosensor Based on Immobilized Microbial Cells as an Indicator of Compound Toxicity</p> <p>5. Type of Grant : <b>Genomics &amp; Molecular Biology Initiative Fund (RMK9) Vot 73722 (completed)</b>  Status : <b>Principal Researcher</b>  Amount : RM130,000  Title : Whole Genome Sequencing of Extremophiles <i>Leucosporidium</i> sp. and <i>Bacillus</i> G1</p>
	<p>6.Type of Grant : <b>eScience Fund (RMK9) Vot 79156 (completed)</b>  Status : <b>Project Leader</b>  Amount : RM220, 000  Title : Bacteria as rapid sensors of biochemical oxygen demand (BOD) in river water.</p> <p>7. Type of Grant : <b>eScience Fund (RMK 9) Vot 79138 (completed)</b>  Status : <b>Researcher</b>  Title : Immobilization of cholesterol oxidase in modified mesoporous materials for electrochemical cholesterol biosensor application.</p> <p>8. Type of Grant : <b>FRGS (RMK 9) Vot 78176 (completed)</b>  Status : <b>Researcher</b>  Title : Mechanisms of Bacterial Detoxification of Cr (VI) from Industrial Wastewater in the Presence of Industrial Effluent as Potential Energy Source</p> <p>9. Type of Grant : <b>FRGS (RMK 9) Vot 78309 (completed)</b>  Status : <b>Project Leader</b>  Amount : RM 116,000  Title: Molecular Engineering of Proteins for Unidirectional Immobilization onto Solid Supports and its Effect on Protein Activity –</p>

	<p>10. Type of Grant : <b>FRGS (RMK 9) Vot 78414 (completed)</b>  Status : <b>Project Leader</b>  Amount : RM 38,000.00  Duration: 14 Aug 2009 – 13 March 2012  Title : Metabolism and Enzymology of Cyanide Biodegradation by Locally Isolated Bacteria</p> <p>11. Type of Grant : <b>FRGS (RMK 9) Vot 78318 (completed)</b>  Status : <b>Researcher</b>  Amount : RM 139,500  Title : Physico-chemical Studies of Tyrosinase Immobilized Onto Multiwalled Carbon Nanotubes (MWNTs).</p> <p>12. Type of Grant : <b>GUP 2011 Tier 1 (April 2011 – June 2013) (completed)</b>  Status: <b>Project Leader</b>  Amount : RM 150,000.00  Title : Biological Oxidation of Arsenic using Locally Isolated Microorganisms for on-site Treatment of Arsenic Contaminated Mining Effluent</p> <p>13. Type of Grant : <b>ERGS - (June 2012 – Sept 2014)</b>  Status: <b>Project Leader</b>  Amount : RM 81,000.00  Title : A Ultramicroelectrode (UME) based Biosensor as a New Approach to Measuring Biochemical Oxygen Demand in Water Systems</p> <p>14. UTM Antarctica Research Flagship (<b>April 2013 – Mac 2014) (completed)</b>  Status: <b>Researcher</b> (Fundamental Science Program)  Amount : RM34050.00  Title: BIOLOGICAL SYSTEMS AS TOOLS FOR MITIGATING CLIMATE CHANGE IN THE TROPICS</p> <p>15. Type of Grant : <b>FRGS - (April 2013 – March 2015)</b>  Status: <b>Project Leader</b>  Amount : RM 80,000.00  Title : Equilibrium and kinetic investigation on biosorption of As (III) and As (V) by arsenic hypertolerant bacteria isolated from a gold mining environment.</p> <p>16 . Type of Grant : <b>GUP 2013 Tier 1 (Dec 2012 – Nov 2014)</b>  Status: <b>Project Leader</b>  Amount : RM 90,000.00  Title : A Recombinant thermostable uricase for uric acid biosensor application.</p>
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	<p>17. Type of Grant : <b>UTM Flagship (April 2013 – Mac 2014) (completed)</b>  Status: <b>Collaborator</b>  Amount : RM 30,000.00  Title : On-line Monitoring of Patients Physiological Variables during Heart Surgery using a Microfluidic Biosensor Chip.</p> <p>18. Type of Grant : <b>UTM Flagship (April 2013 – Mac 2014) (completed)</b>  Status: <b>Collaborator</b>  Amount : RM 80,000.00  Title : PALM OIL: BIO-COMMODITY ENGINEERING FROM PALM OIL WASTES</p> <p>19. Type of Grant : <b>GUP 2014 Tier 1 (April 2014 – March 2016)</b>  Status : <b>Project Leader</b>  Amount: RM46,000.00  Title: THE DEVELOPMENT OF A NEW OPTICAL BIOSENSOR BASED ON IMMOBILIZED ARSENITE OXIDASE FOR RAPID DETECTION OF ARSENITE</p> <p>20. Type of Grant: <b>Flagship 2014 (April 2014 – March 2015)</b>  Status: <b>Collaborator</b>  Amount: RM100,000.00  Application of Biotechnology and Related-Sciences in Health and Waste Management (UTM-Argentina Collaboration)</p> <p>21. Type of Grant: <b>EScience Fund (April 2014-March 2016)</b>  Status: <b>Collaborator</b>  Amount: RM222,250.00  A Novel Nonaqueous Lab-on-a-Chip Device for Direct Analysis of Lipophilic Biological and Organic Compounds in Complex Matrixes.</p> <p>22. Type of Grant : <b>GUP 2014 Tier 1 (April 2014 – March 2016)</b>  Status : <b>Collaborator</b>  Amount: RM45,100.00  SURFACTANT MODIFIED CROP WASTE AS BIOSORBENT</p> <p>23. Type of Grant : <b>GUP 2014 Tier 1 (June 2014 – May 2015)</b>  Status : <b>Collaborator</b>  Amount: RM20,000.00  DEVELOPMENT OF ERGONOMIC ULTRA-LOW-COST CHEMICAL SENSING DEVICE</p> <p>24. Type of Grant : <b>Flagship (April 2014 – March 2015)</b>  Status : <b>Collaborator</b>  Amount: RM31,290.50  DEVELOPMENT OF PHYSIOLOGICAL VARIABLES USING ELECTROCHEMICAL DETECTION IN A CONTINUOUS PATIENT MONITORING SYSTEM</p>
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<p><b>Postgraduate Supervision (by research, graduated)</b></p>	<p>25. Type of Grant : <b>Flagship (April 2013 – March 2014) (completed)</b>  Status : <b>Collaborator</b>  Amount: RM650,000.00  MIT-UTM BLOSSOMS INITIATIVE</p> <p>26. Type of Grant : <b>FRGS (July 2014 – June 2016)</b>  Status: <b>Collaborator</b>  Amount RM121,400.00  Novel hybrid nanocomposite large sensor array for future nose on a chip</p> <p>1. <b>Gan Han Ming (Co-Supervisor) PhD student</b>  <b>PhD (Biosains)</b>. Molecular study for the Improvement of Textile Wastewater Treatment. (graduated Sept 2011)-Universiti Teknologi Malaysia</p> <p>2. <b>Ivy Bay Hui Han (Co-Supervisor)</b>  <b>PhD(Bioscience)</b> Dye Biodegradation by Microorganisms (on-going) Universiti Teknologi Malaysia. (<b>Completed Aug 2014</b>)</p> <p>3. <b>Siti Halimah Hasmoni (Main Supervisor)</b>  <b>MQB (Biosains)</b>. Tagging the MBP for Flourescence Biosensing (graduated 25 Oct 2012) – Universiti Teknologi Malaysia</p> <p>4. <b>Belinda Tiong (Main Supervisor)</b>  <b>MQB (Biosains)</b>. Biological Treatment of Cyanide Containing Wastewater (graduated 23 Nov 2012)  Universiti Teknologi Malaysia</p> <p>5. <b>Salwa binti Hussin (Main Supervisor)</b>  <b>MQB (Biosains)</b>. Bacteria as Rapid Sensors of Biochemical Oxygen Demand (BOD) in River Water. (graduated 1 June 2012)  Universiti Teknologi Malaysia</p> <p>6. <b>Chun Siang Ling (Main Supervisor)</b>  <b>MQB (Biosains)</b> A Biochemical Mediator Demand Biosensor for Pollution Monitoring – graduated June 2010  Universiti Teknologi Malaysia</p> <p>7. <b>Siti Intan Rosdianah (Main Supervisor)</b>  <b>MSc (Biologi)</b> Genome Sequencing of Alkaliphilic <i>Bacillus</i> sp. G1 : Plasmid Based Library (graduated 2011)  Universiti Teknologi Malaysia</p>
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<p><b>Postgraduate Supervision (by research; in progress)</b></p>	<p><b>8. Quek Hsiao Pei (Co-Supervisor)</b>  <b>MSc (Chemistry)</b> Mechanism of Cr(VI) Reduction by <i>Acinetobacter haemolyticus</i> (graduated 2009)  Universiti Teknologi Malaysia</p> <p><b>9. Mohd Saufi Mohd Sidek (Co-Supervisor)</b>  <b>MSc (Chemistry)</b> Simultaneous Hexavalent Chromium Reduction and Phenol Degradation using Locally Isolated Bacteria (graduated June 2010)  Universiti Teknologi Malaysia</p> <p><b>10. Fatirah Fadhil (Co-Supervisor)</b>  <b>MSc (Chemistry)</b> Immobilized tyrosinase on functionalized multi-walled carbon nanotubes-poly(vinyl)alcohol composite for catalytic conversion of phenol.(graduated 2011)  Universiti Teknologi Malaysia</p> <p><b>11. Nur Anis Mohamad Sabri (Co-supervisor)</b>  <b>MSc (Chemistry)</b>. Surface Modification of Multiwalled Carbon Nanotubes by Chemical Oxidation and Immobilization of Tyrosinase (graduated 2012)  Universiti Teknologi Malaysia</p> <p><b>12. Pamela Baldwin Thomas(Co-supervisor)</b>  <b>MQB (Bioscience)</b>. Biodegradation of Styrene (graduated 2010)  Universiti Teknologi Malaysia</p> <p>1. <b>Laila Muftah Ali (Co-Supervisor) PhD student (Bioscience)</b>  (Feb 2013 -) Universiti Teknologi Malaysia</p> <p>2. <b>Teoh Wei Kheng (Main Supervisor) PhD student PhD (Bioscience)</b>. Development of arsenic biosensor (Sept 2011 - ) Universiti Teknologi Malaysia</p> <p>3. <b>Norsahslin Irwan Shah Lee (Main supervisor) PhD student PhD (Bioscience)</b>. Development of novel biosensor for uric acid detection (Sept 2011 - ) Universiti Teknologi Malaysia</p> <p>4. <b>Zaratulnur binti Mohd Bahari (Main Supervisor) PhD (Bioscience)</b>. Arsenic Bioremediation (July 2010 - ) Universiti Teknologi Malaysia</p> <p>5. <b>Khor Beng Hooi (Main Supervisor) PhD student PhD (Bioscience)</b> BOD Biosensor Development (July 2009 - ) Universiti Teknologi Malaysia</p>
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<p><b>Postgraduate Dissertation (Master Mix Mode)</b></p>	<ol style="list-style-type: none"> <li>6. <b>Norjihada Izzah binti Ismail (Co-Supervisor) Phd student</b> PhD (Biomedical Engineering) (Sept 2012 – ) Universiti Teknologi Malaysia</li> <li>7. <b>Somayeh Asadi (Main Supervisor) PhD student</b> <b>PhD (Bioscience)</b> (Sept 2013 - ) Universiti Teknologi Malaysia</li> <li>8. <b>Siti Halimah Hasmoni (Main Supervisor) PhD student</b> <b>PhD (Bioscience)</b> (April 2014 - ) Universiti Teknologi Malaysia</li> <li>9. <b>Munirah Ramli (Main Supervisor) PhD student</b> <b>PhD (Bioscience)</b> (April 2014 - ) Universiti Teknologi Malaysia</li> </ol> <ol style="list-style-type: none"> <li>1. <b>Soheila Manshad (Main Supervisor) MQT student</b> <b>MQT (Biotechnology)</b> (graduated Feb 2014 ) UTM</li> <li>2. <b>Somayeh Asadi Haris (Main Supervisor) MQT student</b> <b>MQT (Biotechnology)</b> (graduated Sep 2013 ) UTM</li> <li>3. <b>Hamid Reza Mansouri Khosravi (Main Supervisor)</b> <b>MQT (Biotechnology)</b> (Sep 2013 ) UTM</li> <li>4. <b>Wahid Ali Hamood Altowayti (Main supervisor)</b> <b>MQT (Biotechnology)</b> (graduated Jan 2013) UTM</li> <li>5. <b>Abdalla Alfoqhi, Abdalla Hasan (Main Supervisor)</b> <b>MQT (Biotechnology)</b> (graduated 2012) UTM</li> <li>6. <b>Mohammed Vojdani (Main supervisor)</b> <b>MQT (Biotechnology)</b> (graduated 2012) UTM</li> <li>7. <b>Norazian binti Mohd Alwi (Main Supervisor)</b> <b>MQT (Biotechnology)</b> Cyanide Removal by a Locally Isolated Bacterium (graduated 2009) UTM</li> </ol>
<p><b>Postgraduate Thesis/Viva Examiner</b></p>	<ol style="list-style-type: none"> <li>1. UTM Neoh Chin Hong (PhD Biosains). Appointment as internal examiner Viva voce : 24 Feb 2014</li> <li>2. UPM. Gan Bee Koon (Master Sains Biokimia). Appointment as external examiner : 27 March 2013</li> <li>3. UTM. Dalila binti Md Zaki (Master Sains Biosains). Viva-Voce 11 April 2013. Graduated</li> </ol>

	<p>4. UTM. Noor Faizah binti Ismail (Master Sains Biosains). Lantikan pemeriksa 14 Jan 2010. Viva selesai (graduated)</p> <p>5. UTM. Munirah Tarek. (Master Sains Biosains)-lantikan pemeriksa pada Julai 2007. Viva-Voce 2008 (graduated)</p> <p>6. UTM. Hafizah Harun. (Master Sains Biosains)- lantikan pemeriksa pada Julai 2007. Viva-Voce 2008 (graduated)</p>
<p><b>Final Year Undergraduate Project Supervision</b></p>	<p><b>1. Khairul Anuar bin Nawawi (Main Supervisor)</b> BSc (Sains Industri) – graduated 1999 Universiti Teknologi Malaysia</p> <p><b>2. Hedzuan Azlee b. Hashim (Co-Supervisor)</b> BSc (Sains Industri) – graduated 1999 Universiti Teknologi Malaysia</p> <p><b>3. Tan Su Fern (Main Supervisor)</b> BSc (Sains Industri) – graduated 2000 Universiti Teknologi Malaysia</p> <p><b>4. Mohammad Azri Bunyok (Main Supervisor)</b> BSc (Sains Industri) – graduated 2001 Universiti Teknologi Malaysia</p> <p><b>5. Mohd Fuad bin Mohd Rafik</b> BSc (Sains Industri) – graduated 2001 Universiti Teknologi Malaysia</p> <p><b>6. Izelwani Ismail (Main Supervisor)</b> BSc (Biologi Industri) – graduated 2001 Universiti Teknologi Malaysia</p> <p><b>7. Fahmiyah Bt. Nawawi (Main Supervisor)</b> BSc (Biologi Industri) – graduated 2001 Universiti Teknologi Malaysia</p> <p><b>8. Cianra binti Drahman (Co-Supervisor)</b> BSc (Biologi Industri) – graduated 2001 Universiti Teknologi Malaysia</p> <p><b>9. Faridah Md Nor (Co-Supervisor)</b> BSc (Biologi Industri) – graduated 2001 Universiti Teknologi Malaysia</p> <p><b>10. Tony Wong Kok Min (Main Supervisor)</b> BSc (Biologi Industri) – graduated 2002 Universiti Teknologi Malaysia</p> <p><b>11. Wong Yeen Yee (Main Supervisor)</b> BSc (Biologi Industri) – graduated 2002 Universiti Teknologi Malaysia</p> <p><b>12. Siti Sara Mat Lazim (Main Supervisor)</b> “16S rRNA identification of soil bacterium.” BSc (Biologi Industri) – graduated 2007 Universiti Teknologi Malaysia</p>

	<p><b>13. Tee Soo Yee(Main Supervisor)</b>  “Biosensor development for BOD detection in polluted wastewater.”  BSc (Biologi Industri) – graduated 2007  Universiti Teknologi Malaysia</p> <p><b>14. Ng Yu Yi(Main Supervisor)</b>  “Biosensor development for the detection of phenol.”  BSc (Biologi Industri) – graduated 2007  Universiti Teknologi Malaysia</p> <p><b>15. Chun Siang Ling(Main Supervisor)</b>  “Biosensor development for the detection of styrene.”  BSc (Biologi Industri) – to graduate in 2007  Universiti Teknologi Malaysia</p> <p><b>16. Sharmala Devi Arumugam(Main Supervisor)</b> “Development of bioparticle for treatment of industrial wastewater in biofilter (Particle type B).”  BSc (Biologi Industri) – graduated 2007  Universiti Teknologi Malaysia</p> <p><b>17. Devanai Kannan (Co-Supervisor)</b> “Application of Bioparticle for the Treatment of Sewage Wastewater.”  BSc (Biologi Industri) – graduated 2007  Universiti Teknologi Malaysia</p> <p><b>18. Cheah Wai Yen (Main Supervisor)</b> “Isolation and Screening of Detergent Microbes.”  BSc (Biologi Industri) – graduated 2008  Universiti Teknologi Malaysia</p> <p><b>19. Belinda Tiong (Main Supervisor)</b> “Development of an Enzymatic Biosensor for Styrene Detection.”  BSc (Biologi Industri) – graduated 2008  Universiti Teknologi Malaysia</p> <p><b>20. Lai Yew Seng (Main Supervisor)</b> “Isolation of a Bioluminescent Microbe For Potential Biosensing Application.”  BSc (Biologi Industri) – graduated 2008  Universiti Teknologi Malaysia</p> <p><b>21. Wan Nur Liana Binti Wan Mathsor(Main Supervisor)</b> “Isolation and Identification of Bioluminescent Bacteria from <i>Parapenaepsis sp.</i>”  BSc (Biologi Industri) – graduated 2008  Universiti Teknologi Malaysia</p> <p><b>22. Loke Pit Shan (Main Supervisor)</b> “Isolation and Screening of Peroxide-Degrading Microbes from Textile Bleaching Effluents.”  BSc (Biologi Industri) – graduated 2008  Universiti Teknologi Malaysia</p> <p><b>23. Siti Nur Firdaus binti Mustaffa (Main Supervisor)</b> “Isolation and Identification of Peroxide-Degrading Bacteria Isolated from Textile Bleaching Effluents.”</p> <p><b>24. Nurul Shaidaitol binti Saad (Main Supervisor)</b> “Cloning of the Fluorescent Protein (DsRed) In an Expression Vector.”  BSc (Biologi) – graduated 2008  Universiti Teknologi Malaysia</p> <p><b>25. Yong Shun Yun (Main Supervisor)</b> “Application of <i>Bacillus</i></p>
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	<p><i>flavothermus</i> KWF-1 for BOD Sensor Development”.  BSc (Biologi) – graduated 2008  Universiti Teknologi Malaysia</p> <p><b>26. Marina binti Bujang (Main Supervisor)</b> “Isolation and Characterization of Cyanide Degradating Microbes from Mining Environment”.  BSc (Biologi Industri) – graduated 2009  Universiti Teknologi Malaysia</p> <p><b>27. Saw Yee-Synn (Main Supervisor)</b> “Identification of a Bioluminescent Microbe and Its Potential Application for Pollutant Sensing.  BSc (Biologi Industri) – graduated 2009  Universiti Teknologi Malaysia</p> <p><b>28. Ng Yiew Fook (Main Supervisor)</b> “Hydrogen Peroxide Degradation by a Thermoalkaliphilic Strain of <i>Bacillus licheniformis</i>.”  BSc (Biologi) – graduated 2009  Universiti Teknologi Malaysia.</p> <p><b>29. Kaarjel Kauslya A/P Narayanasamy (Main Supervisor)</b> “Immobilization of Tyrosinase onto Multiwalled Carbon Nanotubes and its Potential for Phenol Biosensing.  BSc (Biologi) – graduated 2009  Universiti Teknologi Malaysia</p> <p><b>30. Wong Ee Lin (Main Supervisor)</b> “Tagging the DsRed Protein and It Effect on Copper (II) Binding”. BSc (Biologi Industri) – graduated 2009  Universiti Teknologi Malaysia</p> <p><b>31. Nur anis bt Mohammad Sabri (Co-Supervisor)</b> “Surface Modification of Multiwalled Carbon Nanotubes by Chemical Oxidation and Immobilization of Urease.  BSc (Kimia Industri) – graduated 2009  Universiti Teknologi Malaysia</p> <p><b>32. Zaratunur binti Mohd Bahari (Main Supervisor)</b> “A Bioluminescence Based Assay For Bioactivity Measurement of Natural Products.  BSc (Biologi) – graduated 2010  Universiti Teknologi Malaysia</p> <p><b>33. Nazreen Abd Latif @Yaacob (Main Supervisor)</b> “Isolation and Screening of Cyanide-Tolerant Microbes from Effective Microorganisms.  BSc (Biologi) – graduated 2010  Universiti Teknologi Malaysia</p> <p><b>34. Muhammad Hafizzudin (Main Supervisor)</b> “Application of <i>Bacillus</i> sp. as Biocatalyst for Rapid BOD Detection” .  BSc (Biologi Industri) – graduated 2010  Universiti Teknologi Malaysia</p> <p><b>35. Tai Boon Kai (Main Supervisor)</b> “Immobilization of Tyrosinase onto Multiwalled Carbon Nanotubes and Its Effect on Enzyme Activity”.  BSc (Biologi Industri) – graduated 2010  Universiti Teknologi Malaysia</p>
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	<p><b>36. Meor Mohd Fikri bin Ahmad Zubir (Co-Supervisor)</b> “Cyanide Biodegradation of Gold Mining Effluent”. BSc (Biologi Industri) – graduated 2010 Universiti Teknologi Malaysia</p> <p><b>37. Lim Zun Xuan (Main Supervisor)</b> “Isolation and Identification of Acid Orange II Dye Decolourizing Bacteria”. BSc (Biologi Industri) – graduated 2010 Universiti Teknologi Malaysia</p> <p><b>38. Nurul Shakina binti Mohd Talkah (Main Supervisor)</b> “Effective Microorganisms as Rapid Detectors of Biochemical Oxygen Demand (BOD) in River Water”. BSc (Biologi) – graduated 2010 Universiti Teknologi Malaysia</p> <p><b>39. Suriana binti Aming (Main Supervisor)</b> “Hydrogen Peroxide Degradation using Crude Catalase Extracted from Thermoalkaliphilic <i>Bacillus licheniformis</i>”. BSc (Biologi Industri) – graduated 2010 Universiti Teknologi Malaysia</p> <p><b>40. Lee Hwee Ching (Main Supervisor)</b> “Screening and Identification of Biofilm Forming Lactic Acid Bacteria as Potential Indicator of Food Contamination”. BSc (Biologi Industri) – graduated 2011 Universiti Teknologi Malaysia</p> <p><b>41. Teoh Wei Kheng (Main Supervisor)</b> “<i>Bacillus licheniformis</i> Coated Bioparticles for Hydrogen Peroxide Degradation”. BSc (Biologi Industri) – graduated 2011 Universiti Teknologi Malaysia</p> <p><b>42. Norsahslin bt Irwan Shah Lee (Main Supervisor)</b> “Isolation and Screening of Bacteriocin Producing Lactic Acid Bacteria from Liquid Pineapple Waste”. BSc (Biologi Industri) – graduated 2011 Universiti Teknologi Malaysia</p> <p><b>43. Joshua Ong Jing Yu (Main Supervisor)</b> “Isolation and Characterization of Arsenite Oxidizing Bacteria From Gold Mining Effluent..”. BSc (Biologi Industri) – graduated 2012 Universiti Teknologi Malaysia</p> <p><b>44. Ng Ching Joo (Main Supervisor)</b> “Isolation and Characterization of Arsenite Oxidizing Bacteria From Crushed Gold Ores”. BSc (Biologi Industri) – graduated 2012 Universiti Teknologi Malaysia</p> <p><b>45. Tan Yue Rong (Main Supervisor)</b> “A Bacterial Biosensor for Arsenite Detection”. BSc (Biologi Industri) – graduated 2012 Universiti Teknologi Malaysia</p> <p><b>46. Foo Mung Hsia (Main Supervisor)</b> “A Biosensor for Detection of Arsenite Using Immobilized <i>Thiomonas arsenivorans</i> Cells”. BSc (Biologi Industri) – graduated 2012 Universiti Teknologi Malaysia</p> <p><b>47. Mohamad Faiz Zulhusni bin Mohd (Main</b></p>
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	<p><b>Supervisor)</b> Biosorption of Arsenite by Non-Living Biomass of <i>Pseudomonas</i> sp. BSc (Biologi) – graduated 2014 Universiti Teknologi Malaysia</p> <p><b>48. Nur 'Athirah binti Mohamad (Main Supervisor)</b> “Biosorption of Arsenite by Non-Living Biomass of <i>Microbacterium</i> sp. BSc (Biologi) – graduated 2014 Universiti Teknologi Malaysia</p> <p><b>49. Farhana binti Zahari (Main Supervisor)</b> “Enzymatic Biosensor for Arsenite Detection. BSc (Biologi Industri) – graduated 2014 Universiti Teknologi Malaysia</p>
<b>Consultation/Advisory Role</b>	<ol style="list-style-type: none"> <li>1. Perunding Projek: Khidmat Latihan Khusus dalam Bidang-bidang Kritikal untuk Biomolekular :UT.KORP/1.11Jld. 5(24), 13 Ogos 2012. (completed)</li> <li>2. Biotechnology Entrepreneurship Special Training (BEST) Program Organizer PUSPATRI. 17 May- 23 Jun 2010. <b>Vot 63700.</b> (completed)</li> <li>3. Advisor to Specific Resources Sdn Bhd in the area of bioleaching/bioremediation (2009 - ). On-going</li> </ol>
<b>Industrial Collaborators/MoUs</b>	<ol style="list-style-type: none"> <li>1. MoU with J-BioTech (Johor Biotechnology and Biodiversity Corporation) (1 Jan 2013 – 31 Dec 2014)</li> <li>2. MoU Specific Resources Sdn Bhd / Avocet Gold – Penjom Gold Mine, Kuala Lipis Pahang. (August 2011 – July 2013)</li> <li>3. MoU College of Life Sciences and Biotechnology, Korea University. (13 Sept 2012 – 12 Sept 2017 ) Collaboration in the area of research (biosensor technology) and academic staff/student exchange</li> </ol>
<b>Official Assignment for the Government of Malaysia or State</b>	<ol style="list-style-type: none"> <li>1. <b>Panel of Assessor</b> (Chemistry and Biology) for Malaysian Qualifications Agency (<b>MQA</b>). (25 Aug 2009 - present) : <ol style="list-style-type: none"> <li>i. Assessed Foundation Program (Science Biology/Health Science) at Management &amp; Science University (MSU). Selangor Malaysia. (PA9279) 24 Dec 2009</li> <li>ii. Assessed Foundation Program (Health Sciences) at KBU International College. Selangor Malaysia. (PA 0192). 5-6 April 2012</li> <li>iii. Assessed Foundation Program (Science) at Nightingale International College. Negeri Sembilan Malaysia. (PA11444) 28-29 Feb 2012.</li> <li>iv. Assessed GCE A-Level Program (Science) at KDU International College. Kota Damansara. (FA 2351)</li> </ol> </li> </ol>



	<p>29-30 Aug 2012.</p> <ul style="list-style-type: none"> <li>v. Assessed Program Sarjana Muda Pendidikan (Biologi) dengan Kepujian at UPSI, Perak, Malaysia. (AT11). 13-14 Jun 2013.</li> <li>vi. Assessed Master of Science (Applied Science) at UCSI, Cheras Selangor. (A10188) 18-19 Sept 2013.</li> <li>vii. Assessed Sarjana Muda Sains (Kepujian) Mikrobiologi Gunaan (MQA/PA 4623). UiTM.</li> </ul> <p>2. <b>Panel of Expert Assessor</b> (Technical and Financial Committee for Research Grants submitted under the <b>Ministry of Science Technology &amp; Innovation</b> (11 Nov 2011 – present).</p> <ul style="list-style-type: none"> <li>i) Assessed eScience fund proposals under Chemical Science Cluster at MOSTI Putrajaya on 30 April 2014 (9:00 am – 12:00 pm)</li> </ul>
<p><b>Speaker/Visiting Academic/Chair/Scientific Committee</b></p>	<p>1. <b>Presenter</b> 6th Malaysian International Seminar on Antarctica 2013 (MISA6). 8th -9th October 2013, Parkroyal Hotel Resort, Batu Feringgi, Penang, Malaysia.</p> <p>2. <b>Visiting Lecturer</b> <b>Biosensor Technology Lab (Prof Dr Man Bock Gu)</b>, College of Life Sciences and Biotechnology, Korea University. 11/10-14/10/12</p> <p>3. <b>Invited Speaker</b> The 2nd International Biotechnology &amp; Biodiversity Conference (BIOJOHOR 2010), July 6-8, 2010, Johor Bahru, Johor, Malaysia.</p> <p>4. <b>Session Chair</b> 2010 International Conference on Enabling Science and Nanotechnology, 1-3 December, 2010, KLCC, MALAYSIA. Session theme: Polymer/Nanocomposite Date : 2 December 2010 Time: 2:00 – 4:00 pm Venue: Room MR 304, KLCC</p> <p>5. <b>Oral Presenter</b> The 5<sup>th</sup> International Conference on Sensors (Asiasense 2011), The Shilla Jeju, Jeju Korea, 24-26 Oct 2011. Presentation title: Interactions between and the Immobilization Tag and a Fluorescent Label in an Engineered Binding Protein. Venue: Shilla Jeju (Lotus 3(3F))</p>

	<p>Date : 24 Oct 2011 Time: 2:00 – 2:30 pm</p> <p><b>6. Oral Presenter</b> 15<sup>th</sup> International Biotechnology Symposium and Exhibition (IBS 2012) EXCO, Daegu Korea, 16 -21 Sept 2012 Presentation title: Microbial oxidation of arsenite by <i>Bacillus cereus</i> and <i>Microbacterium foliorum</i> isolated from a gold mining environment. Date : 21 Sept 2012 Time : 9.15 – 9.30 am</p> <p><b>7. Scientific Committee</b> 3rd International Biotechnology and Biodiversity Conference &amp; Exhibition (BIOJOHOR 2012), June 9-11, 2012, Persada Johor, Malaysia.</p> <p><b>8. Scientific Committee</b> 4th Johor Biotechnology Conference and Exhibition (BIOJOHOR 2014), August 26-27, 2014, Puteri Pacific Johor, Malaysia</p> <p><b>9. Presenter</b> Biosensors 2014. 24<sup>th</sup> Anniversary World Congress on Biosensors. 27<sup>th</sup> – 30<sup>th</sup> May 2014 Melbourne Australia</p>
<p><b>Courses / Workshops / Colloquiums Attended</b></p>	<p><b>2014</b></p> <p>Workshop on Strategic Direction for Malaysian Polar (Antarctica and Arctic) Research. Institute of Postgraduate Studies, Universiti Malaya. 19 August, UM.</p> <p>Biosensors 2014. 24<sup>th</sup> Anniversary World Congress on Biosensors. 27<sup>th</sup> – 30<sup>th</sup> May 2014 Melbourne Australia</p> <p>1<sup>st</sup> Academic Research on Oil Palm Sustainability Network Symposium 10 – 11 June 2014 Hotel Puri Pujangga, UKM Bangi Malaysia</p> <p>A Half Day Workshop on Designing and Presenting Effective Teaching Workshops by Dr Richard M. Felder and Dr Rebecca Brent 23 May 2014 UTM</p> <p>Worldview of New Academia 21 – 22 April 2014, Dewan Bankuet UTM</p>

**2013**

BIOSENSOR DEVELOPMENT TRAINING WORKSHOP (18/11-29/11/13), SIRIM Berhad Shah alam Malaysia

PROBLEM SOLVING WORKSHOP (16/10- 17/10/13), UTM MTDC

6TH MALAYSIAN INTERNATIONAL SEMINAR ON ANTARTICA (08/10 – 10/10/13), Park Royal Penang Resort

NATIONAL SEMINAR FOR MQA ASSESSORS (16/04/13), Hotel Granada Johor

TEAM BUILDING WORKSHOP (22/02 – 24/02/13), Lotus Desaru Beach Resort, Kota Tinggi Johor

**2012**

Seminar R&D MOSTI (02/10/12), Putrajaya

Perbincangan teknikal UTM-ANTARTIKA NEW ZEALAND (03/09 – 07/09/12), Victoria University, Wellington New Zealand

Bengkel Task Force Cadangan Penganbungan FKBSK dan FBB (27/03/12), Pulau Springs Resort, Johor.

Bengkel Penyediaan Proposal Projek Penyelidikan Antartika dan Climate Change (26/03/12), Pulau springs Resort, Johor.

Bengkel Penyediaan Bahan Pembelajaran Bagi Perisian Kursus Terbuka Atau Open Courseware (OCW) (17/02 – 19/02/12), Ancasa Allsutes Resort & Spa Port Dickson, Negeri Sembilan.

Program GOP: Journey to the land of Taegeukgi - Pegawai pengiring (13/01 – 22/01/12), Seoul Korea.

**2011**

Training of Trainers HYGIE (09/11/11), Paragon Hotel, Johor Bahru

Bengkel OSHE FBB (22/08 – 23/08/11), Bilik Jamuan DSI UTM

Bengkel Kemahiran Insaniah di Kalangan Pelajar (14/07 – 17/07/11), Awana Genting Highland Golf and Country Resort, Kuantan Pahang.

Teaching By the Case Method Workshop (07/07 – 10/07/11), ANCASA HOTEL AND SPA KUALA LUMPUR

	<p>BENGKEL SCL ZON SELATAN (13/05/11), Persada Johor International Convention Centre Johor Bahru</p> <p>BENGKEL KAEDAH PEMBENTANGAN OLEH PA (28/04/11), Bilik Senat DSI UTM</p> <p>Bengkel Penyediaan Kertas Kerja Program MBBS PhD UTM (04/04 – 06/04/11), Corus Hotel Kuala Lumpur</p> <p>Bengkel Outcome Based Education (OBE) (03/01/11), Bilik Senat DSI UTM</p> <p><b>2010</b></p> <p>Bengkel Outcome Based Education (OBE) (27/12/10), Bilik Senat, DSI UTM</p> <p>Bengkel Pemasaran FBB (23/11/10), Bilik Persediaan Konvokesyen, DSI UTM</p> <p>Kursus Pentadbir Akademik UTM (03/11 – 07/10/10), RENAISSANCE MELAKA</p> <p>Assessor Training for Programme Accreditation (30/05 – 01/06/10), Hotel Concorde Shah Alam</p> <p>Kursus Tatacara Majlis Istiadat DiRaja Johor (20/05/10), Rumah Alumni UTM</p> <p>Kursus Penasihat Akademik Berkesan (05/04 – 06/04/10), Pusat Latihan UTM</p> <p><b>2008</b></p> <p>Bengkel Penerapan Kemahiran Generik di kalangan Pelajar di Dewan Cengal, Pulau Springs Resort, 26-27 Julai 2008</p> <p><b>2007</b></p> <p>BSF-Invitrogen Protein Microarray Workshop di Biopolis, Singapore (22 August 2007)</p> <p><b>2006</b></p> <p>Intellectual Discourse “US-Malaysia Relations” by H.E Mr. Christopher J. Lafleur di Dewan Senat, UTM (28 April 2006)</p> <p>Bengkel Pelaksanaan Content-Area Tutoring (CAT) di Dewan Seroja, Rumah Alumni UTM (24 July 2006)</p>
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	<p>Biotechnology Asia 2006 Conference &amp; Exhibition di PWTC, Kuala Lumpur (11 Aug 2006)</p> <p>BSF-Illumina Gene Expression Workshop di Biopolis, Singapore (13-15 Dec 2006)</p> <p>Kursus E-Learning di Fakulti Sains (19-20 Dec 2006)</p> <p>Bengkel Pengurusan Nilai dalam Pengurusan Ruang bagi Fakulti Sains di Guoman Resort, Port Dickson, Negeri Sembilan (26-28 Dec 2006).</p> <p><b>2001</b></p> <p>A workshop on “<b>Kawalan Mutu EST Biologi</b>” at Puteri Resort, Ayer Keroh, Melaka from 12-14 Jan 2001.</p> <p>“<b>Konvensyen Pendidikan UTM 2000</b>” at DSI, UTM, Skudai on the 14 Feb 2001</p> <p>A course on “<b>Pembinaan dan Penilaian Item Ujian</b>” at DSI, UTM Skudai on the 21 Feb 2001.</p> <p>A workshop on “<b>Penulisan Karya Asli</b>” at Hotel Seri Malaysia, Johor Bahru from 21-23 May 2001.</p> <p>A workshop on “<b>Pengenalan Penulisan Modul Pengajaran</b>” at Starhill Golf and Country Club, Kempas Lama, Johor from 6-7 June 2001. Jointly organised by the Home Ministers Dept. and UTM.</p> <p>“<b>Science Convention 2001</b>” at Palace of the Golden Horses, The Mines Resort City, Seri Kembangan, Selangor from 4-5 July 2001.</p> <p>A workshop on “<b>Pelan Tindakan 2001 Fakulti Sains</b>” at Century Mahkota Hotel, Melaka from 6-8 July 2001.</p> <p>A course on “<b>E-Learning Fakulti Sains</b>” at Bilik Latihan 2, N25, Pusat Komputer, UTM Skudai from 29-30 Nov 2001.</p> <p><b>2000</b></p> <p>A Specialised Short Course on “<b>Application of Molecular Microbial Ecology in Water and Wastewater Treatment</b>” from 6-9 April, 2000 at the Faculty of Civil Engineering, organised by IPASA, UTM, Skudai.</p>
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