



The Centre for Research in Biotechnology for Agriculture www.cebar.um.edu.my

(CEBAR) has a mission “to be at the Forefront in Generating and Disseminating Scientific Ideas and knowledge in Biotechnology Research Relevant to support a Sustainable Agriculture Bioeconomy”, and aims to qualify as a Ministry of Education Centre of Excellence (HiCoE) in 2015.

In the year 2015, CEBAR researchers produced **72 WoS (ISI) publications** with over 53% of these in tier 1 and 2 ranked journals.

CEBAR members secured over **RM5.5 million in research grants** including from the **Bill and Melinda Gates Foundation** (under the International Institute of Tropical Agriculture (IITA)).

CEBAR also raised income of over **RM39,600 through workshops and training courses** run by our staff and members.

Currently, CEBAR has **over 178 graduate students** under supervision by our Principal Investigators with over half of these at the PhD level of which over 50% are International students. In 2015, CEBAR also hosted **16 national and 1 international interns** in our various labs.

CEBAR staff and students won a total of **5 International Awards and 2 National Awards** in 2015 and registered **12 patent applications** with **1 National patents granted**. In addition, **6 copyrights were registered** last year.

Activities in 2015 included **8 workshops, 2 training course, 7 seminars /mini-symposia** and visits by **local** (UKM INBIOSIS Plant Research Group) and **international** scientists including from **Japan, New Zealand, Hong Kong, India, Czech Republic and Canada**.

CEBAR continues to manage and operate the University of Malaya Plant Biotech Facility (PBF), which allows researchers to test novel hybrid plants on a large scale in a contained and climate controlled setting. CEBAR **successfully achieved re-certification** of the Plant Biotech Facility to international standards for Biosafety in September 2015 and the certificate is valid until 6th September 2016.

As part of our continued efforts to improve biosafety awareness and compliance, we produced several **safety videos** explaining our **standard operating procedures (SOP)** at the **Plant Biotech Facility** and **4** of these have been **copyrighted** with the assistance of UMCIC.

In terms of International and national networking, 2015 saw CEBAR as co-signatory to **MOA** with **Nara Institute of Science and Technology (NAIST), JAPAN; University of Leicester, UK; University of California San Francisco (UCSF), USA; International Institute of Tropical Agriculture (IITA)**, under **Gates’s Foundation, Heleogenics Sdn Bhd, Sime Darby Technology Centre Sdn. Bhd. and Senatek Sdn. Bhd.** CEBAR also conducted activities under several on-going **MOU**.

In 2015 CEBAR continued development in **inclusive innovation** through various **community outreach activities**. These included working with Rembau Community College, Negeri Sembilan to train the community the proper plant tissue culture techniques, conducting Entrepreneurship Through Nursery Planting Programme with ‘Agensi Antidadah Kebangsaan’ (AADK) to assist the recovering addicts to generate their income, working with **Orang Asli** communities in Kampung Sri Pantai located in Senggarang, Batu Pahat, Johor to introduce to the Orang Asli entrepreneurs proper

*Centre for Research In Biotechnology for Agriculture (CEBAR)
Highlights of Activities & Achievements in 2015*

| | | |
|--------------------------------------|---|---|
| | | 2015 National Competition (MOSTI) and Best Oral Presenter in 11th Malaysia Genetics Congress 2015, Perdana University, Serdang. |
| Intellectual property | 12 Patents 6 Copyrights | Granted:1, Pending: 10 National & 1 International |
| CEBAR activities | 8 Workshops 2 Training course 7 Seminar/symposia 2 Expositions (participation in booth exhibition) | Topics included: Biotechnology approach; genetic engineering; molecular biology techniques, plant tissue culture; cryopreservation; biosafety standard operating procedure development; grant preparation; scientific writing; |
| Visitors hosted | 1 National 7 International | International visitors: Dr Charles Dwamena (Plant & Food Research New Zealand); Professor M. L. Chye Wilson and Amelia Wong (University of Hong Kong); Professor Sanjib Kumar Panda (Assam University, India); Dr. Jana Mandikova (Czech Republic); Professor Ivo Frébort (Palacký University, Czech Republic); Associate Professor Suha Jabaji (McGill University, Canada) |
| Physical Resources and System | Re-certification of Plant Biotech Facility to international standards for infrastructure and operation to BSL-2 | The certification inspection was performed on 7th September 2015 and the certificate is valid until 6 th September 2016. |

Details of awards to CEBAR staff / students in 2015

| No. | Name of PI / student | Award | Level |
|-----|---|--|---------------|
| 1 | Prof Dr. Jennifer Ann Harikrishna & Shetlee Ng | Second place in Poster Presentation, 20th Biological Sciences Graduate Congress, Chulalongkorn University | International |
| 2 | Prof Dr. Jennifer Ann Harikrishna & Jasdeep Kaur A/P Darsan Singh | Third place in Poster Presentation, 20th Biological Sciences Graduate Congress, Chulalongkorn University | International |
| 3 | Dr. Chan Kok Gan & Tann Kian Hin | Second prize in Oral Presentation, 20th Biological Sciences Graduate Congress, Chulalongkorn University | International |
| 4 | Dr. Zuliana Razali | The Best Session Paper in 3rd International Conference on Chemical, Agriculture and Medical Sciences (CAMS-2015) | International |
| 5 | Prof. Dr. Rofina Yasmin Othman, Dr. Umaiyal | Third Runner-up in Euraxess Science Slam Malaysia 2015 National Competition (MOSTI) | National |
| 6 | Prof. Dr. Rofina Yasmin Othman, Dr. Umaiyal | Best Oral Presenter in 11th Malaysia Genetics Congress 2015, Perdana University, Serdang | National |

Details of patents to CEBAR staff / students in 2015

| No. | Name of PI | Name of Patent | Certificate No. | Level |
|-----|------------|----------------|-----------------|-------|
|-----|------------|----------------|-----------------|-------|

*Centre for Research In Biotechnology for Agriculture (CEBAR)
Highlights of Activities & Achievements in 2015*

| | | | | |
|----|--|---|--|---------------|
| 1 | Prof. Dr. Jennifer Ann Harikrishna, Prof. Dr. Rofina Yasmin Othman | Plant Virus Protection Solution | MY-154890 | National |
| 2 | Prof. Dr. Mohamad Suffian Bin Mohamad Annuar | Lactobacillus Plantarum Fermentation of Momordica Charantia Fresh Juice | PI2014700004 (Pending) | National |
| 3 | Prof. Dr. Mohamad Suffian Bin Mohamad Annuar | Shape memory and pH responsive hydrogel | PI2014700071 (Pending) | National |
| 4 | Assoc Prof Dr Mohamad Suffian Mohamad Annuar | An Up-flow Anaerobic Sludge Blanket with Fixed Film (UASB-FF) Bioreactor | PI2013004461 (Pending) | National |
| 5 | Prof. Dr. Mohamad Suffian Bin Mohamad Annuar | Ultrasound-assisted rapid extraction of bacterial mcl-PHA | PI2014701570 (Pending) | National |
| 6 | Assoc. Prof. Dr. Chandran A/L Somasundram | Isolation and Extraction of Myo-Inositol Crystals from Red Dragon Fruit (Hylocereus Polyrhizus) | UM.TNC2/UMCI C/603/623 | National |
| 7 | Assoc. Prof. Dr. Subha Bhassu | A Method Of Identifying Parentage In Freshwater Prawn Macrobrachium | PI 2013701608 (Pending) | National |
| 8 | Assoc. Prof. Dr. Chan Kok Gan | Salicylic acid as potential AHL synthase inhibitors and its application as anti-quorum sensing-mediated anti-infective measures | | National |
| 9 | Prof. Dr. Rofina Yasmin | A Method For Producing Bio-Active Agent For The Prevention Of Disease Caused By White Spot Syndrome Baculovirus Complex And A Bio-Active Agent Derived Thereof | US: No 13/884.689 (Pending) | International |
| 10 | Prof. Dr. Mohamad Suffian Bin Mohamad Annuar | A Method to Mass-Produce Pisang Berangan Cell Suspension Culture in pH-Controlled Air Driven Bioreactor | Pending-waiting for Malaysian Pattern Office | National |
| 11 | Prof. Dr. Mohamad Suffian Bin Mohamad Annuar | A method to produce an alpha-glucosidase inhibitor by fermenting a Momordica charantia juice using probiotic Lactobacillus plantarum for use as a medicament for diabetes treatment | Pending-waiting for Malaysian Pattern Office | National |
| 12 | Prof. Dr. Mohamad Suffian Bin Mohamad Annuar | Fermented Momordica charantica Juice Exhibiting Alpha-Glucosidase Inhibitory Activities | Pending-waiting for Malaysian Pattern Office | National |

Details of copyrights to CEBAR staff / students in 2015

*Centre for Research In Biotechnology for Agriculture (CEBAR)
Highlights of Activities & Achievements in 2015*

| No | Year | Title | No Filing | Filing date | Authors |
|----|------|--|------------------------|-------------|---|
| 1 | 2015 | CEBAR Plant Biotech Facility Standard Operation Procedure 13: Operation of Bleach Sterilizer | FM201500269 5 | 21-Dec-15 | Professor Dr. Jennifer Ann Harikrishna, Puan Lau Su Ee, Puan Zarina Binti Md Ali |
| 2 | 2015 | CEBAR Plant Biotech Facility Standard Operation Procedure 14: Spill Management | FM201500269 6 | 21-Dec-15 | Professor Dr. Jennifer Ann Harikrishna, Puan Lau Su Ee, Puan Zarina Binti Md Ali |
| 3 | 2015 | CEBAR Plant Biotech Facility Standard Operation Procedure 15: Emergency Management | FM201500269 7 | 21-Dec-15 | Professor Dr. Jennifer Ann Harikrishna, Puan Lau Su Ee, Puan Zarina Binti Md Ali |
| 4 | 2015 | CEBAR Plant Biotech Facility Fire Drill Video | FM201500269 8 | 21-Dec-15 | Professor Dr. Jennifer Ann Harikrishna, Puan Lau Su Ee, Puan Zarina Binti Md Ali |
| 5 | 2015 | dsRNA Silencing of an R2R3-Myb Transcription Factor Affects Flower Cell Shape in a Dendrobium Hybrid | LY2015002726 | 21-Dec-15 | Professor Dr. Jennifer Ann Harikrishna, Professor Dr. Rofina Yasmin Binti Othman, Puan Lau Su Ee. |
| 6 | 2015 | Promoting Social Engagement Amongst Postgraduate: Postharvest Training for Orang Asli Entrepreneurs. | ISBN 978-967-0380-65-0 | N/A | Rebecca Ow Phui San, Nadiyah Mohd Saruan, Vicknesha Santhirasegaram, Kelvin Kiran Anthony, Dominic Soloman George, Natasha Nurliyana Azhari, Avinash Sagan, Kamal Solhaimi Fadzil, Zuliana Razali and Chandran Somasundram. |

Details of MOA & MOU activities by CEBAR staff / students in 2015

| No. | MOU/MOA | Activity under the MOA/MOU | CEBAR Staff &*students involved | MOA/MOU Active Period |
|-----|---|---|---|---|
| 1 | Memorandum on student exchange between University of Malaya and Nara Institute of Science and Technology (NAIST), JAPAN | 1) NAIST-CEBAR Symposium on March 2015 2) Meeting to discuss about NAIST Dual Degree Programme and Memorandum on Student Exchange Between UM & NAIST Japan on 27 th July 2015. 3) Pre-screening Interview for PhD Fellowships (for 2016/2017 enrolment) on 27 th November 2015. | Prof Dr Jennifer Harikrishna Prof Dr. Noor Hasima Nagoor | 16 th Mar 2009 - 15 th Mar 2014 (renewed 25 th Feb 2014 - 24 th Feb 2019) |
| 2 | Agreement on research collaboration and academic exchanges between University of Malaya & NARA Institute of Science and Technology (NAIST), JAPAN | 1) NAIST-CEBAR Symposium on March 2015 2) Meeting to discuss about NAIST Dual Degree Programme and Memorandum on Student Exchange Between UM & NAIST Japan on 27 th July 2015. | Prof. Dr. Jennifer Harikrishna Prof. Dr. Norzulaani Khalid Prof. Dr. Noor Hasima Nagoor | 16 th Mar 2009 - 15 th Mar 2014 (renewed 25 th Feb 2014 - 24 th Feb 2019) |

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| 3 | Memorandum of Agreement between University of Malaya and on research collaboration between University of Malaya and University of Leicester | <ol style="list-style-type: none"> 1) Prof Dr Jennifer Ann Harikrishna had one month research attachment at University of Leicester (30th June - 30th July 2014) 2) Prof Dr Norzulaani Khalid had two months research attachment at University of Leicester (1st Dec 2014 - 31st Jan 2015) 3) Paper writing 4) Visit and workshop with Prof Pat Heslop-Harrison 11th-13th October 2015 | Prof Dr Jennifer Ann Harikrishna Prof Dr Norzulaani Khalid | 2 nd July 2014 - 1 st July 2017 |
| 4 | Research collaboration agreement between CEBAR, University of Malaya and University of California San Francisco (UCSF) | <ol style="list-style-type: none"> 1) Dr. Harlizzawati Johari from Korgan Lab, UCSF visited University Malaya on 5th May, 2015 and held discussion with Yasmin Lab postdocs and research assistants regarding Fusarium-Banana Interactome project. 2) Sharing of fusarium-banana transcriptome data with Krogan lab on 6th July 2015. 3) Proteins extracted from banana tissue samples were sent to UCSF for Mass spectrometric analyses on 9th September 2015. | Prof Dr Rofina Yasmin Othman | 4 th June 2014 - 3 rd June 2016 |
| 5 | Memorandum of Understanding between University of Malaya and Fraunhofer- Institute for Molecular Biology and Applied Ecology(IME), Germany | <ol style="list-style-type: none"> 1) Student and/or academic and administrative staff exchanges 2) Joint research activities 3) Exchanges of publications, reports, regulatory guidelines and other academic materials and information. | Prof Dr Rofina Yasmin Othman | 17 th Dec 2013 - 16 th Dec 2016 |
| 6 | Agreement International Institute of Tropical Agriculture (IITA) and University of Malaya (UM) | <ol style="list-style-type: none"> 1) On-going research on the mentioned research project 2) Fund account has been opened 3) PhD student registration in progress | Prof. Dr. Jennifer Ann Harikrishna Prof.Dr. Rofina Yasmin Othman | 1 st Oct 2014 - 30 th Sep 2015 |
| 7 | Memorandum of Agreement between Heleogenics Sdn Bhd and the University of Malaya | <ol style="list-style-type: none"> 1) Identification and collection of naturally diverse Banana cohort from 100 samples. 2) Completion of transcriptome sequencing of 100 samples. 3) On-going process of transferring fund to MARDI to initiate the phenotypic characterization experiment. 4) One new RA was appointed. | Prof Dr Rofina Yasmin Othman | 31 st Dec 2013 - 30 th Dec 2018 |
| 8 | Memorandum of Understanding between National Institutes of Biotechnology Malaysia represented by Malaysian Institute of Pharmaceuticals | <ol style="list-style-type: none"> 1) Liew Su Ki, student of A/P Dr. Noor Hasima Nagoor attended the field trip at IPharm on 10-11th November 2014 2) Liew Su Ki student of A/P Dr. Noor Hasima Nagoor attended Computer | Prof Dr. Noor Hasima Nagoor | 4 th Sep 2014 - 3 rd Sep 2019 |

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|-----------|---|--|----------------------------------|---|
| | and Nutraceuticals and University of Malaya | Aided Drug Design and Natural Product Seminar & Workshop at IPharm on 2 nd - 5 th December 2014. | | |
| | | 3) Research on-going | | |
| 9 | Memorandum of Agreement between Sime Darby Technology Centre Sdn. Bhd. and University of Malaya | 1) Research methodology Course Sem 1 2014/2015 2) Seminar Presentation on 13 th May 2015 3. Candidature defense 28 th July 2015 3) Publications submitted / in preparation. | Prof Dr Jennifer Ann Harikrishna | 11 th April 2014- 25 th Mac 2015 |
| 10 | Memorandum of Agreement between Senatek Sdn. Bhd. and University of Malaya | 1) Pre-commercialization stage. 2) Launching of multiplex molecular diagnostic kit for prawn diseases in Tech Innovation Singapore. | Prof. Madya Dr. Subha Bhassu | 16 th December 2014- 11 th May 2015 |

Details of CEBAR activities in 2015: Workshops

| No. | Title | Date/venue | Output |
|----------|--|---|---|
| 1 | LC/MS-Based Plant Proteomics Masterclass | 30 th March - 1 st April 2015 | Knowledge Transfer Income: RM15,000.00 |
| 2 | Brainstorming Workshop on the CEBAR Strategic Plan 2016-2020 | 10 th June 2015/ CEBAR Meeting Room | CEBAR future plan |
| 3 | CEBAR Scientific Writing Workshop I | 22 nd July 2015/ CEBAR Meeting Room | Knowledge Transfer |
| 4 | CEBAR Scientific Writing Workshop II | 14 th August 2015/ CEBAR Meeting Room | Knowledge Transfer |
| 5 | CEBAR Scientific Writing Workshop III | 17 th August 2015/ CEBAR Meeting Room | Knowledge Transfer |
| 6 | Acclimatization Workshop | 28 th August 2015/ taman Gadong, Labu Negeri Sembilan | Income: RM 8,000 Knowledge Transfer |
| 7 | Workshop of Advanced Molecular and Biology and Genomic Techniques in Animals | 1 st September - 3 rd September 2015/University of Malaya | Income: RM10,464.00 Knowledge Transfer |
| 8 | CEBAR Scientific Writing Workshop IV | 13 th November 2015/ CEBAR Meeting Room | Knowledge Transfer |

Details of CEBAR activities in 2015: Training courses

| No. | Title | Date/venue | Output |
|-----|-------|------------|--------|
|-----|-------|------------|--------|

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| | | | |
|----------|---|---|--|
| 1 | Training Course in Basic Molecular Genetic Biology Techniques | 1 st April – 30 th April 2015/ University of Malaya | Income: RM5,460.00 Knowledge Transfer |
| 2 | Training On Banana Tissue Culture | 14 th May 2014/ Plant Biotechnology Incubator Unit, UM | Income: RM700.00 Knowledge Transfer |

Details of CEBAR activities in 2015: Seminar/symposia

| No. | Title | Date/venue | Output |
|------------|--|---|--------------------|
| 1 | NAIST Visit to UM Mini Symposium & Introduction to Graduate Program for PhD in the Graduate School of Biological Sciences at NAIST, Japan | 9 th March 2015/Seminar A&B IPS | Knowledge Transfer |
| 2 | CEBAR Expert Seminar Series 1/2015: Genetic Engineering The Isoprenoid Pathway To Improve Plant Growth, Pod Size And Seed Yield Professor M. L. Chye Wilson and Amelia Wong Professor in Plant Biotechnology, School of Biological Sciences, University of Hong Kong | 18 th March 2015/ Anggerik Room IPS | Knowledge Transfer |
| 3 | CEBAR Expert Seminar Series 2/2015: Biotechnological Approaches for Generating Abiotic Stress Tolerant Crops by Professor Sanjib Kumar Panda, Department of Life Science & Bioinformatics, Assam University, India | 27 th May 2015/ Anggerik Room IPS | Knowledge Transfer |
| 4 | CEBAR Expert Seminar Series 3/2015: Cryopreservation (cryolab/cryobank) in the Czech Republic by Dr. Jana Mandikova | 26 th October 2015/ Mars Meeting Room, IPPP | Knowledge Transfer |
| 5 | CEBAR Expert Seminar Series 4/2015: CEBAR PI Research Seminar by CEBAR Members and Associate Members | 12 th November 2015/ Mars Meeting Room, IPPP | Knowledge Transfer |
| 6 | CEBAR Expert Seminar Series 5/2015: Engineering Barley For Enhanced Drought Tolerance by Professor Ivo Frébort, Faculty of Science, Palacký University, Czech Republic | 20 th November 2015/ Mars Meeting Room, IPPP | Knowledge Transfer |
| 7 | CEBAR Expert Seminar Series 6/2015: Bacterial Endophytes Contribute to Drought Stress Adaptation in Cereal and Forage Grass Crops by Associate Professor Suha Jabaji, Plant Science Department, McGill University, Canada | 14 th December 2015/ Mars Meeting Room, IPPP | Knowledge Transfer |

Details of CEBAR activities in 2015: Other activities

Centre for Research in Biotechnology for Agriculture, Level 3 IPPP Building, University of Malaya 50603 Kuala Lumpur, Malaysia. Tel: (603) 79676990 Fax: (603) 79676991 email:cebar@um.edu.my www.cebar.um.edu.my

*Centre for Research In Biotechnology for Agriculture (CEBAR)
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| No. | Title | Date/venue | Output |
|-----|--|---|---|
| 1 | Plant Biotech Facility, PBF Fun Day | 24 th April 2015/ Plant Biotech Facility, UM | Knowledge Transfer |
| 2 | Open Day National Blue Ocean Strategy (BOS) or NBOS Open Day 2015 | 23 rd & 24 th May 2015/ International Convention Centre, Kuala Lumpur | Establish benefits to community in promoting activities related to plant tissue culture |
| 3 | SOP Review & Self Audit Workshop of Plant Biotechnology Facility (PBF) | 5 th August 2015/ Plant Biotech Facility, UM | Knowledge Transfer. Improvement of GP-BSL2 SOP version 1.3 |
| 4 | PBF GP-BSL2 re-certification | 7 th September 2015/ Plant Biotech Facility, UM | The certification inspection was performed on 7 th September 2015 and the certificate is valid until 6 th September 2016. |
| 5 | Malaysian Society for Molecular Biology and Biotechnology (MSMBB) 2015 Conference & Exhibition (In charge of CEBAR booth) | 8 th -9 th September 2015/ RMIC Hall, UM | Establish links with the public and industry for research and innovation |
| 6 | UM Research Carnival (UMRC) 2015 Conference & Exhibition (In charge of CEBAR booth) | 8 th - 9 th October 2015/ RMIC Hall, UM | Establish links with the public and industry for research and innovation |
| 7 | COMMUNITY ENGGAGEMENT (Prof. Dr. Norzulaani Khalid) Tissue Cultured Planting Material as an Agent of Economic Transformation | 2015/ Rembau Community College, Negeri Sembilan | Knowledge Transfer |
| 8 | COMMUNITY ENGAGEMENT (Pn. Mahanom Jalil / Prof. Madya Dr. Kamaludin A. Rashid) Entrepreneurship Through Nursery Planting | 2015/ Agensi Antidadah Kebangsaan (AADK) | Knowledge Transfer |

Details of visitors to CEBAR in 2015

| No. | Visitor(s) | Institute/Organization | Date of Visit | Activity |
|-----|-----------------------------------|--|-------------------------------|--|
| 1 | UKM INBIOSIS Plant Research Group | UKM INBIOSIS | 19 th January 2015 | Visit to Plant Biotech Facility & CEBAR |
| 2 | NAIST VISIT | NARA Institute of Science and Technology (NAIST), JAPAN | 9 th March 2015 | UM Mini Symposium & Introduction to Graduate Program for PhD in the Graduate School of Biological Sciences @NAIST, JAPAN |
| 3 | Dr. Charles Dwamena | Research Scientist in Breeding & Genomics, Plant & Food Research New Zealand | 17 th March 2015 | Visit to Plant Biotech Facility & CEBAR |

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| | | | | |
|----------|---|---|-----------------------|--|
| 4 | Professor M. L. Chye Wilson and Amelia Wong Professor | Plant Biotechnology, School of Biological Sciences, University of Hong Kong | 18th March 2015 | Keynote Speaker at CEBAR Expert Seminar Series 1/2015: Genetic Engineering The Isoprenoid Pathway To Improve Plant Growth, Pod Size And Seed Yield |
| 5 | Professor Sanjib Kumar Panda | Department of Life Science & Bioinformatics, Assam University, India | 27th May 2015 | Keynote Speaker at CEBAR Expert Seminar Series 2/2015: Biotechnological Approaches for Generating Abiotic Stress Tolerant Crops |
| 6 | Dr. Jana Mandikova | Czech Republic | 26th October 2015 | Keynote Speaker at CEBAR Expert Seminar Series 3/2015: Cryopreservation (cryolab/cryobank) in the Czech Republic |
| 7 | Professor Ivo Frébort | Faculty of Science, Palacký University, Czech Republic | 20th November 2015 | Keynote Speaker at CEBAR Expert Seminar Series 5/2015: Engineering Barley For Enhanced Drought Tolerance |
| 8 | Associate Professor Suha Jabaji | Plant Science Department, McGill University, Canada | 14th December 2015 | Keynote Speaker at CEBAR Expert Seminar Series 6/2015: Bacterial Endophytes Contribute to Drought Stress Adaptation in Cereal and Forage Grass Crops |

Details of interns hosted by CEBAR in 2015

| No. | Name | Institute/ Country | Duration of attachment |
|------------|--------------------------------|--|---|
| 1 | Diviyah A/P Nagaratnam | Faculty of Health and Life Sciences, MSU Selangor | 1 st December 2014 - 16 th April 2015 |
| 2 | Larcana A/P Balasingam | Faculty of Health and Life Sciences, MSU Selangor | 1 st December 2014 - 16 th April 2015 |
| 3 | Nurul Ain Khoruddin | Faculty of Health and Life Sciences, MSU Selangor | 3 rd December 2014 - 8 th March 2015 |
| 4 | Rabab Anwar | Monash University Malaysia Campus | 1 st February 2015 - 30 th April 2015 |
| 5 | Shahrina Binti Shahrudin | Universiti Putra Malaysia | 8 th June 2015 - 4 th September 2015 |
| 6 | Jaiyogesh Ramesh Patel | Universiti Malaysia Sarawak (UNIMAS) | 6 th July 2015 - 25 th September 2015 |
| 7 | Suryelacumi D/O Visvanathan | Universiti Pendidikan Sultan Idris | 8 th June 2015 - 14 th August 2015 |
| 8 | Nadzirah | Kolej Komuniti Rembau | 29 th June 2015 - 16 th October 2015 |

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|----|--------------------------------|--|---|
| 9 | Nur Shuhadah Mohd Saad | University of Queensland, Australia | 1 st July 2015 - 7 th August 2015 |
| 10 | Prabu Sashti Rajan Marimuthu | Imperial College London | 27 th July 2015 - 28 th August 2015 |
| 11 | Kavithra Gangatharan | Nilai University, Nilai | 19 th October 2015 - 5 th March 2016 |
| 12 | Sivasangari Nagaraju | Management & Science University (MSU) | 7 th December 2015 - 22 nd April 2016 |
| 13 | Huan Mun Siang | UCSI University | 1 st December 2015 – 31 st December 2015 |
| 14 | Zaid Mohamad Azmi | INTEC Education College, Shah Alam | 16 th November 2015 - 23 rd December 2015 |
| 15 | Intan Faizurah Redzuan Albakri | Management & Science University (MSU) | 7 th December 2015 - 22 nd April 2016 |
| 16 | Ch'ng Voon Hong | University College Sedaya International (UCSI) | 4 th January 2016-29 th February 2016 |
| 17 | Ton Mak Sin-Yi | Universiti Malaysia Sarawak (UNIMAS) | 4 th July 2016-23 rd September 2016 |

Details of CEBAR PI's Professional Memberships (ongoing in 2015)

| No | Organization | Academic Staff | Professional Membership | Duration | Level |
|-----------|--|---|--------------------------------|-----------------------|---------------|
| 1 | Association Of University Technology Managers | Prof. Dr. Rofina Yasmin Othman | Member | 11/02/2013-31/12/2015 | International |
| 2 | Innovation Technology Managers Association Malaysia | Prof. Dr. Rofina Yasmin Othman | 1st Vice President | 17/02/2015-17/02/2016 | International |
| 3 | EU-Malaysia Chamber Of Commerce | Prof. Dr. Rofina Yasmin Othman | Deputy Chairman | 17/07/2015-17/03/2016 | International |
| 4 | Institute Of Food Technologies | Assoc. Prof. Dr. Chandran A/L Somasundram | Member | 01/01/2015-31/12/2015 | International |
| 5 | International Society Of Horticultural Science | Assoc. Prof. Dr. Chandran A/L Somasundram | Member | 01/01/2015-31/01/2017 | International |
| 6 | Society For Biological Engineering | Prof. Dr. Mohamad Suffian Mohamad Annuar | Member | 2009-2015 | International |
| 7 | National Biosafety Board Ministry Of Natural Resource And Environment Malaysia | Prof. Dr. Rofina Yasmin Othman | Member | 2010-2015 | National |
| 8 | Malaysian Genomic Institute (MGI) | Prof. Dr. Norzulaani Binti Khalid | Academic, Joint Research | 2012-2017 | National |
| 9 | Malaysian Genetics Society | Prof. Dr. Jennifer Ann Harikrishna | Member | Life Member | National |
| 10 | Malaysian Society Of Molecular Biology And Biotechnology (MSMBB) | Prof. Dr. Jennifer Ann Harikrishna | Member | Life Member | National |

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|-----------|--|-----------------------------------|------------------|-------------|----------|
| 11 | Malaysian Genetics Society | Prof. Dr. Noor Hasima Nagoor | Member | Life Member | National |
| 12 | Malaysian Society Of Molecular Biology And Biotechnology (MSMBB) | Prof. Dr. Noor Hasima Nagoor | Committee Member | Life Member | National |
| 13 | Malaysian Society Of Molecular Biology And Biotechnology (MSMBB) | Prof. Dr. Norzulaani Binti Khalid | Member | Life Member | National |
| 14 | Malaysian Genetics Society | Prof. Dr. Rofina Yasmin Othman | Member | Life Member | National |
| 15 | Malaysian Genetics Society | Assoc. Prof. Dr. Subha Bhassu | Member | Life Member | National |
| 16 | Malaysian Society Of Molecular Biology And Biotechnology (MSMBB) | Assoc. Prof. Dr. Subha Bhassu | Member | Life Member | National |
| 17 | Malaysian Society Of Molecular Biology And Biotechnology (MSMBB) | Prof. Dr. Zulqarnain Mohamed | Member | Life Member | National |