



BIODATA

| | | | |
|------------------|---|--------------------------|---|
| Name : | Suryanti Binti Bustam | Correspondence Address : | Kompleks MyGeneBank, Agrobiodiversity and Environment Research Centre, MARDI Headquarters, Persiaran MARDI-UPM, 43400 Serdang, Selangor, Malaysia |
| Date of Birth : | 1 February 1986 | Email : | suryanti@mardi.gov.my suryantibustam@yahoo.com |
| Place of Birth : | Segamat, Johor | | |
| Gender : | Female | | |
| Nationality : | Malaysian | | |
| Occupation : | Senior Research Officer (Q48) | | |
| Institution : | Malaysian Agricultural Research and Development Institute (MARDI) | | |

EDUCATIONAL BACKGROUND

| UNIVERSITY/COLLEGE | DEGREE/CERTIFICATE |
|---|--|
| Universiti Putra Malaysia CGPA 3.864 YEAR 2013 | Master of Science (Seed Science and Technology) Thesis: Morphological Development, In Vitro Storage, and Regeneration of Protocorm-like Bodies of Orchid Hybrid <i>Dendrobium</i> Shavin White |
| Universiti Putra Malaysia CGPA 3.454 YEAR 2009 | Bachelor of Agricultural Science Thesis: Cryopreservation of Christmas Palm (<i>Veitchia merrillii</i>) using the desiccation and pre-culture method. |
| Malacca Matriculation College CGPA 2.94 YEAR 2005 | Matriculation Certificate (Life Science) |

| SCHOOL | GRADE |
|--|------------------------------|
| SM Sains Sultan Haji Ahmad Shah, Kuantan Pahang (SPM 2003) | 2 A1, 2 A2, 3 B3, 1 B4, 1 C5 |
| SMK Paloh Hinai, Pekan Pahang (PMR 2001) | 8A |
| SK LKTP Keratong 1, Rompin Pahang (UPSR 1998) | 5A |

SKILLS AND KNOWLEDGES

- Seed Science and Technology
- Plant cryopreservation techniques (Encapsulation-dehydration, vitrification, droplet-vitrification, simple dehydration).
- Plant tissue culture and somatic embryogenesis.
- Production and storage of synthetic seed.
- Laboratory equipment handling (Laminar air flow, autoclave, liquid nitrogen, chemicals).
- Experienced in preparing sample for Variable Pressure Scanning Electron Microscope (VPSEM) and Histology.
- Proficient in Microsoft Word, Excel, Power point and Statistical Analysis Software (SAS)

PUBLICATIONS

1. **Suryanti B.**, Sinniah U. R., Midhzar, A.K., Faridah, Q.Z. and Sreeramanan, S. (2012). Selection of optimal stage for protocorm-like bodies and production of artificial seeds for direct regeneration on different media and short term storage of *Dendrobium shavin* White. *Plant Growth Regulation*. April 2013, Volume 69, Issue 3, pp 215 - 224.
2. Saikat, G., **Suryanti, B.** and Sinniah U. R., (2012). Alginate-encapsulation, short-term storage and plant regeneration from protocorm-like bodies of *Aranda* Wan Chark Kuan 'Blue' x *Vanda coerulea* Griff. ex. Lindl. (Orchidaceae). *Plant Growth Regulation*. November 2012, Volume 68, Issue 2, pp 129-140.
3. **Suryanti B.**, Izlamira R. and Abdul Muhaimin A.K. (2016). *In Vitro* Conservation Of *Kaempferia galanga* Linn. under Slow-Growth Condition. Ismail J. (eds) in Proceeding of the Regional Taxonomy and Ecology Conference 2015. Perputakaan Negara Malaysia. ISBN 978-967-2008-13-2.
4. Izlamira R., Noor Hisham M.Z.A, Mazlina R., **Suryanti B.**, Mohd Zulkhairi A. and Nurin Izzati M.Z. (2016). *Diversity of the Genus Kaempferia* (Zingiberaceae). Ismail J. (eds) in Proceeding of the Regional Taxonomy and Ecology Conference 2015. Perputakaan Negara Malaysia. ISBN 978-967-2008-13-2.
5. **Suryanti B.**, Sinniah, U. R. and Mallappa K. S., (2017). Simple and Efficient *In vitro* Method of Storing *Dendrobium* Sw. *Shavin White* Protocorm Like Bodies (Plbs). *Bangladesh Journal of Botany* 46: 439-449.
6. **Suryanti B.**, Anuar Rasyidi M.N., Ahmad Syahman M.D., Maimun T. and Mohd Shukri M.A. (2018). *In-vivo* and *in-vitro* germination of *Musa violascens* and *Musa borneensis* seeds. Rogayah S. (eds) in Transaction of the Malaysian Society of Plant Physiology Vol. 25. eISSN 2600-9595.
7. Noor Camellia N.A., Abdul Muhaimin A. K., **Suryanti B.**, and Mohd Shukri M.A. (2018). Cryopreservation Techniques of *Citrus aurantifolia* (Key Lime). Rogayah S. (eds) in Transaction of the Malaysian Society of Plant Physiology Vol. 25. eISSN 2600-9595
8. Mohd Shukri M. A., Tosiah S., Rosliza J., Site Noorzuraini A.R., Muhammad Shafie M.S., Mohd Norfaizal G., Khadijah A., Maimun T., Azuan A., Adam Gerta, D.A., Izlamira R., Noor Camellia N.A. and **Suryanti B.**, (2018). My GeneBank™: Strategi pemuliharaan sumber genetic pertanian untuk masa hadapan. Asiah., I. (eds) in Agrobiodiversiti di Malaysia III: Agrobiodiversiti untuk Pembangunan Sosioekonomi Negara. ISBN 978-967-936-657-0.
9. **Suryanti B.**, Noor Camellia N. A., Nuratisha S., Abdul Muhaimin A. K. and Mohd Shukri, M. A. (2019). Seed Storage Behaviour of Potential Fruit Species (*Lepisanthes Fruticosa*). Rogayah S. (eds) in Transaction of the Malaysian Society of Plant Physiology Vol. 26. eISSN 2600-9595.
10. **Suryanti B.**, Mohd Shukri M.A., Nur Atisha S., Abdul Muhaimin A.K., and Noor Camellia N.A., (2019). Cryopreservation attempts on the potential rarefruit species (*Lepisanthes fruticosa*). Rogayah S. (eds) in Transaction of the Malaysian Society of Plant Physiology. 27, pp 186-191. eISSN 2600-9595.
11. Noor Camellia N.A., Abdul Muhaimin A.K., Nur Atisha S., Mohd Norfaizal G., **Suryanti B.**, Mohd Zulkhairi A. and Umikalsum M.B. (2020). Pengeluaran benih keladi melalui teknologi kultur tisu. Buletin Teknologi MARDI Bil 19. Pp 143-150
12. **Suryanti B.**, Nuratisha S., Abdul Muhaimin A.K., Noor Camellia N.A., and Umikalsum M.B. (2020). Kultur Tisu Keldai Musang (*Xanthosoma violaceum*). Buletin Teknologi MARDI. Bil. 21. eISSN 2289-9642
13. Mohd Zulkhairi A., **Suryanti B.**, Nor Asiah I. dan Umikalsum, M.B. (2020). Keladi di Malaysia. Serdang, Selangor, Malaysia, Penerbit MARDI, ISBN: 978-967-936-701-0.
14. Noor Camellia N.A., Abdul Muhaimin A.K., Nur Atisha S., Mohd Norfaizal G., **Suryanti B.** and Umikalsum, M.B. (2019). *In Vitro* Micropropagation Techniques of Two Local Taro Cultivars. Transactions of the Malaysian Society of Plant Physiology 27: 199-203.

15. Noor Camellia N.A. dan **Suryanti B.** (2020). Pembangunan kultur tisu. In (Eds) Mohd Zulkhairi A., Suryanti B., Nor Asiah I. dan Umikalsum M.B. Keladi di Malaysia. Penerbit MARDI. Pp 61-69. ISBN: 978-967-936-701-0

PRESENTATION IN CONFERENCES

1. Uma Rani Sinniah, **Suryanti Bustam**, Najib Othman and Siti Aishah Hassan (2010). Response of manila palm (*Veitchia merrillii*) embryo to desiccation and cryopreservation. Poster presented in National Conferences on Natural Resources (NCNR) Kelantan 2010.
2. **Suryanti Bustam**, Uma Rani Sinniah and Sreeramanan Subramaniam (2010). Proliferation and regeneration protocol for protocorm-like bodies of *Phalaenopsis gigantea* orchid. Poster presented at International Society for Southeast Asian Agricultural Sciences (ISSAAS) Congress 2010, Bali Indonesia. 14th – 18th November 2010
3. **Suryanti Bustam**, Uma Rani Sinniah, Sreeramanan Subramaniam and Saikat Gantait (2011). Artificial seed production and regeneration from encapsulated protocorm-like bodies of *Dendrobium* Shavin White. Oral presented at ISSAAS International Congress 2011, Bogor Indonesia. 7th – 10th November 2011
4. **Suryanti Bustam** and Uma Rani Sinniah (2012). Regeneration of *Dendrobium* Shavin White artificial seeds using different substrates. Poster presented at 7th National Seed Symposium 2012, Putrajaya Malaysia. 15th – 16th May 2012
5. **Suryanti Bustam** and Uma Rani Sinniah (2014). Encapsulation of *Dendrobium* Shavin White PLBs as synthetic seeds and their short-term preservation method. Poster presented at Agrobiodiversity And Agroenvironment Symposium (A-Bes 2014), Kuching Sarawak. 15th - 18th September 2014
6. Izlamira R., Mohd Zulkhairi A., Nurin Izzati M.Z. and **Suryanti B.** (2015). *Kaempferia* L.: Herbs and Ornamental Potential of Zingiberaceae. Paper presented at Persidangan Industri Herba, Putrajaya. 3 - 5 November 2015
7. **Suryanti B.**, Mohd Shukri M. A., Maimun T., Noor Camellia N. A., Abdul Muhaimin A. K. and Aimi Athirah A. (2016). Kesan pengeringan terhadap percambahan biji benih dan pertumbuhan embrio secara in vitro bagi *Lepisanthes fruticosa*. Poster presented at Persidangan Kebangsaan Agribiodiversiti (NAC 2016) Kuala Terengganu, Malaysia, 4th - 6th Oktober 2016.
8. Mohd Shukri M.A., Site Noorzuraini A.R., Muhammad Shafie M.S., Mohd Norfaizal G., Khadijah A., Maimun T., Azuan A., Adam Gerten D.A., Izlamira R., Noor Camellia N.A. and **Suryanti B.** (2016). Issues and Challenges in Managing Plant Genetic Resources for the Implementation of National Genebank and the Treaty. 9th National Seed Symposium, Selangor, Malaysia, 23rd - 24th August 2016.
9. Mohd Shukri M.A., Tosiah S., Saadiah J., Rosliza J., Site Noorzuraini A.R., Muhammad Shafie M.S., Mohd Norfaizal G., Khadijah A., Maimun T., Azuan A., Adam Gerten D.A., Izlamira R., Noor Camellia N.A. and **Suryanti, B.** (2016). MyGeneBank™: Strategi pemuliharaan sumber genetik pertanian untuk masa hadapan. Oral presented at Persidangan Kebangsaan Agribiodiversiti (NAC 3 2016), Kuala Terengganu, Malaysia, 4th - 6th Oktober 2016.
10. Maimun T., **Suryanti B.**, Anuar Rasyidi M. N., Abdul Muhaimin A. K., Masrom H., and Ahmad Syahman M.D. (2016). Variation in Seed Morphological Characteristics of *Musa* sp. Poster presented at 9th National Seed Symposium 2016, Selangor, Malaysia. 23rd - 24th August 2016.
11. Noor Camellia N. A., Abdul Muhaimin A. K. and **Suryanti B.** (2016). Seed Characteristics and Storage Behaviour of *Citrus aurantifolia*. Poster presented at 9th National Seed Symposium 2016, Selangor, Malaysia, 23rd - 24th August 2016.
12. Mohd Shukri M.A., Khadijah A., Maimun T., Mohd Norfaizal G., Muhammad Shafie M.S., **Suryanti B.**, Azuan A., Anuar Rasyidi, M.N. and Siti Sofia, M. (2016). Collecting, Handling, and Quality Seed Processing of Crop Wild Relatives (CWR) for Ex Situ Conservation in Malaysia.

- Oral presented at State of the World's Plant Symposium, Kew Garden London, United Kingdom. 11th – 12th May 2016.
13. Mohd Norfaizal G., Khadijah A., Maimun T., **Suryanti B.**, Anuar Rasyidi M.N., Siti Sofia M., Muhammad Shafie M.S., and Mohd Shukri M.A., (2017). Conservation of Crop Wild Relatives (CWR) in Malaysia: Current Achievements. Oral presented at State of the World's Plant Symposium, Kew Garden London, United Kingdom. 25th – 26th May 2017.
 14. Noor Camellia N.A., Abdul Muhaimin A.K., Nur Atisha S., Aida Shahiera M.K., **Suryanti B.**, dan Mohd Shukri, M.A. (2018). A Long Term Conservation Method of *Lepisanthes fruticosa* (Ceri Terengganu) through Cryopreservation. Poster presented at International Scientific Conference on Indigenous Crops 2018, Kuching, Sarawak. 16th -17th October 2018.
 15. Mohd Shukri M.A., Salma I., Mohd Norfaizal G., Khadijah A., Muhammad Shafi, M.S., Site Noorzuraini A.R., Izlamira R., Noor Camellia N.A., **Suryanti B.**, Zaulia O., Maimun T., Camillus B.A. and Azuan A. (2018). Malaysian Underutilized Plant Species for Future Food and Agricultural Diversity. Oral presented at International Food Science and Agrotechnology Conference (IFOSAC 2018), Kuala Terengganu. 7th – 9th August 2018.
 16. **Suryanti B.**, Abdul Muhaimin A.K., Nur Atisha S., Noor Camellia N.A., Aimi Athirah A., Erny Sabrina M.N. and Umikalsum M.B. (2019). In vitro shoot multiplication and propagation protocols for *Xanthosoma violaceum* Schott. Poster presented at Southeast Asia Vegetable Symposium (SEAVEG 2019). 9th – 11th July 2019.
 17. **Suryanti B.**, Mohd Shukri M.A., Nur Atisha S., Abdul Muhaimin A.K., and Noor Camellia N.A., (2019). Cryopreservation attempts on the potential rarefruit species (*Lepisanthes fruticosa*). Poster presented at 29th Malaysian Society of Plant Physiology Conference, Kota Kinabalu, Sabah. 27th – 29th August 2019.
 18. Noor Camellia N.A., Abdul Muhaimin A.K., Nur Atisha S., **Suryanti B.**, and Umikalsum M. B. (2019). In vitro micropropagation technique of two local taro cultivars. Poster presented at 29th Malaysian Society of Plant Physiology Conference, Kota Kinabalu, Sabah. 27th – 29th August 2019.
 19. Mohd Shukri M.A., Muhammad Shafie M.S., **Suryanti B.**, Site Noorzuraini A.R. and Rosliza J. (2019). Enhancing exchanged of maize/ corn genetic materials through national genebank. Paper presented at Regional Corn Conference (RCC 2019), Pulau Pinang. 26th – 28th February 2019.
 20. Mohd Shukri M.A., Izlamira R. Khadijah A., Noor Camellia N. A., Siti Sofiah M., Maimun T., Muhammad Shafie M.S., Site Noorzuraini A.R., **Suryanti, B.**, Anuar Rasyidi M.N., Nor Asiah, I., Mohd Norfaizal G., Norshahidah M.R. (2019). *Ex situ* conservation of traditional vegetables: safeguarding elite genetic resources for future breeding. Oral presented at Southeast Asia Vegetable Symposium (SEAVEG 2019). 9th – 11th July 2019.
 21. **Suryanti B.**, Nurul Ammar Illani J., Nur Atisha S. and Umikalsum M.B. (2020). Pre-liminary assessment of seed-borne microorganisms of *Solanum melongena*. Poster presented at 9th Kuala Lumpur International Agriculture, Forestry & Plantation Conference. Bangi Resort Hotel 21st – 22nd September 2020.

POPULAR WRITING/MAGAZINE

1. **Suryanti B.**, Salma I. dan Mohd Shukri M.A. (2018). *Millennium Seed Bank: Model Bank Biji Benih untuk Jaminan Masa Hadapan*. Malaysian Agricultural Research and Development Institute (MARDI). Agromedia ISSN: 1511 – 094X. Bil. 48
2. **Suryanti B.** and Salma I. (2018). Cryopreservation: An Option for Safeguarding the Plant Genetic Resources. Malaysian Agricultural Research and Development Institute (MARDI). Agromedia ISSN: 1511 – 094X. Bil. 48
3. **Suryanti B.**, Umikalsum M.B., Nur Atisha S. and Izlamira R. (2019). Let's Save Seeds from your Homegarden. Malaysian Agricultural Research and Development Institute (MARDI). Agromedia ISSN: 1511 – 094X. No. 50.

4. Noor Camellia N.A., **Suryanti B.**, Abdul Muhaimin A.K., Nur Atisha S. and Erny Sabrina, M.N. (2019). Pembiakan Keladi Kultur Tisu: Penuhi Permintaan Berskala Besar!. Malaysian Agricultural Research and Development Institute (MARDI). Agromedia ISSN: 1511 – 094X. No. 50.
5. **Suryanti B.**, and Nur Atisha S. (2020). Do we need Seedbank? Malaysian Agricultural Research and Development Institute (MARDI). Agromedia ISSN: 1511 – 094X. No. 55.

RESEARCH EXPERIENCES

1. Degree Thesis 2009
 - Cryopreservation of Christmas Palm using the Desiccation and Pre-culture Method (*Veitchia Merrilli*)
2. Master Thesis
 - Morphological Development, *In-vitro* Storage and Regeneration of Protocorm-like Bodies of Orchid Hybrid *Dendrobium Shavin White*
3. MARDI-RMKe-10 (Mega Project) – Collaborator (2014 - 2015)
 - Main Project: The Development of Agricultural Seeds Genebank Complex in MARDI
 - Sub-project: The Development of Cryopreservation Technique and Conservation of Plant Genetic Resources
 - Research:
 - i. The development of cryopreservation laboratory in MARDI
 - ii. Detail study on embryo of selected seed and the suitability to be chosen for cryopreservation study.
4. MARDI-RMKe-10 (Mega Project) – Collaborator (2015)
 - Main Project: The Development of Production Technology of Functional Chemical Compound from Agrobiodiversity Sources
 - Sub-project: Functional Chemical Compound from Traditional Vegetables, 'ulam', new crop and herbs.
 - Research:
 - i. The Development of Cryopreservation for *Kaempferia* sp. through Vitrification Technique
5. MARDI-RMKe-11 (Development Project) – Collaborator (2016 - 2019)
 - Main Project: The production of High Nutrition, Safe to Eat and Environmental Friendly Vegetable and Tuber.
 - Sub-project: Bioprospection and Domestication of High Quality and Commercially Valuable Selected Traditional Vegetable
 - Research:
 - i. Optimum protocol for producing taro and cocoyam seedlings using tissue culture technique
 - ii. Study on the seed quality in *Solanum* species
6. MARDI-RMKe-11 (Development Project) – Collaborator (2016 - 2019)
 - Main Project: The Improvement on the Exploration of New Fruits and Related Products for Food Security, Nutrition and Climate Change.
 - Sub-project: Conservation, Bioprospection and Production Technology of New Fruits Sources
 - Research:
 - i. Seed storage behavior study for *Lepisanthes fruticosa*
 - ii. Study on the suitability of vitrification and encapsulation-vitrification for cryopreservation of *Lepisanthes fruticosa* zygotic embryos
 - iii. Multiplication of *in vitro* research materials (tissue culture) for *Mangifera odorata*
 - iv. Dormancy breaking study on the vegetable seeds stored in seed genebank

7. GCDT- KEW-MARDI (CWR-International Project) – Collaborator (2015-2018)
 - Main Project: Adapting Agriculture to Climate Change: Collecting, Protecting and Preparing Crop Wild Relatives (CWR Project)
 - Sub-project: Collection of Crop Wild Relatives, CWR in Malaysia

PROFESSIONAL MEMBERSHIP

1. National Seed Association Malaysia (NSAM)
2. Malaysian Society of Plant Physiology (MSPP)

ACHIEVEMENTS

1. Bronze medal for Knowledge Category in MARDI Science and Technology Expo in conjunction with MARDI's Innovation Day 2015: Synthetic Seeds: Future of Plant Conservation
2. Travel Grants for attending International Workshop on Collecting, Handling and Long-term Conservation of Seeds of Crop Wild Relatives at Genebank and Seed Centre, MARDI, Malaysia (2016).
3. Travel Grants for attending Technical Training Attachment at Millennium Seed Bank, Royal Botanic Garden, Kew, Wakehurst Place, Ardingly, United Kingdom (2017).
4. Travel Grants for attending The International Workshop on Genebank Operations And Advanced Learning (Goal 2018) at MARDI Headquarters, Serdang, Malaysia
5. Silver medal for Knowledge Category in MARDI Science and Technology Expo in conjunction with MARDI's Innovation Day 2019. Revealing the alternative germplasm conservation method of potential rarefruit species (*Lepisanthes fruticosa*).