ANICIA Q. HURTADO, D. Agr.
Scientist-Consultant
Seaweed Tissue Culture & Aquaculture
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Ledesco Village, Jaro, Iloilo City 5000 Philippines
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+63 917 675 7357

FIELD OF SPECIALIZATION

- Tissue Culture and Mutagenesis (*Kappaphycus* & *Eucheuma*)
- Land-Sea-based Nurseries (*Kappaphycus* & *Eucheuma*)
- Aquaculture (Production Technology – *Kappaphycus, Eucheuma* and *Gracilaria*)
- Crop Management (Growth-Epiphytism)
- Coastal Resource Management (Seaweed and Seagrasses)

EDUCATION

1985-1988	Doctor of Agriculture (Phycology) Kyoto University, Kyoto, Japan (MONBUSHO Scholarship)
1983-1985	Masters in Agriculture (Phycology) Kyoto University, Kyoto, Japan (MONBUSHO Scholarship)
1982-1983	Research Student Kyoto University, Kyoto, Japan (MONBUSHO Scholarship)
1975-1980	Masters in Biology Education De La Salle University, Manila, Philippines
1970-1971	BS Biological Sciences University of the East, Manila, Philippines
1966-1970	BS Pre-Medicine University of the East, Manila, Philippines

HONORS, AWARDS, SCHOLARSHIPS

2007 *Best Poster Paper Award*, 19th International Seaweed Symposium, Kobe International Convention Center, Kobe, Japan, 26-31 March 2007. (Title of Poster: Observations on the duration of culture of *Kappaphycus alvarezii* var. tambalang)

2003 DA Secretary's Award (*R & D Published in an Institute for Scientific Information – Current Content Journal*: Propagule production of *Eucheuma denticulatum* (Burmann) Collins et Hervey by Tissue Culture. 2003. Botanica Marina 46: 338-341

2003 Dr. Elvira O. Tan Memorial Award for *Best Research Paper in Aquaculture:* **Deep sea farming of *Kappaphycus* using multiple raft long-line method**. 2002. Botanica Marina 45:438-444

2000 Recipient, Special Fellowship Program of the Japanese Government, Special Training on Seaweed Biotechnology (***Tissue Culture and Mutagenesis***), Northeastern University, Boston Massachusetts, USA (Sep 2000-March 2001)

1997 Awardee, Group Study Exchange Program, Rotary International, Alabama, USA, March 23 to May 5, 1997

1992 Awardee, **(Second Place**) Best Research Paper in Socio-economics, 4th DA-BAR National Research Symposium, Quezon City, August 4-5, 1992

1991 Awardee, **(First Place)** Best Research Paper in Fisheries and Aquatic Resources, DA-BAR National Research Symposium, Quezon City, August 1-2, 1991

1985 to 1988
MONBUSHO Scholarship
Doctor in Agriculture (Phycology – Study of Seaweed)
Kyoto University, Kyoto Japan

1983 to 1985
MONBUSHO Scholarship
Masters in Agriculture (Phycology – Study of Seaweed)
Kyoto University, Kyoto Japan

1982 to 1983
MONBUSHO Scholarship
Research Program
Kyoto University, Kyoto, Japan

1975-1980
Master in Education (Biology)
De La Salle University, Manila, Philippines

1967-1970
BS Pre-Medicine
University of the East, Manila

1970-1971
BS Biological Sciences
University of the East, Manila

1966 to 1967
University Scholar
University of the East, Manila, Philippines

1966 Class Valedictorian
Secondary Education, Northern Luzon Institute
Currimao, Ilocos Norte, Philippines

1962 Class Third Honors
Elementary Education
Currimao Central School
Currimao, Ilocos Norte, Philippines

SOCIETIES MEMBERSHIP

International Society of Applied Phycology
International Seaweed Association
Philippine Phycological Society Inc.
Asian Fisheries Society
Asia-Pacific Phycological Society
Asia-Pacific Society for Applied Phycology
Japanese Society of Phycology
Japanese Society of Scientific Fisheries
Kyoto University Faculty of Agriculture Alumni Association
National Research Council of the Philippines
Philippine Association of the Japanese Ministry of Education Scholars (PHILAJAMES), National and Visayas Chapter
Phycological Society of America
The Rotary Alumni Association of Panay

WORK EXPERIENCES

Teaching and Research

Mar 2018- Mar 2022
Member, United Kingdom Research and Innovation (UKRI),
International Development Peer Review College, England

1 Oct 2017- 31 Dec 2021
Co-Investigator of GlobalSeaweed* Project on "Safeguarding the Future of the Seaweed Industry of Developing Countries" – funded by UKRI- GCRF- of United Kingdom

15-30 Aug 2016
Visiting Professor, Seaweed Research Unit, Universiti of Malaysia Sabah, Malaysia

21 Aug to 4 Sep 2014
Visiting Professor, Institute of Ocean and Earth Sciences
Universiti Malaysia, Kuala Lumpur, Malaysia

2006-2009
Visiting Seaweed Scientist, Aquaculture Department
Southeast Asian Fisheries Development Center (SEAFDEC)
Tigbauan, Iloilo

1971-1982
Faculty (Active Staff), Mariano Marcos State University
College of Fisheries, Currimao, Ilocos Norte
Taught General Botany, General Zoology and Phycology at the College level; Chemistry and Math at the Secondary level

1988-2004
Senior Scientist, Aquaculture Department
Southeast Asian Fisheries Development Center (SEAFDEC), Tigbauan, Iloilo (Study Leader-Seaweed Program)

2019 to the Present – Guest co-Editor - Botanica Marina Journal
2020 – Guest co-Editor - Journal of Applied Phycology

Journal Manuscript Reviewer

1998-2006
Member, Editorial Board, Botanica Marina

2007- to the present – active Reviewer/Referee
Acta Ecologia Sinica
African Journal of Biotechnology
African Journal of Agricultural Research
Algal Research
Aquaculture
Aquaculture Reports
Asian Fisheries Society Journal
Botanica Marina
Ecohydrology and Hydrobiology Journal
Egyptian Journal of Aquatic Research
Journal of Applied Phycology
Phytotaxa Journal
PLOS One
UPV Journal of Natural Sciences

Consultancies

Oct 2019 to the present
Mass Production of *Kappaphycus* plantlets thru Tissue Culture in Tamil Nadu, India
AquaAgri Processing Private Limited
New Delhi, India

May 2019-Dec 2019
Zoological Society of London (ZSL) Ecological Seaweed Farming
ZSL Phil.
Bohol and Northern Iloilo

May 5- Aug 31, 2016
Assessment of *Kappaphycus* Farming in Siargao Is,
Surigao, Del Norte and Green Is. Roxas, Palawan –
BlueYou Consulting Ltd, Switzerland

April-July- 2016
FAO, Rome, Italy – Genetic Resources of Farmed Seaweeds

Jan 2015- Dec 2016
Asia Hawaii Ventures, Vietnam

Seaweed micropropagation and aquaculture

Aug 2015 - Feb 2016
FAO-BFAR-NSTDC – Technical, environmental, socio-economic and value chain assessment of the *Gracilaria* seaweed farming sector in the Region 5 of the Philippines
Output: Manual of Gracilaria &Taxonomy, Distribution, Eco-physiology, Farming, Post-harvest Management and Economics)

Aug 18 2015- May 2016
Tierra Del Norte Realty Corp. Sual, Pangasinan –
Gracilaria as bio-filter in fish cage farming

Jan 2014 - Dec 2016
Asia Hawaii Seaweed Ventures, Phu Yen, Vietnam
Seaweed Micropropagation and Outplanting of *Kappaphycus*

Jan-Dec 2013
VI Capital Seaweed, Hanoi, Vietnam

Feb-May 2013
Bureau of Fisheries and Aquatic Resources, Region 6
(Seaweed Tissue Culture Laboratory)

22-26 Aug 2011
National Prawn Company
Al Lith, Jeddah, Kingdom of Saudi Arabia
Assessment of *Gracilaria* as biofilter in shrimp ponds effluents

May 2009 -June 2011
Department of Agriculture-Bureau of Fisheries and Aquatic Resources – BIMP-EAGA Seaweed Project, Manila, Philippines
On-site hands-on training of Sea-based Nursery in Palawan and Mindanao

July-Dec 2010
DA-BFAR National Seaweed Technology and Development Center, Cabid-an, Sorsogon (Seaweed Tissue Culture Laboratory)
Trainor on *Kappaphycus/Eucheuma* Tissue culture

Aug-Oct 2009
Food and Agriculture (FAO)
Fishery Planning, FIEP, Rome, Italy
Assessment of the seaweed industry of the Philippines.
Output: Fisheries Technical Paper No. 580

Jan- Feb 2008

Ministry of Fisheries and Aquatic Resources, Sri Lanka
ADB Loan No. 1910/1911 SRI (SF))

Mar 2008- Feb 2009

AUS Aid, East Asia Initiative (EAI)
Zamboanga City Project

21-29 Jan 2008

German Development Cooperation
Makati City, Philippines

2005-2007

International Finance Corporation (IFC)
Programme For Eastern Indonesia SME Assistance
AgriBusiness Linkages Program
Establishment of Seaweed Nurseries in Zamboanga City

2007-2015

Acadian Seaplants Limited
Nova Scotia, Canada (Use of Ascophyllum Marine Plant Extract Powder in seaweed micropropagation and mitigation of epiphytes)

2005-2007

Partnership for Development Assistance in the Philippines, Inc. (Formerly Philippine Development Assistance Programme, Inc.)
Quezon City, Philippines (Trainor in seaweed farming)
Outputs: Manual – a) Mga Dapat Alamin sa Pagsasaka ng *Kappaphycus* 'cottonii' (Pilipino dialect); b) Mga Patut Hatihun Tungud pa Pagatnum Agal-Agal Atawa in Pag-ivanun *Kappaphycus* 'cottonii' (Tausug dialect)

Jan-Feb 2008

Ministry of Fisheries and Aquatic Resources, National Aquaculture Development Authority (NAQDA) – Sri Lanka
Assessment of coastal communities for possible seaweed farming

2002-2012

Cargill Texturing Solutions (Formerly Degussa Texturing Solutions)
Baupte, France
Strain Improvement, Crop Management (Ice-Ice and Epiphytes) and Cultivation
Outputs: a) several peer-reviewed papers; b) Manual – *Kappaphycus* 'cottonii' Farming (2008 English- Rev. edition); c) Ang Pagsasaka ng *Kappaphycus* 'cottonii' (2006 Pilipino)

Feb-Dec 1996
Department of Fisheries, Ministry of Industry and Primary Resources
Brunei Darussalam
Assessment of possible sites for seaweed farming in Brunei
Assessment of seaweed farming in Sabah

Jun-Nov 1995
DOST-UNDP
Achieving International Competitiveness Through Technology Development
(Marine Products-Seaweeds)

PUBLICATIONS

Book

2017 **Hurtado**, AQ. Genetic Resources for Farmed Seaweeds. Food and Agriculture Organization of the United Nations. Rome, Italy. COFI:AQ/IX/2017/SBD.6

2017 **Hurtado** AQ, AT Critchley and IC Neish (editors) Tropical Seaweed Farming Trends, Problems and Opportunities: Focus on Spinosum and Cottonii of Commerce. Springer, Netherlands ISBN 978-3-319-63497-5

Book/Monograph Chapter

2020 **Hurtado AQ**, Critchley AT. Time for applications of biostimulants in phyconomy: Seaweed Extracts for Enhanced Cultivation of Seaweeds (SEECS). Torres MD, Kraan S, Domingues H (eds) Sustainable Seaweed Technologies: Cultivation, Biorefinery and Applications. Elsevier Inc. 103-127. https://doi.org./10.1016/B978-0-12-817943-7.00024-X

2020 **Hurtado AQ**, Critchley AT, Magdugo R. Harvesting and potential uses of elected red seaweeds in the Philippines with emerging high-value applications. In: Bourgougnon N (ed) Seaweed Around the World: State of Art and Perspective, Advances in Botanical Research 95. ISSN 0065-2296 https://doi.org/10.1016/bs.abr.2019.11.005, pp19-56

2019 **Hurtado AQ**, Critchley AT. Recent advances in the use of on-land nurseries for commercial production and out-planting of *Kappaphycus* seedlings, a carrageenan-bearing seaweed. In: Phang SM, Song SL, Lim PE (eds). Taxonomy of Southeast Asian Seaweeds III. Monograph Series 17: 160-171

2017 Neish IC, Miguel Sepulveda M, **Hurtado AQ** and Critchley AT.

Reflections on the commercial development of eucheumatoid seaweed farming. In: Hurtado AQ, Critchley AT, Neish IC (eds). Tropical Seaweed Farming Trends, Problems and Opportunities: Focus on Spinosum and Cottonii of Commerce. Springer, Netherlands, 1-28

2017 Tan J, Lim PE, Phang SM and **Hurtado AQ**. Biodiversity, biogeography and molecular genetics of the commercially important genera *Kappaphycus* and *Eucheuma*. In: Hurtado AQ, Critchley AT, Neish IC (eds). Tropical Seaweed Farming Trends, Problems and Opportunities: Focus on Spinosum and Cottonii of Commerce. Springer, Netherlands. 29-44

2017 Hayashi L, Reis RP, Alves dos Santos AA, Castelar B, Robledo D, de Vega GB, Msuya FE, Eswaran K, Yasir S, Ali MJ and **Hurtado AQ**. The Cultivation of *Kappaphycus* and *Eucheuma* in Tropical and Sub-tropical Waters. In: Hurtado AQ, Critchley AT, Neish IC (eds). Tropical Seaweed Farming Trends, Problems and Opportunities: Focus on Spinosum and Cottonii of Commerce. Springer, Netherlands, 55-90

2017 Reddy CRK, Yokoya NS, Yong WTL, Luhan MRJ and **Hurtado AQ**. Micro-propagation of *Kappaphycus* and *Eucheuma*: Trends and prospects**.** In: Hurtado AQ, Critchley AT, Neish IC (eds). Tropical Seaweed Farming Trends, Problems and Opportunities: Focus on Spinosum and Cottonii of Commerce. Springer, Netherlands. 91-110

2017 Loureiro RR, **Hurtado AQ** and Critchley AT. Impacts of AMPEP on epiphytes and diseases in *Kappaphycus* and *Eucheuma* cultivation. In: Hurtado AQ, Critchley AT, Neish IC (eds). Tropical Seaweed Farming Trends, Problems and Opportunities: Focus on Spinosum and Cottonii of Commerce. Springer, Netherlands.111-120.

2017 Ali MJK, Fudholi A, Sulaiman J, Muthuvalu MS, Ruslan MH, Yasir S and **Hurtado AQ**. Post-harvest handling of eucheumatoid seaweeds. In: Hurtado AQ, Critchley AT, Neish IC (eds). Tropical Seaweed Farming Trends, Problems and Opportunities: Focus on Spinosum and Cottonii of Commerce. Springer, Netherlands.131-146

2016 **Hurtado AQ**, Lim PE, Tan J, Phang SM, Neish IC and Critchley AT. Biodiversity and Biogeography of Commercial Tropical Carrageenophytes in the Southeast Asian Region. In: L Pereira (ed), *Carrageenans: Sources and Extraction Methods, Molecular Structure, Bioactive Properties and Health Effects.* Nova Science Publishers 67-90

2015 **Hurtado AQ**, Reis RP, Loureiro RR, Critchley AT. *Kappaphycus* (Rhodophyta) Cultivation: Problems and the Impacts of Acadian Marine

Plant Extract Powder. In: L Pereira L, JP Patrício JP and JM Neto (eds). *"Marine Algae - Biodiversity, Taxonomy, Environmental"* Science Publishers –CRC Press, USA. 251-299

2013 Hurtado AQ. Social and economic dimensions of carrageenan seaweed farming in the Philippines. *In* D. Valderrama, J. Cai, N. Hishamunda and N. Ridler, eds. *Social and economic dimensions of carrageenan seaweed farming*, Fisheries and Aquaculture Technical Paper No. 580. Rome, FAO. pp. 91-113.

2010 Hayashi L, **Hurtado AQ**, Masuya FE, Bleicher-L'honneur G and Critchley AT. A Review of *Kappaphycus* Farming: Prospects and Constraints. In*:* A. Israel et al (eds) Seaweed and their Role in Globally Changing Environments, Cellular Origin, Life in Extreme Habitats and Astrobiology 255-283.

Monograph

2006 **Hurtado AQ**, Luhan Ma. RJ, Guanzon NG Jr. Seaweeds of Panay. SEAFDEC Aquaculture Department, Tigbauan, Iloilo (Monograph). 50pp.

1992 **Hurtado-Ponce AQ**, Luhan MaRJ and Guanzon NG Jr. 1992. Seaweeds of Panay (Seaweeds Monograph) SEAFDEC/AQD April. 114 pp.

Editorial

2019 Critchley A, **Hurtado A**, Pereira L, Cornish M, Largo D, Paul N. Seaweed resources of the world: a 2020 vision. Part 1. Botanica Marina. https://doi.org/10.1515/bot-2019-0028

2019 Paul N, Hurtado A, Pereira L, Cornish M, Largo D, Alan Critchley. Seaweed resources of the world: a 2020 vision. Part 2. Botanica Marina https://doi.org/10.1515/bot-2019-0061

Publications (Peer-Reviewed Journals)

Magdugo RP, Terme N, Lang M, Pliego-Cortés H, 1 , Christel Marty, **Hurtado AQ** Bedoux G, Bourgougnon N (2020) An Analysis of the Nutritional and Health Values of *Caulerpa racemosa* (Forsskål) and *Ulva fasciata* (Delile)—Two Chlorophyta Collected from the Philippines. Molecules. www.mdpi.com/journal/molecules

Batista de Vega G, Carlos E. Ulloque CE, **Hurtado AQ,** Lynn Cornish L, and Alan T. Critchley AT (2020) On the efficacy of an *Ascophyllum*-based, soluble extract in association with standard plant growth regulators on the micro-propagation of the agarophyte, *Gracilaria blodgettii* from seaweed farms located at the northern entrance of the Panama Canal. DOI: 10.1007/s10811-020-02168-3

Suyo JGB, Le Masson V, Shaxson L, Luahn MaRJ, **Hurtado AQ** (2020) A social network analysis of the Philippine seaweed farming industry: Unravelling the web. Marine Policy, https://doi.org/10.1016/j.marpol.2020.104007

Ali MK, Critchley AT, **Hurtado AQ** (2020) The impacts of AMPEP K + (Ascophyllum marine plant extract, enhanced with potassium) on the growth rate, carrageenan quality, and percentage incidence of the damaging epiphyte *Neosiphonia apiculata* on four strains of the commercially important carrageenophyte *Kappaphycus*, as developed by micropropagation techniques. Journal of Applied Phycology. https://doi.org/10.1007/s10811-020-02117-0

Mateo JP, I Campbell I, Cottier-Cook EJ, Maria Rovilla J. Luhan MRJ, Victor Ferriols VMEN, **Hurtado AQ** (2020) Analysis of biosecurity-related policies governing the seaweed industry in the Philippines. Journal of Applied Phycology. DOI: 10.1007/s10811-020-02083-7

Ali MK, Critchley AT, **Hurtado AQ** (2020) Micropropagation and sea-based nursery growth of selected commercial *Kappaphycus* species in Penang, Malaysia. Journal of Applied Phycology. 32:1301-1309, **DOI :** 10.1007/s10811-019-02003-4

Ward GM, Faisan JP, Cottier-Cook EJ, Gachon C, **Hurtado AQ**, Lim PE, Matojou I, Msuya FE, Bass D, Brodie J. (2019) A review of reported seaweed diseases and pests in aquaculture in Asia. J World Aqua Soc DOI:10.1111/jwas.12649

Hurtado AQ, Critchley AT (2019) Recent advances in the use of on-land nurseries for commercial production and out-planting of *Kappaphycus* seedlings, a carrageen-bearing seaweed. Institute of Ocean and Earth Sciences Monograph Series 17: Taxonomy of Southeast Asian Seaweeds III (In press)

Hurtado AQ, Neish IC, Critchley AT (2019) Phyconomy: The extensive cultivation of seaweeds, sustainability and economic value – with reference from experiences in eucheumatoid farming. Phycologia DOI: 10.1080/00318884.2019.1625632

Hurtado AQ, Critchley AT (2018) A review of multiple biostimulant and bioeffector benefits of AMPEP, an extract of the brown alga *Ascophyllum nodosum*, as applied to the enhanced cultivation and micropropagation of the commercially important red algal carrageenophyte *Kappaphycus alvarezii* and its selected cultivars. Journal of Applied Phycology. 30: 2859-2873. https://doi.org/10.1007/s10811-018-1407-4

Ali MM, Sani MZB, Hi KK, Yasir SMd, Critchley AT, **Hurtado AQ** (2018a) The comparative efficiency of a brown algal-derived biostimulant extract (AMPEP), with and without supplemented PGRs: the induction of direct, axis shoots as applied to the propagation of vegetative seedlings for the successful mass cultivation of three commercial strains of *Kappaphycu*s in Sabah, Malaysia. Journal of Applied Phycology. 30:1913-1919

Tibubos K, **Hurtado AQ**, Chritchley AT (2017) Direct formation of axes in new plantlets of *Kappaphycus alvarezii* (Doty) Doty, as influenced by the use of AMPEP K+, spindle inhibitors and plant growth hormones. Journal of Applied Phycology 29:2345-2349

Ali MM, Yashir S, Critchley AT, **Hurtado AQ** (2018b) Impacts of *Ascophyllum* Marine Plant Extract Powder (AMPEP) on the growth, incidence of the endophyte *Neosiphonia apiculata* and associated carrageenan quality of three, commercial cultivars of *Kappaphycus*. J Appl Phycol 30:1185-1195

Ng PK, Lin SM, Lim PE, **Hurtado AQ**, Phang SM, Yow YY, Sun Z (2017) Genetic and morphological analyses of *Gracilaria firma* and *G. changii* (Gracilariaceae, Rhodophyta), the commercially important agarophytes in western Pacific. PLoS ONE 12(7): e0182176. https://doi.org/10.1371/journal.pone.0182176

Msuya FE, **Hurtado AQ** (2017) The role of women in seaweed aquaculture in West Indian Ocean and Southeast Asia. European Journal of Phycology 52:4, 482-494 http://dx.doi.org/10.1080/09670262.2017.1357084.

Borlongan IAG, Luhan Ma. RJ, Padilla PIP, **Hurtado AQ** (2016) Photosynthetic responses of '*Neosiphonia* sp. epiphyte-infected' and healthy *Kappaphycus alvarezii* (Rhodophyta) to irradiance, salinity and pH variations. Journal of Applied Phycology. 28:2891-2902

Hurtado AQ, Neish IC, Critchley AT (2015**)** Developments in Production Technology of *Kappaphycus* in the Philippines: More than four decades of farming. Journal of Applied Phycology 27:1945-1961

Valderrama D, Cai J, Hishamunda N, Ridler N, Neish IC, **Hurtado AQ**, Msuya FE, M. Krishnan, Narayanakumar R, Kronen M, Robledo DR, Gasca-Leyva E, JFraga J (2015) The economics of *Kappaphycus* seaweed cultivation in developing countries: A comparative analysis of farming systems. Aquaculture Economics and Management 19:251-277

Tan J, Lim PE, Phang SM, Rahiman A, Nikmatullah A, Sunarpi H, **Hurtado AQ**. (2014) *Kappaphycus malesianus* sp. nov.: a new species of *Kappaphycus* (Gigartinales, Rhodophyta) from Southeast Asia. Journal of Applied Phycology 26:1273-1285

Hurtado AQ, Gerung GS, Yasir S, Critchley AT (2014) Cultivation of tropical red seaweeds in the BIMP-EAGA region. Journal of Applied Phycology 26:702-718

Lim PE, Tan J, Phang SM, Nikmatullah A, Hong DD, Sunarpi H, **Hurtado AQ**. (2014) Genetic diversity of *Kappaphycus* and *Eucheuma* J. Agardh (Solieriraceae, Rhodophyta) in Southeast Asia. J Applied Phycol 26:153-1272

Hurtado AQ (2013) Different colour morphotypes of *Kappaphycus alvarezii* and *Kappaphycus striatum* used in commercial farming. *In*: Phang SM and Lim PE (eds). Taxonomy of Southeast Asian Seaweeds II. Institute of Ocean and Earth Sciences, University of Malaya, Monograph Series 15: 83-92

Hurtado AQ, Critchley AT (2013) Impact of Acadian Marine Plant Extract Powder (AMPEP) in *Kappaphycus* Production. Malaysian J Sci. (SCS Sp. Issue): 239-252.

Hurtado AQ **(**2013) Social and economic dimensions of carrageenan seaweed farming in the Philippines. *In* D. Valderrama, J. Cai, N. Hishamunda and N. Ridler, eds. *Social and economic dimensions of carrageenan seaweed farming*, Fisheries and Aquaculture Technical Paper No. 580. Rome, FAO. pp. 91-113

Tan J, PE Lim, Phang SM, Hong DD, Sunarpi H, **Hurtado AQ** (2012) Assessment of Four Molecular Markers as Potential DNA Barcodes for Red Algae *Kappaphycus* Doty and *Eucheuma* J. Agardh (Solieriaceae, Rhodophyta). PLOS One. 7(12):e52905

Hurtado AQ, Montano MNE, Martinez-Goss MR **(**2012) Commercial production of carrageenophytes in the Philippines: ensuring long-term sustainability for the industry. Journal of Applied Phycology 25:733-742

Hurtado AQ, Joe M, Sanares RC, Fan, Prithiviraj B, and Critchley AT (2012) Investigation of the application of Acadian Marine Plant Extract Powder (AMPEP) to enhance the growth, phenolic content, free radical scavenging, and iron chelating activities of *Kappaphycus* Doty (Solieriaceae, Gigartinales, Rhodophyta). Journal of Applied Phycology 24:601-611

Borlongan IA, Tibubos KR, Yunque DAT, **Hurtado AQ,** Critchley AT (2011) Impact of AMPEP on the growth and occurrence of epiphytic *Neosiphonia* infestations on two varieties of commercially cultivated *Kappaphycus alvarezii*, grown at different depths in the Philippines. Journal of Applied Phycology 23:615-621

Yunque DAT, Tibubos KR, **Hurtado AQ**, Critchley AT (2011) Optimization of culture conditions for tissue culture production of young plantlets of carrageenophyte *Kappaphycus*. Journal of Applied Phycology 23: 433-438

Hurtado AQ, Yunque DA, Tibubos K, Critchley AT (2009) Use of Acadian marine plant extract powder from *Ascophyllum nodosum* in tissue culture of *Kappaphycus* varieties Journal Applied of Phycology 21: 633-639

Hurtado AQ, Critchley AT, Trespoey A, Bleicher-Lhonneur G (2008) Growth and carrageenan quality of *Kappaphycus striatum* var. sacol grown at different stocking densities, duration of culture and depth. Journal Applied Phycology 20(5): 551-555

Vairappan CS, Chung CS, **Hurtado AQ**, Msuya FE, Bleicher Lhonneur G, Critchley AT (2008) Distribution and symptoms of epiphyte infection in major carrageenophyte-producing farms. Journal Applied Phycology 20 (5): 477-483

Hurtado AQ, Biter A (2007) Plantlet regeneration of *Kappaphycus alvarezii* var. adik adik by tissue culture. Journal of Applied Phycology .19:783-786

Hurtado AQ, Critchley AT, Trespoey A, Bleicher-Lhonneur G (2006) Occurrence of *Polysiphonia* epiphytes in *Kappaphycus* farms at Calaguas Is. Camarines Norte, Philippines. Journal of Applied Phycology 18 (3-5): 301-306

Luhan Ma. RJ, Harder F, **Hurtado AQ** (2006) Growth and agar quality of *Gracilaria heteroclada* (Zhang et Xia) grown in a filter tank. The Philipp. Agricultural Scientist. 89: 358-361

Hurtado AQ, Critchley AT (2006) Seaweed industry of the Philippines and the problem of epiphytism in *Kappaphycus* farming. In: Phang, Critchley and Ang (eds), Advances in Seaweed Cultivation and Utilization in Asia. University of Malaya Maritime Research Centre, University of Malaya, Kuala Lumpur. 21-28

Critchley AT, Largo D, Wee W, Bleicher L'honneur G, **Hurtado AQ,** Schubert J. (2004) A preliminary summary on *Kappaphycus* farming and the impact of epiphytes. Japan Journal of Phycology (Supplement) 52: 231-232

Hurtado AQ, Cheney DP (2003) Propagule production of *Eucheuma denticulatum* (Burman) Collins et Hervey by tissue culture. Botanica Marina 46: 338-341

Hurtado AQ, Agbayani RF (2002) Deep sea farming of *Kappaphycus* using multiple raft long-line method. Botanica Marina 45:438-444.

Hurtado AQ, Agbayani RF, Sanares R, de Castro-Mallare MTR (2001) The seasonality and economic feasibility of cultivating *Kappaphycus alvarezii* in Panagatan Cays, Caluya, Antique, Philippines. Aquaculture 199: 295-310

Hurtado AQ, Ragaza AR (1999) *Sargassum* Studies in Currimao, Ilocos Norte, Northern Philippines. I. Seasonal variations in the biomass of *Sargassum carpophyllum* J. Agardh, *Sargassum ilicifolium* (Turner) C. Agardh and *Sargassum siliquosum* J. Agardh (Phaeophyta, Sargassaceae). Botanica Marina 42: 321-325

Ragaza AR, **Hurtado AQ** (1999) *Sargassum* Studies in Currimao, Ilocos Norte, Northern Philippines. II. Seasonal variations in the biomass *of Sargassum carpophyllum* J. Agardh, *Sargassum ilicifolium* (Turner) C. Agardh and Sargassum siliquosum J. Agardh (Phaeophyta, Sargassaceae). Botanica Marina 42: 327-331

Hurtado-Ponce AQ, Liao LM (1998) The genus *Gracilariopsis* (Rhodophyta, Gracilariales) in the Philippines: Morphological and taxonomic confirmation. Philipp. Scientist. 35: 141-151

Hurtado-Ponce AQ, Chavoso EAJ, Parami NP (1998) An assessment of the seaweed-seagrass resource of Mararison Is. Culasi, Antique, Philippines. Phycological Res. 46:175-182

Hurtado-Ponce AQ, Pondevida HB (1997) The interactive influence of some environmental factors on the growth and agar quality of *Gracilariopsis bailinae* (Gracilariales, Rhodophyta) cultured in tanks. Botanica Marina 40: 217-223.

Hurtado-Ponce AQ, Agbayani RF, Samonte-Tan GPB (1997) Growth rate, yield and economics of *Gracilariopsis bailinae* (Gracilariales, Rhodophyta) using fixed-bottom long line method. Philipp. J. Sci. 126: 251-259

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Hurtado-Ponce AQ (1994**)** Cage culture of *Kappaphycus alvarezii* (Doty) Doty and *Epinephelus* sp. *In:* PM Aliño, (ed.). Proceeding National Symposium of Marine Sciences. 2: 103-108

Hurtado-Ponce AQ (1994) Agar production from *Gracilariopsis heteroclada* (Zhang et Xia) Zhang et Xia (Gracilariales, Rhodophyta) grown at different salinity levels. Botanica Marina 37(2): 97-100

Hurtado-Ponce AQ (1993) Carpospore germination and early stages of development in *Gracilaria edulis* (Gmelin) Silva and *Gracilaria rubra* Chang et Xia (Gracilariales, Rhodophyta). Philippine Scientist. 30:34-40

Hurtado-Ponce AQ (1993) Harvesting *Gracilariopsis hetroclada* (Gracilariales, Rhodophyta in Iloilo, Philippines. Philippine Journal of Science 122:413-423

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Hurtado-Ponce AQ (1992) Influence of extraction time on the rheological properties of some *Gracilaria* (Rhodophyta) species from the Philippines. Botanica Marina 35: 441-445.

Hurtado-Ponce AQ (1992) Rheological properties of agar from *Gracilariopsis heteroclada* (Zhang et Xia) Zhang et Xia (Gracilariales, Rhodophyta) treated with powdered commercial lime and aqueous alkaline solution. Botanica Marina 35: 365-369

Hurtado-Ponce AQ (1992) Cage culture of *Kappaphycus alvarezii* (Doty) Doty (Gigartinales, Rhodophyceae). Journal of Applied Phycology 4: 110-113

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Luhan MaRJ, **Hurtado-Ponce AQ**, Guanzon NG Jr, Trono GC Jr (1992) New Records of Marine Macrobenthic Algae of Panay and Guimaras Islands. Philippine Journal of Science 121: 435-452

Hurtado-Ponce AQ (1990) Vertical rope cultivation of *Gracilaria* (Rhodophyta) using vegetative fragments. Botanica Marina 33: 477-481

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Hurtado-Ponce AQ, Umezaki I (1987) Life history of *Hydroclathrus clathratus* (Bory) Howe (Scytosiphonales, Phaeophyceae) in laboratory culture. Philippine Journal of Science 116: 227-344

Hurtado-Ponce AQ, Umezaki I (1987) Growth rate studies of *Gracilaria* (Gigartinales, Rhodophyta). Botanica Marina 30: 223-226

Hurtado-Ponce AQ, Umezaki I (1985) Life history of *Erythrocladia subintegra* (Rosenvinge (Bangiales, Rhodophyceae) in culture. Japan Journal of Phycology 33: 283-287

Hurtado-Ponce AQ (1984) List of edible seaweeds of Currimao, Ilocos Norte. Ilocos Fisheries Journal 1:179:181

Hurtado-Ponce AQ (1983) Marine macrobenthic algae of Currimao, Ilocos Norte. Ilocos Fish. J. 1: 104-149

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Proceedings/Magazines/Newsletter/Terminal Reports

2020 Regional Workshop on Underutilized Fish and Marine Genetic Resources and their Amelioration. (Proceedings and Recommendations). Asia-Pacific Association of Agricultural Research Institutions (APAARI). 10-12 July 2019

2011 Hurtado AQ. The Impact of duration of culture on the growth and carrageenan properties of *Kappaphycus*. Terminal Report Submitted to Cargill Texturizing Solutions, France, 25pp

2009 Hurtado AQ. *In Situ* Strain Improvement of *Kappaphycus* **(Year 2).** Terminal Report Submitted to Cargill Texturizing Solutions, France, 17pp

2008 Hurtado AQ. *In Situ* Strain Improvement of *Kappaphycus* **(Year 1).** Terminal Report Submitted to Cargill Texturizing Solutions, France, 23pp

2007 Hurtado AQ. Establishment of Seaweed Nurseries in Zamboanga City, Philippines. Terminal Report submitted to International Finance Corporation and Asian Development Bank, 24 Sep 2007. 17 pp.

2005 Hurtado AQ. Effect of epiphytes on the productivity of *Kappaphycus*: impact of diseases on the economics of producing and processing *Kappaphycus.* Terminal report submitted to Degussa Texturant system (now Cargill Texturizing Solutions), France

2002 Hurtado AQ. Seaweed Research at SEAFDEC/AQD. In: (eds. AQ Hurtado, NG Guanzon, Jr. MTR de Castro-Mallare, and Ma R. Luhan). Proceedings Seaweed National Planning Workshop, 2-3 August 2001, Tigbauan, Iloilo. 75-80

2002 Hurtado AQ. Seaweed Production – Farming *Kappaphycus* in the Philippines. Global Aquaculture Advocate 5 (2): 68-69

2001 Hurtado AQ. Seagrass and Seaweed Communities. In: (ed. L Ma. B. Garcia) An Assessment of the Coastal Resources of Ibajay anf Tangalan, Aklan: Implication for Management. SEAFDEC/AQD, Tigbauan, Iloilo. 28-31.

2001 Fermin AC and Hurtado AQ. Research on Molluscs and Seaweeds. In: LMa B Garcia (ed.) Responsible Aquaculture Development in Southeast Asia SEAFDEC/AQD, Tigbauan, Iloilo. 209-219

1996 Hurtado-Ponce AQ 1996. *Gracilaria* Studies at SEAFDEC/AQD. In: Report on a Regional Study and Workshop on the Taxonomy, Ecology and Processing of Economically Important Red Seaweeds (GCP/INT/553/FRA). FAO-NACA-IFREMER, Bangkok, Thailand. 311-317

1995 Hurtado-Ponce AQ. Assessment of Seaweeds Industry. In: Achieving International Competitiveness Through Technology Development and Transfer. DOST-UNDP Project. Module I. Export Winners. 137-173

1995 Hurtado-Ponce AQ. Seaweed Research at SEAFDEC/AQD. Appl. Phycology Forum. 12: 1-4

1994 Hurtado-Ponce AQ. Seaweed: Gracilaria. In: F.J. Lacanilao, RM Coloso and GF Quinitio (eds.). Proceedings of the Seminar-Workshop on Aquaculture Development in Southeast Asia and Prospects for Seafarming and Searanching; 19-23 August 1991; Iloilo City, Philippines. 46-50

1993 Agbayani RA and AQ Hurtado-Ponce. An integrated approach to community-based fishery resource management: SEAFDEC/AQD experience in multi-disciplinary research. Out of Shell. 3(2): 5-7

1992 Hurtado-Ponce AQ. Growth rate of *Gracilariopsis heteroclada* (Zhang et Xia) Zhang et Xia (Rhodophyta) in floating cages as influenced by *Lates calcarifer* Bloch. In: HP Calumpong and E. G. Meñez (eds.) Proc 2nd RP-USA Phycology Symposium Workshop 6-18 Jan 1992, 13-27 (Supplement)

1991 Hurtado-Ponce AQ. Seaweed Research (1988-1991) at SEAFDEC/AQD. ADSEA 2. 19-23 Aug 1991

1991 Hurtado-Ponce AQ. Growth rate and yield of the seaweed *Gracilariopsis heteroclada* on vertical ropes. SEAFDEC Asian Aquaculture 13: 1-3

1990 Hurtado-Ponce AQ. Economic Importance of Panay Seaweeds. SEAFDEC Asian Aquaculture. 11: 10

1988 Hurtado-Ponce AQ. The Seaweed Industry of the Philippines. SEAFDEC. Asian Aquaculture. 10: 1-3.

Brochures/Training Manual/Flyers

2016 **Hurtado AQ,** Romero JB, Pedrosa AA III, Ortis IF, Capacio IT. *Gracilaria*: Taxonomy, Eco-physiology, Post harvest and Economics. FAO-BFAR-NSTDC, Quezon City, Philippines, 33pp

2015 **Hurtado AQ.** Improved Growth of *Kappaphycus* and Mitigating Epiphyte Problems Using AMPEP. (Flyer, July)

2015 **Hurtado AQ.** Ang Mas-Pinagbuting Pagsasaka ng *Kappaphycus* at Pagpuksa ng 'Epiphytes' sa Pamamagitan ng AMPEP (Flyer, July)

2009 Neish IC, **Hurtado AQ**, Julianto B, Saragih D. Good aquaculture practices for *Kappaphycus* and *Eucheuma*. A compilation of nine training modules for seaweed farmers. SEAPlant.net Monograph no. HB2F 0909 V4 GAP, Sulawesi, Selatan, Indonesia.

2008 **Hurtado AQ**, Pactoran JE, Allaga AT and Faburada ES. Mga patut hatihun tungud pa pagtanum agal-agal atawa in pag-iyanum. Philippine Development Assistance Program, Quezon City, 38pp

2008 **Hurtado AQ**, Critchley AT and Bleicher-L'honneur G. Kappaphycus 'cottonii' Farming. (Revised edition), 26pp

2008 **Hurtado AQ**, Pactoran, JE, Allaga AT and Faburada ES. Mga Dapat Alamin sa Pagsasaka ng Kappaphycus 'cottonii'. Philippine Development

Assistance Program, Quezon City, 38pp

2007 **Hurtado AQ**, Agbayani R. Pag-aalaga ng halamang-dagat na Kappaphycus. Aquaculture Extension Manual No. 32 (Filipino edition). Aquaculture Department, Southeast Asian Fisheries Development Center, Tigbauan, Iloilo. 27pp.

2006 **Hurtado AQ**, Critchley AT, Bleicher-Lhonneur G. Ang Pagsasaka ng Kappaphycus 'cottonii'. Baupte, France, 25 pp

2005 **Hurtado AQ**, Critchley AT, Bleicher-L'honneur G. Kappaphycus ' cottonii' farming. Baupte, France, 25 pp

2005 **Hurtado AQ** and Critchley AT. Epiphytes (Flyer)

2000 **Hurtado AQ**, Agbayani RF. 2000. The Farming of the Seaweed Kappaphycus. Extension Manual No. 32. SEAFDEC/AQD Tigbauan, Iloilo. 25 pp.

OTHER Experiences

- Attended several local and international congresses, conferences and symposia as **Invited Speaker in Plenary and Mini-symposium Sessions**, **Contributed** Oral Paper and Poster Sessions

- Lecturer, resource speaker and trainor in different fora, training courses and workshops (local and international)

- **Member** - Thesis Committee as Adviser or Critic to undergraduate and graduate students

- Conceptualized local and international Seaweed Program/Project Proposals (Laboratory and Sea-based Proposals)

- **Member**, National Organizing Committee of International Seaweed Symposium (Scientific Program):

  1998 – 16th International Seaweed Symposium, - Cebu, Philippines
  2013 – 21st International Seaweed Symposium – Bali, Indonesia

- Project Proposal Evaluator/Referee
  Bureau of Agricultural Research-BFAR (Phil), 1992-1993
  UKRI - Newton Prize (UK) 2018 to the present
  NOAA Fisheries -Salstonstall-Kennedy Grant Program (USA) - 2019

- Presentor for the seaweed-carrageenan industry of the Philippines at the National Organic Standard Board Meetings**: April 2016**, Washington DC, USA and **16-18 November 2016**, St Louis, Missouri, USA.

SKILLS

- Mac iWork (Pages, Number and Keynote)
- Office for Mac (Microsoft Word, Excel, Publisher & Power Point)
- Adobe Photoshop
- SPSS

INVITED SPEAKERHSIP

1. Plenary

- International India Seaweed Summit and Expo
  30-31 Jan 2020 Chennai, India
  Title: Seaweed Extracts for Enhanced Cultivation of Seaweeds (SEECS)

- International workshop on Deep Sea Science and Technology
  18-21 Nov 2019 Haikou, Hainan China
  Title – Sustainability of Eucheumatoids Cultivation Using deep-sea Farming Techniques

- International India Seaweed Summit and Expo
  22-24 January **2019** Mumbai, India
  Title: Micropropagation of Selected *Kappaphycus* Strains for the Purpose of Boosting the Supply of Much Needed New Cultivars for Commercial Farming

- National Seaweed Congress
  10-12 Oct **2018** Cebu City
  Title: Seaweed-Carrageenan Industry of the Philippines: Quo Vadis?

- India Seaweed Congress
  28 Feb **2018** Mumbai, India
  Title: Sustainability and Lessons Learned from Eucheumatoid

- International Seaweed Expo and Exhibit
  14-17 April **2017** Wando, Korea

Title: *Kappaphycus* and *Eucheuma* Cultivation in Southeast Asian Region for Climate Change Countermeasure

- 6th International Society of Applied Phycology
  18-23 June **2017** Nantes, France
  Title: Seaweed extracts as Bio-stimulants in *Kappaphycus* Cultivation

- 5th International Society of Applied Phycology
  22-27 June **2014** Sydney, Australia
  Title: Developments in Production Technology of *Kappaphycus* in the Philippines: More than four decades of farming

- International Seaweed Congress
  19-21 November **2014** Cebu City
  Title: Farm Productivity of Seaweed Carrageenan Farming in the ASEAN Countries

- Seaweeds, Developments and Prospects
  3-5 October **2013** Jakarta, Indonesia
  Title: Seaweed Industry of the Philippines: Production and Technology Dimensions

- Philippine Phycological Society Meeting
  June **2010** University in the Philippines in Laguna
  Title: Why Deep-Sea Farming of *Kappaphycus* in Zamboanga Peninsula

2. Mini-Symposium/Workshop Speaker

- FAO-COFI Aquaculture 10th Session 23-27 August 2019 Trondheim, Norway
  Title: Development status, key challenges and potential areas of growth for the seaweed industry in South-east Asia

- Asia-Pacific Association of Agriculture Research Institute (APAARI)
  210-12 July 2019, NARA, Sri Lanka
  Title: Asia-Pacific Seaweed: farming and its sustainability

- 11-13 June 2019 – International Atomic Energy Agency (IAEA), Vienna
  IAEA Consultative Seaweed Meeting on Seaweed as Source of Dietary Radiation Exposure
  Title: Overview of the Global Seaweed Industry

- 2nd Palawan Seaweed Summit, Puerto Princesa, Palawan
  Title: Mitigating Ice-Ice, Epi-Endophytes to Increase *Kappaphycus* Production

- 23rd Seaweed International Symposium
  Jeju Is. Korea, 28 April -3 May 2019
  Title: Micropropagation of Selected *Kappaphycus* Strains For the Purpose of Boosting the Supply of Much Needed, New Cultivars for Commercial Farming

- International Phycological Society Congress
  13-19 Aug 2017 Szczecin, Poland
  Title: Sustainability and Lessons Learned from Eucheumatoid Farming

- National Biodiversity Congress
  22-24 May 2017 Manila, Philippines
  Title: **Innovations –** Key to Sustainable Seaweed (Cottonii) Farming

- 4th International Society of Applied Phycology
  19-24 June 2011 Halifax, Nova Scotia, Canada
  Title*:* An Investigation of the Application of Acadian Marine Plant Extract Powder to Enhance the Growth and Phenolic Content of *Kappaphycus* (Solieriaceae, Gigartinales, Rhodophyta)

- 21st International Seaweed Symposium
  21-26 April 2013 Bali, Indonesia
  Title: Cultivation of Tropical Seaweeds in the BIMP-EAGA Region

- 19th International Seaweed Symposium
  26-31 March 2007 Kobe, Japan
  Title: Use of Plant Growth regulator and Organic Compounds in Callus Induction of *Kappaphycus alvarezii* var. tambalang

- 7th Asian Fisheries Forum
  30 Nov – 4 Dec 2004 Equatorial Hotel, Penang, Malaysia
  Title: Seaweed industry of the Philippines and the Problem of Epiphytism in *Kappaphycus* farming

3. Oral and Poster Presentor

Oral Paper

- 8th National Symposium of the Philippine Phycological Society Inc.
  20-21 June 2019 De La Salle University, Taft Ave. Manila
  Title: Micropropagation of Selected K*appaphycus* Strains For the Purpose of Boosting the Supply of Much Needed, New Cultivars for Commercial Farming

- British Phycological Society Meeting
  8-10 January 2019 SAMS Oban, Scotland UK
  Title: Eucheumatoid Farming in the Philippines: Sweet Successes and Curious Challenges

- 22nd International Seaweed Symposium
  19-24 June 2016 Copenhagen, Denmark
  Title: Use of AMPEP K+ and inhibitors in shoot formation of *Kappaphycus alvarezii* (Doty) Doty

- 3rd International Fisheries Symposium
  28-30 November 2013, Pattaya, Thailand
  Title: Impact of Ice-ice and *Neosiphonia* Infestations in *Kappaphycus* Farming

- 2nd Conference for Regional Cooperation in Ocean and Earth Science Research in the South China Sea
  21-24 October 2012, University of Malaya, Kuala Lumpur Malaysia
  Title: Impact of Acadian Marine Plant Extract Powder (AMPEP) in Commercial *Kappaphycus* Production

- 20th International Seaweed Symposium
  22-26 February 2010 Ensenada, Baja California, Mexico
  Title: Optimization of culture media concentration, pH-temperature combinations and density of sections for mass production of young plants in *Kappaphycus*

- 1st Indonesia Seaweed Forum
  27-30 October 2008 Makassar, South Sulawesi
  Title: the Seasonality of the Different Color Morphotypes of *Kappaphycus* as Influences by the Duration of Culture, Growth Rate, Production and Carrageenan Quality

- 2nd RP-USA Phycology Symposium Workshop
  6-18 Jan 1992 Cebu City
  Title: Growth rate of *Gracilariopsis heteroclada* (Zhang et Xia) Zhang et Xia (Rhodophyta) in floating cages as influenced by *Lates calcarifer* Bloch

Poster Paper

- 23rd International Seaweed Symposium
  28 April -3 May 2019 , Jeju Is. Korea
  Title: The Role of GlobalSeaweedSTAR in Meeting the Challenges of the Seaweed Industry of the Philippines

- 20th International Seaweed Symposium

22-26 February 2010 Ensenada, Baja California, Mexico
Title: Impact of AMPEP on the growth and occurrence *of Neosiphonia* infestation on two strains of *Kappaphycus alvarezii* at different depths

- 19th International Seaweed Symposium
  26-31 March 2007 Kobe, Japan
  Title: Observations on the Duration of Culturen of *Kappaphycus alvarezii* var. *tambalang* **(Best Poster Paper)**

Seminar Paper

- Role of UKRI-GCRF-GlobalSeawedsSTAR on Meeting the Challenges of the Philippine Seaweed Industry
  25 January 2019, DBT-ICT Mumbai, India

- 'Ice-ice' disease and Endo-Epiphytism in Ecuheumatoids in the Philippines
  15 Jan 2018 SAMS Oban Scotland, UK

- 'Ice-ice' disease and Endo-Epiphytism in Ecuheumatoids in the Philippines Lessons Learned from Eucheumatoid Farming in the Philippines
  3-4 March 2018 CSIR-CSMCRI Gujarat, Bhavnagar India

4. Resource Person/Trainor - Training, Workshop and Forum

- Training on S*argassum* Cultivation
  20-22 November 2018, Sorsogon City
  Title: Epiphytism in *Sargassum*

- Micropropagation and Nursery Operations of *Kappaphycus*
  27 Nov-5 Dec 2018, SEAFDEC AQD Tigbauan, Iloilo
  Title: Global Seaweed-Hydrocolloid Industry

- Mass Micropropagation of *Kappaphycus* strains (Training)
  23-25 Oct 2017, Sorsogon City
  Titles: Seaweed Biotechnology
  Spore Coalescence in Red Seaweeds
  Micropropagation and Sporulation of *Kappaphycus*
  Land-sea-based nurseries for propagule mass production

- *Sargassum* Consultancy Forum
  27-28 Oct 2017 Puerto Princesa, Palawan
  Title: Reproductive Biology and Ecology of *Sargassum*

- Conduct of Climate Resilient Aquaculture Operations Workshop
  5-6 April 2016 Rembrandt Hotel, Quezon City
  Title: Physiology of Farmed *Eucheuma*, *Kappaphycus* and *Gracilaria*

- Mass Micropropagation of *Kappaphycus* Strains (On-site Training)
  21-31 Aug 2016 University of Malaya Sabah

- Seaweed Workshop
  25-26 February 2016, University of Malaya in Terangganu, Malaysia
  Titles: Seaweed Farming and Diseases Control
  Seaweed Micropropagation technique
  Seaweed Farming and Production in the Philippines
  Developments in Production Technology of *Kappaphycus* in the Philippines: More than four decades of farming

- *Gracilaria* Cultivation
  3-5 Dec 2015 Sorsogon City
  Titles: Farming and Crop Management of *Gracilaria*

- *Sargassum* Forum
  13-14 June 2015 UPMSI Bolinao, Pangasinan
  Title: Reproductive Biology and Ecology of *Sargassum*

- Southeast Asian Seaweed Taxonomy (SEASTax) Workshop III
  21-28 August 2014 University of Malaya, Kuala Lumpur, Malaysia
  Title: Land-sea-based Nurseries for Propagule Mass Production

- Workshop on Impacts of Epibionts on Seaweed Farming
  26-27 November 2013, Kasetsart University, Bangkok, Thailand

- Southeast Asian Seaweed Taxonomy (SEASTax) Workshop II
  8-15 April 2010 IOES, University of Malaya, Kuala Lumpur, Malaysia
  Title: Systematics of *Kappaphycus* and *Eucheuma*

- Regional Study and Workshop on Taxonomy, Ecology and Processing of Red Seaweeds
  24-27 January 1995, Bangkok, Thailand
  Title: *Gracilaria* Studies at SEAFDEC/AQD

5. Research Papers and Proposals Evaluator

- 2020 US Federal Saltonstall – Kennedy Grant Program
  15 Dec 2019

- United Kingdom Research and Innovation
  1 BBSRC, 1NERC, 1Newton Fund Proposals
  July-August 2018

- Pharmacology Research Paper Presentation
  10 manuscripts of the College of Medicine
  West Visayas State University
  4 May 2018, WVSU, Iloilo