# MARJOHN C. NIÑO, PH.D.

ASSOCIATE PROFESSOR V LICENSED AGRICULTURIST (0011144) ACCREDITED FERTILIZER AND PESTICIDE RESEARCHER (P301)

Transcriptomics: RNA-seq, Gene expression profiling Functional Genomics for Disease Resistance: Transgenic Technologies (gain-of-function, knockout systems)

Marker-assisted selection for disease resistance



#### CONTACT

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#### **APPOINTMENT**

Associate Professor V

Northern Iloilo State university 2022-Present

Assistant Professor 1

Cebu Technological University 2019-2022

Assistant Professor 1

Visayas State University 2018-2019

**Graduate Research Assistant** 

Chungbuk National University 2012-2018

Science Research Specialist 1 Philippine Rice Research Inst. 2009-2012

### **EDUCATION**

Agriculture, PhD in 2018 (Dissertation: Transcriptional cysteine of characterization protease-mediated resistance against Xanthomonas oryzae pv. oryzae in rice (Oryza sativa L.)

Combined Master's Doctoral and Program; Chungbuk National University; Cheongju City, South Korea

(Plant Protection Agriculture especializing in Plant Pathology) 2009

Thesis: Pathogenicity, characterization, identification of a bacterium causing heart rot disease in abaca and its control through elicitors of resistance

Visayas State University, Baybay City, Leyte

#### SCHOLARSHIP

- Woojung Education Culture and Foundation (South Korea)
- Japan Services Student Organization (Japan)
- Agriculture and Resources Philippine Research Foundation, Inc.

#### SUBJECTS TAUGHT

- Principles of Crop Protection
- Approaches & Practices Pest Management
- Introduction to Phytobacteriology
- Integrated Pest Management
- Beneficial Arthropods and Microorganisms
- General Weed Science
- Basic Biotechnology
- **Principles of Genetics**
- Biotechnology for Horticultural Crops
- General Biochemistry
- Environmental Science

#### AWARDS

- Best Research Presenter: 2023 Waragwagan: A Research In-House Review (Northern Iloilo State University)
- Outstanding R&D Award: Resource Generator Award 1 2020-2021 (Cebu Technological University)
- Outstanding R&D Award: Innovation Award I 2019-2020 (Cebu Technological University)
- Silver Award of Recognition in Community Extension I 2020 (Cebu Technological University)
- PMCP-Bayer Crop Science Best Undergraduate Thesis in Plant Pathology I 2010
- Phi-Delta Best Thesis in Pure Science Category I 2009 (Visayas State University)
- Magna cum laude I 2009 (Visayas State University)

#### PUBLICATIONS 18 | Citations 140; H-Index 7

- Niño MC, Ruiz JH, Pascual MLD. 2025. Identification and Characterization of Endophytic Bacteria in Rice Bean (Vigna umbellata). Journal of Tropical Biodiversity and Biotechnology, 10(2), p. jtbb14798.doi:10.22146/jtbb.14798
- Niño MC, Cho YG. 2020. Transcriptional Modulation of Resistance Against Xanthomonas oryzae pv. oryzae Korean Race K2 in Japonica Rice. Agronomy 10(960).
- Niño MC, Kang KK, Cho YG. 2020. Genome-Wide Transcriptional Response Of Papain-Like Cysteine Protease-Mediated Resistance Against Xanthomonas oryzae pv. oryzae in Rice. Plant Cell Reports. 39:457-472.
- Niño MC, Kim MS, Kang KK, Cho YG. 2019. Genome-wide identification and molecular characterization of cysteine protease genes in rice. Plant Biotechnology Reports 14:69-87.
- Niño MC, Song JY, Nogoy FM, Kim MS, Jung YJ, Kang KK, Nou IS, Cho YG. 2016. Overexpression of rice premnaspirodiene oxygenase reduces the infection rate of Xanthomonas oryzae pv. oryzae. J. Plant Biotechnol. 43:422-431.
- Niño MC, Lee HJ, Kim JK, Abdula SE, Jung YJ, Kang KK, Nou IS, Cho YG. 2015. Enhancement of rice resistance to bacterial blight by overexpressing BrCP3 gene of Brassica rapa. Plant Breed. Biotech 3(4):355-365
- Niño MC, Kim JK, Lee HJ, Abdula SE, Nou IS, YoCho. 2014. Key Roles of Cysteine Protease in Different Plant Pathosystem. Plant Breed. Biotech. 2(2): 97-109.
- Pascual MLD, Ruiz JH, Posas JO, Niño MC. 2022. Pollen viability and incompatibility in indigenous rice bean (Vigna umbellata (Thunb.) Ohwi
- &Ohashi). Plant Science Today, 9(1):157-166.

  Tabanao DA, Navaro R, Millas R, **Niño MC**. 2021. Genetic Characterization of BADH2 in Philippine Aromatic Rice Cultivars. Plant Breed. Biotech. 9(3):227-238.
- Niño MC, Nogoy FM, Kang KK, Cho YG. 2018. Low-affinity cation transporter 1 improves salt stress tolerance in japonica rice. Plant Breed. Biotech 6(1): 82-93.
- Nogoy FM, Niño MC, Song JY. Song JS, Jung JY, Kang KK, No IS, Cho YG. 2018. Plant microRNAs in molecular breeding. Plant Biotechnol. Reports 12: 15-25.
- Song JY, Niño MC, Nogoy FM, Jung YJ, Kang KK, Cho YG. 2017. CRISPR/CAS9 as a Powerful Tool for Crop Improvement. J. Plant Biotechnol. 44:107–114.
- Song JY, Ouk S, Nogoy FM, Niño MC, Kwon SW, Ha WG, Kang KK, Cho YG. 2016. Application and utilization of marker-assisted selection for biotic stress resistance in hybrid rice (Oryza sativa L.) J Plant Biotechnol 43: 317-331.
- Abdula SE, Lee HJ, Kim JK,  $Ni\tilde{n}o$  MC, Jung YJ, Cho YC, Nou IS, Kang KK, Cho YG. 2015. BrUGE1 transgenic rice showed improved growth performance with enhanced drought tolerance. Breed Sci. 66(2): 226-
- Lee IH, Choi JS, Niño MC, Cho YG, Kang KK, Jung YJ. .2015. Regulation of abiotic stress response through NtROS2a-mediated demethylation in tobacco. Plant Breed. Biotech. 3(2): 108-118.
- Lee HJ, Jee MG, Kim JK, Nogoy FMC, **Niño MC**, Yu DA, Kim MS, Sun MM, Kang KK, Cho YG. (2014) Modification of starch composition using RNAi targeting soluble starch synthase I in japonica rice. Plant Breed. Biotech. 2(3): 301-312.
- Tabanao DA, Pocsedio AE, Yabes JC, Niño MC, Millas RE, Sevilla NL, Yulong X, Yu J. 2014. Genetic diversity and population structure in a rice drought stress panel. Plant Genetic Resources: Characterization and Utilization; 1-11
- Nuñez JA, Niño MC, Borines LM. 2012. Characterization identification of the bacterium causing rot disease in abaca (Musa textilis N.) Journal of Tropical Plant Pathology 48(2):1-6

#### DESIGNATION

- College Research Coordinator College of Agriculture, NISU I 2024 - present
- Director Center for Studies in Biotechnology I Jan. 2020 - 2022
- Director Campus Research & Development I Jan. 2020 - 2022

#### PATENTS 9

- 10-2424687 I Niño MC, Kim MS, Cho YG, (2022) OsCP2 gene from Oryza sativa for bacterial blight disease resistance of rice and uses thereof
- 10-2424692 | Niño MC, Kim MS, Cho YG, (2022)
   OsCP4 gene from Oryza sativa for bacterial blight disease resistance of rice and uses thereof
- 10-2231136 I Cho YG, **Niño MC**, Kim MS (2021) OsCP1 gene from Oryza sativa for salt stress tolerance of plant and uses thereof
- 10-2231138 I Cho YG, Niño MC, Kim MS (2021) OsXCP2-5 gene from Oryza sativa for salt stress tolerance of plant and uses thereof
- 10-1955075 | Cho YG, **Niño MC**, Song MS (2019)OsCYP71 gene enhancing pathogen resistance of plant and uses thereof
- 10-1874192 | Cho YG, **Niño MC**, Song MS (2018) Ostat1 gene enhancing plant disease and uses thereof
- 10-1841606 | Cho YG, Niño MC, Song MS (2018)OsLCT1 gene from Oryza sativa increasing bacterial blight resistance fof plant and uses thereof
- 10-1754804 | Cho YG, Niño MC, Kim JK (2017)BrCP3 gene improved resistance to plant diseases and uses thereof
- 10-1788989 | Cho YG, Niño MC, Song MS (2017)Marker for selecting brown planthopperresistance rice cultivar and uses thereof

#### GRANTS

- 1. NISU-GAA (914,000) Formulation and evaluation of microbial inoculants for growth, disease resistance, and yield performance of selected vegetables (2024-2025, Project Leader)
- 2. NISU-GAA (959,000) Molecular Identification and evaluation of cultivable microorganism in biofertilizer for plant growth promotion (2024-2025, Project Leader)
- 3. DOST-PCAARRD (1,679,000) From backliners to frontliners: Help a farmer to help frontliners (2021, Project Leader)
- 4. CTU (GAA) (1,001,206)
  - (i) Temporal dynamics of endophytic bacteria in Vigna umbellata (2021) (Project Leader)
- (ii) Survey& Identification of insect pests and diseases associated with rice bean 2021 (Co-proponent)
- (iii)Collection, identification, and morphological characterization of indigenous vegetables and cereals (2020) (Co-proponent)
- (iv) Practical in situ & ex situ seed banking conservation of indigenous vegetables and cereals (2020) (Co-proponent)

#### TRAINING

- Fertilizer/Pesticide Research Training | FPA-PMCP Nov. 26-27, 2024
- University FUTURES Masterclass: Framing the Future I Aug. 7-9, 2024
- Advance Patent Search and Industrial Design Drafting I June 18-21, 2024
- Writing Proposal for Agriculture, Aquatic, and Natural Resources Sector in Western Visayas I Feb. 5-6, 2024
- Micro and Macropropagation of Abaca I May 23-27, 2022. Philippine Fiber Industry Development Authority; PHILFIDA-EVRFES, Abuyog, Leyte
- Abaca Virus Detection I May 16-20, 2022. Philippine Fiber Industry Development Authority; PHILFIDA Biotech Building, Quezon City
- Basic GenderAnalysis (GA and Use of GA Tools for Research, Development and Extension Projects and Implementation I May 4-7, 2022: Cebu Technological University
- Patent Search and Drafting Workshop I Aug. 23 27, 2021; Cebu Technological University
- Strategic Planning and Capability Building Workshop for the Campus/College GAD and RD Directors and Coordinators I July 20-22, 2021. San Remigio, Cebu. Cebu Technological University
- Seminar-Workshop on Grantmanship I May 27 28, 2021: Cebu Technological University
- Training Workshop for All USF, UREA, and RDE Center Directors I June 14-17, 2021, San Remigio, Cebu, Cebu Technological University
- Seminar-Workshop on Grantmanship for the 2022 GAA Funding I May 27-28, 2021. Cebu City, Cebu Technological Uni.
- Strategic Planning Workshop I February 5,2021. Cebu City, Cebu Technological University
- Training on Preparation and Packaging of Proposal Addressing the Industry Strategic S&T Plans and Programs (ISPS) I Nov. 23 Dec. 4, 2020; DOST-PCAARRD.

#### PAPER PRESENTATION

- Emerging Trends in Biotechnology for Sustainable and Regenerative Agriculture / 2nd PAA Regional Conference Darag / Oct. 23-25, 2024
- Morphological and molecular characterization of selected indigenous vegetables and cereals. RISEVII Program Review. National Center for Genetic Engineering and Biotechnology, Pathum Thani, Thailand. January 28-30, 2020.
- Genome-wide Transcriptome analysis of cysteine proteasemediated response against Xanthomonas oryzae pv. oryzae in rice. Philippine Phytopathological Society Scientific Sessions, PMCP 51st Anniversary and Annual Scientific Conference. Coron Westown Resort, Coron, Palawan. July 2-5, 2019.
- Exploring the Rice Immune System Using Functional Genomics.
   2nd Regional Symposium of the Philippine Society of Biochemistry and Molecular Biology – Visayas Chapter. February 21-22, 2019.
- Transcriptome dynamics of cysteine protease-mediated response against Xanthomonas oryzae pv. oryzae race K3a in rice. Korean Society of Breeding Science. Jeju, South Korea. July 11-13, 2018.
- Xanthomonas oryzae pv. oryzae triggers diverse defense-related genes in rice. International Symposium on Rice Functional Genomics. Daejeon 34186, South Korea. Sept. 25-28, 2018.
- Xanthomonas oryzae pv. oryzae triggers complex transcriptomic defense network in rice. The Korean Society for Plant Biotechnology-2017 Annual Conference. Daejeon, South Korea. June 9, 2017.

#### SERVICES RENDERED

- Resource Person during during Training on Creative Urban Gardening for Families of Malnourished Children on Dec. 5-6, 2024
- Resource Speaker during 2nd PAA Regional Conference on Oct. 23-25, 2024
- Resource Person during Livelihood Project Training on Oyster Mushroom Production on Aug 14-16, 2024
- Resource Person during A Technical Briefing on Coconut Production Management and Processing on Sept. 12, 2024 held by ATI-**PCA**
- Associate Editor in CIENCIA Journal Vol. 21, Issue 2023
- Resource speaker during "Sayri ka-Agri: Reviving Indigenous Vegetables and Cereals thru Small and Medium Enterprise in Barili." Future Science and Tehcnology Leaders of the Philippines with Farmers in Brgy. Cabcaban, Barili, Cebu. March 17, 2022.
- Reviewer of Journal article "Optimization of PCR conditions for the detection of nbunchy top viruses of abaca in Eastern Visayas Region of Philippines. Annals of Tropical Research. Aug. 11, 2021
- Evaluator for Environment, Agriculture, and Natural Sciences. Virtual Agency In-House Review. Romblon State University. Oct. 27, 2020
- Resource Speaker during 4th Aggie Days. Cebu Technological university I Nov. 27-29,

#### **AFFILIATION**

- Philippine Association of Research Managers, Inc. (PHILARM)
- National Research Council in the Philippines (NRCP)
- Phil. Phytopathological Society, Inc
- Phil. Society of Biochemistry & Molecular Biology
- Crop Science Society of the Philippines
- Philippine Society for the Study of Nature
- Philippine Association of Agriculturists,
- Phi Delta, The Honor Society of Science, VSU

## SEMINARS/CONFERENCES ATTENDED

- International Webinar of Agricultural Sciences. March 18, 2025.

- International Webinar of Agricultural Sciences. March 18, 2025. 2nd PAA Regional Conference I Aklan, Oct. 23-25, 2024. 5th Int'l Research, Development, Extension (RDE) Management Congress & 30th National PHILARM Convention. Philippine Association of Research Managers, Inc. Dec. 9-10, 2021. 2021 NRCP Annual Scientific Conference and 88th General Membership Assembly. DOST, National Research Council of the Philippines. March 10, 2021. RD Leader Webinar: Building Research Capability Gaps in the Regions. DOST, National Research Council of the Philippines. Feb. 9, 2021
- Mindanao-Wide Webinar on Omics Research Moving Past Pandemics: Omics in Agriculture. Philippine Genome Center Mindanao. Oct. 9, 2020 Unified SYllabu Making for BS-Agriculture, BS-Agribusiness, BS Food Technology. Cebu Technological University Barili Campus. July 28-29, 2020
- Plant Pathogen and disease detection in the field: applications of LAMP technology in plant pathology. The PLant Pathology Lab, Institute of Plant Breeding. July 10, 2020 Climate Change STudies: Monitoring CO2 and CH4 EMissions Webinar. LI-COR Biosciences. Jul. 8, 2020

- Webinar. LI-COR Biosciences. Jul. 8, 2020
  1st Virtural Scientific Session: Plant Pthology Laboratory-Institute of Plant Breeding. Jun 25, 2020
  Visayas Regional Scientific Meeting. National Academy and Technology, Philippines, DOST-Visayas Cluster. Mar 21, 2020
  15th National Organic Agriculture Congress: Organic Agriculture-Advancing the Local Food CUlture Movement in the Philippines. DA-National Organic Agriculture Program. Cebu City. Nov. 15, 2018.
  2nd Regional COnference of the Society of Agricultural Educators in Region 8, Inc (SAER 8). Society of Agricultureal Educators in Regions 8, Inc. VSU, Baybay, Leyte. June 21, 2019.
  30th Joint VICARP and RRDEN Symposium. Visayas Consortium for AGri., Aguatic,& Natural Resources Program; Regional Research and
- 30th Joint VICARP and RRDEN Symposium. Visayas Consortium for AGri., Aquatic,& Natural Resources Program; Regional Research and Dev't, Extension Network. Nov. 21-23, 2018
  Pinoy Iskolars sa Korea (PIKO) Scientific COlloqium: Knowledge Exchange with Interntional STudents. Pinoy Iskolars sa Korea, Inc. Nov. 30, 2014
  7th International Rice Genetics Symposium. International Rice Research Institute. Dusit Thani Hotel Manila, Philippines. Nov. 5-8, 2013

- 21st FCSSP Scientific COnference. The Federation of Crop Science Socities of the Philippines, Inc. Legazpi City, Albay, Philippines. May 9-14, 2011.
- 14, 2011.

  38th Annual PSBMB Convention: Exploring te Molecules of life: Applications to Health, Food Security & Biodiversity. Philippines Society of Biochemistry & Molecular Biology. University of Santo TOmas, Manila, Philippines. Dec. 8-9. 2011

  6th International Rice genetics Symposium and 7th International Symposum on Rice Functional Genomics. International Rice Research Institute. Manila Hotel, Manila, Philippines. Nov. 15-19, 2009.

  40th Scientific COnference and ANniversary. Crop Science Society of the Philippines, Inc. Grand Regal Hotel, Davao City. Mar. 15-20, 2010

CHARACTER REFERENCES DR. LUCIA M. BORINES Prof. VI - Visayas State University lucyborines@vsu.edu.ph

DR. MARIA LIMA D. PASCUAL Prof. IV - Cebu Technological University marialima.pascual@ctu.edu.ph

DR. DINDO A. TABANAO Molecular Breeder, Corteva Agriscience Phil., Inc. databanao@yahoo.com

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