

TERESA B. DE LEON

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SKILLS and COMPETENCIES

Molecular Biological/Biochemical Techniques

Isolation of DNA and RNA from various sources, PCR and Real Time RT-PCR, DNA cloning, Radioactive/non-radioactive Northern and Southern blot analyses, *In vitro* Transcription, ELISA, Production of antiserum (BBTV, PRSV), Reporter gene assays (GUS, NPTII). Genome polymorphism by SSR and microarray.

Plant Tissue and Microbial Culture Techniques

Isolation and propagation of bacteria and fungi, purification of plant virus, Plant tissue culture and regeneration (papaya, banana, rice), Electroporation, Transformation of plant tissues (papaya, rice) *via Agrobacterium*.

Basic Computer Skills

MS Word, Excel, Power Point, Primer design, Sequence analyses (BLAST, Bioedit, CLUSTALX, PHYLIP), Gene annotation (Rice GAAS, MPSS, GEO)

EDUCATIONAL ATTAINMENT

- MS (2007) Molecular Biology and Biotechnology**
Minor: **Plant pathology**
University of the Philippines Los Baños
College, Laguna 4031
Thesis Title: Gene expression of selected candidate genes in near isogenic lines of rice during susceptible and resistance responses to rice tungro spherical virus.
Advisors: Dr. Antonio C. Laurena and Dr. Il-Ryong Choi
- BS (1999) Biology**
Major: **Microbiology**
University of the Philippines Los Baños
College, Laguna 4031
Thesis Title: Polymerase chain reaction (PCR) amplification of DNA genome segments of Banana Bunchy Top Virus (BBTV)
Advisors: Dr. Vermando M. Aquino and Dr. Antonio C. Laurena
- 1996 **High School Diploma**
Pililla Academy Foundation Inc.
Pililla, Rizal
- 1992 **Elementary Certificate**
Pililla Elementary School Central
Pililla, Rizal

RESEARCH WORK EXPERIENCES

- July 2007-December 2007 Plant Breeding, Genetics and Biotechnology Div., **IRRI**
Assistant Scientist
Supervisor: Dr. Sigrid Heuer
Work on “ Development of phosphorus (P) deficiency tolerant rice varieties”
Research Activities:
 - Identify and validate candidate genes at a major QTL for phosphorus deficiency tolerance (Pup1)
 - In silico sequence analyses of fine mapped sequence (BLAST, annotation)
 - Develop gene-specific primers
 - PCR and RT-PCR of candidate genes
 - Assist in cloning and transformation of candidate genes for P-tolerance by RNAi and over expression
 - Maintain laboratory and greenhouse facilities and equipment
- April 2005-June 2007 Plant Breeding, Genetics and Biotechnology Div., **IRRI**
MS Thesis-Research Scholar
Supervisor: Dr. Il-Ryong Choi
Work on “**Gene expression study on candidate genes for tungro resistance in rice**”.
Research activities
 - Design gene-specific primers for candidate genes.
 - Isolate and purify high quality DNA and RNA,
 - Reverse Transcription (RT-PCR) and cloning of PCR products
 - Analyze gene sequences (BLAST, multiple alignment)
 - PCR amplification using SSR markers.
 - Perform Real Time RT-PCR and Northern blot analysis of some candidate genes.
 - Teach and assist visiting scientists and students in their laboratory and greenhouse activities.
- June 2002- January 2004 Plant Pathology Div., Inst. of Plant Breeding (**IPB-UPLB**)
University Research Associate II
Supervisor: Dr. Vermando M. Aquino
Work on the project “**Agrobacterium-mediated transformation of Davao “Solo” papaya for PRSV resistance**”.
Research Activities
 - Conduct molecular cloning, tissue culture, and transformation of papaya somatic embryos via *Agrobacterium*.
 - Perform screening of putative transgenic papaya plants for PRSV resistance through mechanical inoculation, ELISA, NPT assay and PCR.
 - Responsible for the over-all management of the laboratory where several researches are being done.
- July 2001-May 2002 Plant Pathology Div., Inst. of Plant Breeding (**IPB-UPLB**)
University Research Associate I
Supervisor: Dr. Vermando M. Aquino
 - Work on the project “**Genetic Composition and Distribution of Papaya Ringspot Virus (PRSV) in the Philippines**”.
 - Conduct molecular cloning and DNA sequence variability analyses of PRSV for the development of transgenic papaya resistant to PRSV.
- September 2000- June 30, 2001 International Service for the Acquisition of Agri-Biotech Applications (**ISAAA**)
Research Fellow
Supervisors: Dr. Vermando M. Aquino and Dr. Randy Hautea
 - Research on the development of efficient tissue culture and regeneration of papaya

December 1999-
August 2000

Plant Pathology Div., Inst. of Plant Breeding (**IPB-UPLB**)

University Research Associate I

Supervisor: Dr. Vermando M. Aquino

Work on “**Genetic Composition and Distribution of Banana Bunchy Top Virus in the Philippines**”.

Research activities

- Conduct molecular biology studies on BBTV (extraction of nucleic acids, PCR amplification of BBTV-CP, MP DNA and cloning of PCR products).
- Conduct experiment on characterization of BBTV isolates and production of antiserum.
- Assist the project leader in his laboratory classes in preparation of laboratory specimens, equipment and other materials needed.

SUBMITTED MANUSCRIPT

I.-R. Choi, K. Satoh, **T. De Leon**, D.-Y. Kwak, M. Ramil, M. Muhsin, J. Pariasca Tanaka, B.-C. Lee, M. R. Madamba, P. Q. Cabauatan, R. C. Cabunagan, H.-Y. Kim, M. Wissuwa, S. Kikuchi and H. Leung. Correlation between differential gene expression and chromosomal introgression defines expression domains in rice. Manuscript submitted to The Plant Journal, September 4, 2007.

RESEARCH POSTERS AT SCIENTIFIC MEETINGS

T. De Leon, K. Satoh, D. Y. M. R. Madamba, D. Y. Kwak, R. Mauleon, B. C. Lee, P. Q. Cabauatan, R. C. Cabunagan, N. S. Zenna, S. Kikuchi, H. Leung and I.-R. Choi. 2005. **Integrated Location/Expression Candidate Approach for the Analysis of RTSV Resistance**. Presented as poster in the 5th International Rice Genetics Symposium and 3rd International Rice Functional Genomics Symposium held at Manila, Philippines on November 19-23, 2005.

Aquino, V.M, **T.B. de Leon**, M.G. Colle and G. A.Romo. 2005. **Sequence Diversity of Banana Bunchy Top Virus (BBTV) in the Philippines**. Presented as poster in the 25th Annual Scientific Meeting of The National Academy of Science and Technology (NAST) at the Manila Hotel on July 13-14, 2005.

Aquino, V.M.,**T.B. de Leon**, P.A. Perez. 2004. **Sequence Diversity of Papaya Ringspot Virus (PRSV) Coat Protein Gene in the Philippines**. 10th International Congress for Culture Collection (ICCC-10). Tsukuba, Japan. October 10-15, 2004.

Aquino, V. M., Perez, P. A., and, **T. B De Leon**. 2003. **Agrobacterium-mediated transformation of Davao “solo” papaya for PRSV resistance**. Presented as poster in the 25th Annual Scientific Meeting of The National Academy of Science and Technology (NAST) at the Manila Hotel on July 9-10, 2003. Best poster.

Aquino, V. M., Perez, P. A., and, **T. B De Leon**. 2002. **Agrobacterium-mediated transformation of Davao “solo” papaya for PRSV resistance**. Presented as poster in the Annual Convention of the Philippine Society for Biochemistry and Molecular Biology (PSBMB) at SEARCA, UPLB, College, Laguna on December 5-7, 2002. Best poster.

De Leon, T. B. and V.M. Aquino. 2000. **PCR amplification of DNA genome segments of Banana Bunchy Top Virus (BBTV)**. Presented as poster in the 22nd Annual Scientific Meeting of The National Academy of Science and Technology (NAST) at the Manila Hotel on July 5-6, 2000.

SYMPOSIA/ CONVENTIONS and TRAININGS ATTENDED

November 19-23, 2005	Poster Presenter-5 th International Rice Genetics Symposium and 3 rd International Rice functional Genomics Symposium held at Manila, Philippines
November 16, 2004	Participant- Seminar on: Utilization of KOME site for Microarray Analysis held at Umali Lecture Room, IRRI Speaker: Dr. Kouji Satoh
October 4-8, 2004	Participant-Radiation Safety Course held at ARBN Conference Room, NCBL Annex, PBGB, IRRI and at PNRI, Diliman, Quezon City
November 3-7, 2003	Participant- ISAAA training program on Non-radioisotope technique workshop held at Plant Genetic Engineering Unit, Kasetsart University, Kamphangsaeen Campus, Thailand
August 26-27, 2003	Resource Person- Detection of Pathogens and Food Contaminants Using Molecular-Based Techniques. Training Series on DA Regulatory Laboratory Advancement at NSQCS-BPI, Quezon City.
July 9-10--, 2003	Poster Presenter- 25 th Annual Scientific Meeting of The National Academy of Science and Technology (NAST) at the Manila Hotel
December 5-7, 2002	Poster Presenter- Annual Convention of the Philippine Society for Biochemistry and Molecular Biology (PSBMB) at SEARCA, UPLB, College, Laguna.
October 7-9, 2002	Participant- ISAAA Papaya Biotechnology SEA Network Meeting at Port Dickson, Malaysia.
June 6-7, 2002	Participant- Training on Non-Radioactive Labeling and Detection of Nucleic Acids. Biochemistry Lab. IPB-UPLB
December 5, 2001	Participant-6 th Annual Natural Products Society of the Philippines Convention held at University of Sto. Tomas, Manila
July 11-12, 2001	Participant- 23 rd Annual Scientific Meeting of the National Academy of Science and Technology (NAST) held at Manila Hotel

MEMBERSHIP IN PROFESSIONAL ORGANIZATION

- American Phytopathological Society (APS)
- Philippine Society for Microbiology, Inc. (PSM)
- Natural Products Society of the Philippines