

MARISOL QUINTANILLA-TORNEL

University of Hawaii, Plant and Environmental Protection Sciences (PEPS)
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EDUCATION

Ph.D., Entomology and Nematology, May 2009

Michigan State University

Dissertation Title: Acoustical and Nematode Community Structure Methodologies for Ecosystem Characterization.

Advisor: Dr. George Bird at Michigan State University (MSU)

M.S., Department of Entomology, December 2004

Michigan State University

Research Title: Effect of Rotation Crops, Soil Storage Temperature and Incubation Period on N-Mineralization and Nematodes.

Advisor: Dr. George Bird at Michigan State University

Graduate Student, Department of Horticulture, 2001-2002

Michigan State University

Research Title: Effect of Rotation Crops, Soil Storage Temperature and Incubation Period on N-Mineralization and Nematodes.

Advisor: Dr. S. Snapp at Michigan State University

Bachelors in Agriculture, 2001

Andrews University, Berrien Springs, Michigan

Agriculture Engineering Student, 1996-1999

Universidad Adventista de Chile, Chillan, Chile

AWARDS

Dr. Eugenia McDaniel Teaching Award, MSU Entomology (2005)

C. W. Mott Doctoral Fellowship, MSU (2004-2007)

Undergraduate International Scholarship, Andrews University (2001)

WORK EXPERIENCE

2014-2015 Junior Researcher in University of Hawaii Plant and Environmental Protection Sciences

2011-2014 Administrator of a grape farm production and exportation operation in Chile, Agricola Renta Frut S.A.

2009-2011 Plant protection program leader, entomologist and nematologist for Northern Marianas College Cooperative Research Extension and Education Service (NMC-CREES)

2002-2009 Research and teaching Assistant in Michigan State University Entomology Department.

2002 Chilean summer: supervisor harvesting/storage/packaging/quality control at table grape and pear growing and exporting operation

2000-2001: worked in the Andrews University dairy farm

1992-1994: worked in my high school's vegetable and fruit production systems

RESEARCH EXPERIENCE

June – October 2015 Junior Researcher in Dr. Mark Wright's laboratory at the University of Hawaii Plant and Environmental Protection Service. Present ongoing research: Sustainable approaches to reduce Tomato spotted wilt virus and Tomato yellow curl virus in tomato in Hawaii. These are insect vectored diseases. Methods such as resistant varieties, reflective mulches, horticultural oils, and insect pathogenic fungi are being investigated. I am beginning to work on control of coffee berry-borer (*Hypothenemus hampei*).

June 2014 – June 2015 Junior Researcher in Dr. Koon-Hui Wang's laboratory at the University of Hawaii Plant and Environmental Protection Service. Conducted a field experiment to compare soil solarization, no-till cover cropping, and insectary planting to conventional bare ground treatment to manage above and below ground pests on green onions (thrips, purple blotch, plant-parasitic nematodes, weeds and etc.). Assisted in gathering information to compile a Banana pest and disease IPM guide book for Hawaii and the Pacific. Conducted nematode community analysis for samples collected from conservation cover cropping trials from Maryland.

2009-2011 Plant protection leader, Entomologist and Nematologist at the Northern Marianas College Cooperative Research Extension and Education Service. Successfully imported several biocontrol agents to control invasive weeds. Identified nematodes for the Western Pacific Region.

2006-2009 Graduate Research Assistant, Dr. George Bird laboratory, Entomology Department, Nematology Program, Michigan State University. Conducted my Ph.D. (acoustical and nematode community structure methodologies for ecosystem characterization) and M.Sc. (effect of rotation crops, soil storage temperature and incubation period on N-mineralization and nematodes) research.

2001-2002 Graduate Research Assistant, Dr. Sieg Snapp, Department of Horticulture, Michigan State University. Commenced my M.Sc. research which was completed under Dr. George Bird's guidance.

TEACHING

2011-Spring and 2010 Fall: **Environmental Conservation (NR 153) Instructor**. Northern Marianas College, Saipan, Commonwealth of the Northern Mariana Islands

2009-2011: **Mentored two work-study/research assistants** in our laboratory

2010-2009: **Mentored nine summer interns**: Mentored five high school students (2010) and four students (2009) through individual research projects. They each created a poster and presentation of their findings. Four of them have pursued biological sciences careers

2003-2009: Assisted Dr. Bird, my mayor professor, in **mentoring** international **graduate students** and research assistants

2008-Fall: **Graduate Teaching Assistant for ENT 205** (Pests, Society and Environment), Michigan State University

- Assisted in grading homework and exams of 120 students
- Delivered some selected lectures for the course

2005-Spring: **Graduate Teaching Instructor ISB 201L** (Insects, Globalization, and Sustainability Laboratory), Michigan State University

- Participated in curriculum design and developed learning outcomes for 96 diverse undergraduates
- Taught three sections
- Instructor for lectures and laboratories

2005-Fall: **Graduate Teaching Instructor ISB 208L** (Applications in Biological Science Laboratory), Michigan State University

- Developed learning outcomes for 96 diverse undergraduates
- Taught three sections
- Instructor for lectures and laboratories

2004-Spring: **Graduate Teaching Instructor ISB 208L**, Michigan State University

- Developed learning outcomes for 96 diverse undergraduates
- Taught three sections
- Instructor for lectures and laboratories

2003-Fall: **Graduate Teaching Assistant for ENT 205** (Pests, Society and Environment), Michigan State University

- Assisted in grading homework and exams of 120 students
- Delivered two lectures for the course

1995-1996: **Instructor in Ouachita's Hill's Academy**, Amity, Arkansas, High School

- Instructed approximately 30 students in Chemistry and Algebra

EXTENSION

2014: Visits to banana farmers in Hawaii, assisted in extension meetings, preparation of banana integrated pest management extension book (in review).

2009-2011 Plant Protection leader for the Northern Mariana Islands. Hundreds of farmers and members of the community were assisted with insect and nematode pest identification, and given information regarding control and management of soil quality and invertebrate pests

2009-2011 Assisted quarantine officers in Saipan to identify unknown arthropods in shipments on multiple occasions

April 2011: Assisted farmer in writing a WSARE grant for honey bee production in Saipan, Northern Mariana Islands

2011-2009: hundreds of farmers have been serviced by setting Melon fly and Sweet potato weevil traps and lures for pest control, by visits for consultation, pest identifications, and recommendations. Brochures have been given, and Neem trees for their local production of biopesticide have been provided to interested individuals

2010: Fifty local public school system teachers visited our Entomology-Nematology lab in Saipan to learn about insects and nematodes in the Mariana Islands. This resulted in many public school student field trips to our lab

2010: Visited Saipan Lao-Lao Bay Golf course with extension agent Arnold Route and work-study and diagnosed several pest problems and gave possible solutions

PUBLICATIONS

- Quintanilla-Tornel, M.** 2015. Soil Ecoacoustics. In: A. Farina and S.H. Gage (Eds.). *Ecoacoustics: The ecological role of sounds*. Wiley Press, New York (submitted).
- R. L. Schlub, A. Moore, B. D. Marx, K. A. Schlub, L. F. Kinnaway, **M. A. Quintanilla**, M. L. Putnam, and Z. Mersha. 2011. Decline of *Casuarina equisetifolia* (ironwood) trees on Guam: symptomatology and explanatory variables. *Phytopathology* 101:S216
- Quintanilla Tornel, M.**, G. Bird and S. Gage. 2010. Impact of microwaves and water on acoustical signatures of a compost. *Compost Science and Utilization Journal* 18: 3
- Quintanilla Tornel, M.** 2009. Acoustical and nematode community assessment for ecosystem characterization. Ph.D. dissertation, Michigan State University.
- Quintanilla, M.A.** 2004. Effect of rotation crops, soil storage temperature and incubation period on n-mineralization and nematodes. M.S. Thesis, Michigan State University.

PUBLICATIONS IN REVIEW

- Quintanilla-Tornel, M.**, J. Tavares, C.R.R. Hooks, and K.H. Wang. 2015. Effects of mulching on above and below ground pests and beneficials in a green onion agroecosystem. *Agriculture Ecosystem and Environment Journal*. In review.
- Wang, K.H., **M. Quintanilla**, J. Tavares, J. Sugano, and C.R.R. Hooks. Banana pest and diseases management in the tropical pacific. University of Hawaii Press. In review.

Quintanilla, M., A.J.M. Smucker, S.H. Gage, G.W. Bird, L. Leblanc, and E. J. Park. 2015. Impact of tillage on the acoustical signatures during rapid hydration of air dried soil aggregates. *Soil and Tillage Research*. In review.

CONFERENCE PRESENTATIONS

Quintanilla-Tornel, M., and K.H. Wang. 2015. Mulch-based sustainable pest management strategies for green onions. Entomological Society of America annual meetings, Minneapolis, Minnesota, November, 2015 (poster presentation)

K.-H. Wang, G. Chen, Z. Cheng, **M. Quintanilla-Tornel**, and C.R.R. Hooks. 2015. Contribution of no-till cover cropping to greenhouse gas remediation: can nematodes tell the tale? Society of Nematologists Annual Meetings, East Lansing, Michigan, July 19-23, 2015 (oral presentation)

M. Quintanilla. 2013. Dynamics of nematode diversity and sounds associated with the MSU KBS Long-Term Ecological Research Program/ Dinámica de la diversidad de nematodos y sonidos asociados con el programa de Investigación Ecológica de largo Plazo de Michigan State University Kellogg Biological Station. Organization of Nematology for Tropical America annual meetings, La Serena, Chile, October 20-25, 2013 (oral presentation)

Bier, Claus (filmer and editor), **Marisol Quintanilla**, Arnold Route and Dilip Nandwani (Perf.). 2009. Neem - a botanical pesticide (Video). Northern Marianas College Cooperative Research Extension and Education Service. DVD. <http://crees.org/sec.asp?secID=10>

Quintanilla M., G. Bird, and G.P. Robertson. Nematode community structure of soil from alternative management and natural ecosystems. KBS-LTER and GLBRC T4 Joint Meeting, East Lansing, Michigan, May 5-6, 2009.

Smucker, A., E. Park, **M. Quintanilla**, S. Gage, and G. Bird. 2006. Acoustical profile identification of soil hydration and stability. Abstract No. 27812, ASA-CSSA-SSSA Annual meetings, Indianapolis, Indiana, November 12-16, 2006.

Quintanilla, M., A.J.M. Smucker, S. Gage, G. Bird. 2006. Acoustical properties of soil aggregates and compost associated with alternative management and natural ecosystems. KBS-LTER All Scientist Meeting, East Lansing, Michigan, May 9, 2006.

- Quintanilla, M.**, G. Bird, and S. Gage. 2006. Temporal dynamics of acoustical signatures associated with alternative management and natural ecosystems. KBS-LTER All Scientist Meeting, East Lansing, Michigan, May 9, 2006.
- Quintanilla, M.**, A. Smucker, S. Gage and G. Bird. 2005. Role of acoustical signature monitoring in ecosystem assessment. Poster presented at the Proceedings of the Annual Meeting of the Society of Nematologists. Fort Lauderdale, Florida, July 9-13, 2005.
- Quintanilla, M.**, S. Snapp, G. Bird, J. Smith. 2004. Effect of rotation crops, soil storage temperature & incubation period on n-mineralization and nematodes. *Journal of Nematology* 36: 343.
- Jost, M.S., J. Biernbaum, G. Bird, C. Bates, R. Bounds, S. Hollosy, **M. Quintanilla**, J. Smith, A. Walter. 2004. Impact of substrates and pulsing agents on reproduction of bacterial-feeding nematodes. *Journal of Nematology* 36: 325-326.

EXTENSION AND OUTREACH PRESENTATIONS

- Bird, G. W. 2015. KBS LTER 1993-2009 nematode dynamics: with special appreciation to Diana Wall and **Marisol Quintanilla**. SON Field Trip to the Kellogg Biological Station LTER. Invited oral presentation.
- Sugano, J., K.H. Wang, J. Uyeda, T. Radovich, S. Ching, S. Mishra, A. Park, D. Meyer, **M. Quintanilla**, S. Fukuda and S. Migita. 2014. Evaluation of microbes for field application in Hawaii. Asia Pacific Clean Energy Summit & Expo (APCES), September 15-17, 2014, Hawaii'i Convention Center, Honolulu, HI, USA. Invited oral presentation.
- Quintanilla, Marisol. 2011. Nematodes and plant nutrition. USDA-NRCS, Saipan, Northern Mariana Islands. Invited oral presentation.
- Quintanilla, Marisol. 2011. Nematodes. USDA-APHIS Quarantine Conference April 19, 2011. Guam, Mariana Islands. Invited oral presentation.
- Quintanilla, Marisol. 2011. Pest surveillance on the Commonwealth of the Northern Mariana Islands. USDA-APHIS Quarantine Conference April 19, 2011. Guam, Mariana Islands. Invited Oral Presentation. Nematode extraction and identification procedures were shown. Participants included quarantine professionals from most Pacific Islands, including Papual New Guinea, Fiji, Solomon Islands, Chuck, Ponape, Guam, and Northern Mariana Islands among others.

Quintanilla, Marisol. 2011. Nematodes and sweet potato pest management. Sweet Potato Conference. Rota, Northern Mariana Islands. Two invited oral presentations. Assisted as a judge in the sweet potato competition.

Quintanilla, Marisol. 2011. Nematodes. Rotary Club Meeting. Hyatt, Saipan, Northern Mariana Islands. Invited oral presentation.

Quintanilla, Marisol. 2011. Conservation biology. Northern Marianas College Natural Resource class of Dr. De Torres. Invited oral presentation.

Quintanilla, Marisol. 2011. Sustainable pest management. Tinian Agricultural Fair, Northern Mariana Islands. Invited oral presentation.

Quintanilla, Marisol. 2010. Pest identification workshop. Saipan Grand Hotel, October 27.

Quintanilla, Marisol. 2010. Pesticide safety and environmental protection training. Saipan June 22-25.

Quintanilla, Marisol. 2009. Pesticide safety and environmental protection training. Tinian and Rota, Northern Mariana Islands.

Quintanilla, Marisol. 2010. How did I choose my career and the path to get there. Invited presentation in the Saipan, Pathfinder Club.

Quintanilla, Marisol. 2011. Ornamental plants and their pest. Saipan Seventh Day Adventist School May 13, 2011. Invited presentation.

2010: Gave an invited oral presentation at Northern Marianas College career days. The presentation consisted on describing my career and the path to get there. Students were interested, asked questions and many of them applied for competitive internship in our lab and the chosen ones performed well and some of them continued on natural resources careers.

Quintanilla, Marisol and Arnold Route. 2010. Saipan pesticide applicator workshop. June 22-25.

Quintanilla, Marisol and Arnold Route. 2009. Commercial agriculture pesticide safety and education program workshop. Rota, Northern Mariana Islands

Quintanilla, Marisol and Arnold Route. 2009. Structural pesticide safety and education program workshop. Tinian, Northern Mariana Islands.

Quintanilla, Marisol A. 2009. Forest Acoustics. Mysteries of the forest revealed. Agriculture and Natural Resources Week. Michigan State University. Invited oral presentation.

Quintanilla, Marisol A. 2009. Nematode community structure of natural and alternative management systems at the MSU, Kellogg Biological Station/Long Term Ecological Research Site. Michigan 2nd Organic Research Reporting Session. Agriculture and Natural Resources Week. Michigan State University. Oral presentation.

Quintanilla, Marisol A. 2009. Impact of Tillage and Carbon on Acoustics and Water-Stability of Soil. Michigan 2nd Organic Research Reporting Session. Agriculture and Natural Resources Week. Michigan State University. Oral presentation.

Quintanilla, Marisol A. 2009. Ecological Integrity and Living Soil. Michigan State University, NSC 491 Sustainability for a Shrinking Planet. Invited oral presentation.

Quintanilla Tornel, Marisol A. 2008. *Temporal dynamics of acoustical signatures associated with alternative management and natural ecosystems*. Entomological Society of America Annual Meeting, Reno, Nevada. Oral presentation.

Quintanilla, Marisol. 2008. *Impact of Management on Soil Biology and Ecosystem Acoustics*. Central Service Area-Plant and Soil Science Workshop for the Natural Resources Conservation Service (USDA). June 3, 2008. Invited oral presentation.

Quintanilla, M. 2007. *Soil Biology*. Biosystems Annual Client Workshop. April 12, 2007. Invited oral presentation.

Quintanilla, M. 2007. *Soil Quality Management*. Herbruck Farms, Inc. Grower Workshop. March 30, 2007. Invited oral presentation.

MEDIA COVERAGE

Press Release. 2011. NMC to receive donation from Step Up program to enhance science labs. Marianas Variety News and Views. September 27, 2011

Bagnol, R. 2011. Entomologist says crops should be quarantined first. Marianas Variety News and Views. March 29, 2011

- Mojica, A.C. 2011. San Antonio school presents science fair winners. Marianas Variety News and Views. February 21, 2011
- Mojica, A.C. 2011. San Antonio school holds health and science fair. Marianas Variety News and Views. February 15, 2011
- Manglona, R. S. 2011. The spirit of community. Marianas Variety News and Views. December 31, 2011
- Nematodes affecting local crops. Saipan Tribune. March 23, 2011
- Tudeno, J. 2010. NMC-CREES to help local farmers fight plant parasites. Marianas Variety News and Views. September 16, 2010
- Wasp blamed for CNMI Gao Gao tree problems. Radio New Zealand News. April 26, 2010. <http://www.radionz.co.nz/international/pacific-news/189940/wasp-blamed-for-cnmi-gao-gao-tree-problems>
- Eugenio, H.V. Wasp, moth killing trees in the CNMI. Saipan Tribune. April 26, 2010
- Sutherland, W. New microscope to aid NMC-CREES in worm research. Saipan Tribune. April 16, 2010
- Scarlet gourd situation on Saipan is improving. Saipan Tribune. April 1, 2010
- Quarantine intercepts black widow spiders. Saipan Tribune. February 6, 2010
- Supena, Krissy. Earth-friendly biological insecticide. Marianas Variety News and Views. 2 February 2010
- Rhinoceros beetle possibly in Saipan. Saipan Tribune. December 21, 2009
- Esteemed entomologist joins NMC. Marianas Variety News and Views. 2 November 2009
- Esteemed entomologist joins NMC. Marianas Variety News and Views. November 2, 2009
- Esteemed entomologist joins NMC. Saipan Tribune. October 30, 2009
- Erediano, Manuel. NMC-CREES has new entomologist. Marianas Variety News and Views July 7 2009
- Agpoon, Richelle. Saipan's coral trees dying. Marianas Variety News and Views August 31 2009

Coconut Rhinoceros beetle possibly in Saipan. 2009. KSPN-2 TV News

Black Widow Spider intercepted at Saipan port. 2010. KSPN-2 TV News

OTHER WORK AND COLLABORATIONS

2014-2015: Collaborating with Drs. Stuart Gage and Almo Farina on soil acoustics projects. I have completed writing a book chapter on soil ecoacoustics.

2011: Received a **USDA Plant Protection and Quarantine Soil Permit** to import and process soil. Our Saipan laboratory was the first lab to receive a soil permit in the region. We extracted and identified soil nematodes for the region.

2011: Collaborated in **an invasive ants project** with Dr. Cas Vanderwoud and Ross Miller.

2011-2010: **Identified Nematodes in Casuarina** for Dr. Schlub, identified nematodes in papaya and banana for Dr. Wall, and identified nematodes in imported composted steer manure for Dr. Moore in the University of Guam, Mariana Islands.

2011: Set up **fruit fly** traps at Saipan, Northern Mariana Islands seaport, airport and Kagman farm for a USDA APHIS CAPS survey of the Oriental fruit fly and the Mediterranean fruit fly. This work was done in conjunction with the Department of Lands and Natural Resources.

2011: Successful release and establishment of Mimosa psyllid, *Heteropsylla spinulosa*, in Saipan and Tinian islands. The Mimosa psyllid is an effective biocontrol of *Mimosa diplotrica*, an invasive weed.

2011: Successful release of the gall fly (*Cecidochara connexa*) biocontrol *Chromolaena odorata* (invasive weed) in Saipan, Northern Mariana Islands. It was transferred from Rota, Northern Mariana Islands to Saipan.

2010: USDA Plant Protection and Quarantine permit given to import biological control *Eurytoma erythrinae* to control the Erythrina Gall Wasp to Saipan and Tinian, Northern Mariana Islands.

2010: Assisted the Marianas Island Department of Lands and Natural Resources to re-submit two USDA-CAPS proposals to **survey fruit flies and invasive ants**. Both of them were approved.

RESEARCH GRANT PROPOSAL DEVELOPMENT

Title: "Honey and basil: Integrated production and marketing of underexploited agricultural commodities in the Pacific Islands"

Grant type: Western SARE (2015)

Responsibility: Project PI

Amount requested: \$172,000

Title: "The Plant Doctor App as a Tool to Detect New Invasive Pest"

Grant type: 2014 Farm Bill Suggestions

Responsibility: Project PI

Amount requested: \$92,415

Title: "Conservation tillage and mix cover cropping effects on soil health and acoustics"

Grant type: Western SARE Professional Development Program Grant (2014)

Responsibility: Project PI

Amount requested: \$73,006

Title: "Surveillance of citrus pathogens in Hawaii and the American Pacific"

Grant type: USDA APHIS CAPS priority survey

Responsibility: Project Co-PI

Amount requested: \$123,288

Title: "Invasive species prevention and management in the Northern Mariana Islands"

Grant type: USDA APHIS Farm Bill Survey

Responsibility: Principal Investigator

Amount awarded: \$123,000

Title: "Biological control introduction for Erythrina Gall Wasp"

Grant type: USDA APHIS Plant Protection and Quarantine

Responsibility: Principal Investigator

Amount awarded: \$ 22,000

Title: "Nematological studies in specialty crops in the commonwealth of the northern mariana islands"

Grant type: HATCH

Responsibility: Principal investigator

Amount awarded: \$119,155

Title: "Travel grant for CSREES Grantsmanship Workshop"

Amount awarded: \$ 2,800

Title: "Agroacoustical Identification of Soil Water, Belowground Faunal and Microbial Modifications of Plant Disease and Aboveground Biophysics"

Grant type: GREEN (Fundamental Research)

Team Member: Dr. Alvin Smucker, Dr. George Bird, Dr. Stuart Gage, Dr. Eun Jin Park and Marisol Quintanilla

Responsibility: Provided leadership for writing and coordination among the team members.

Amount Requested: \$104,975

Title: "Acoustical Signature Monitoring of Soil and Environmental Quality Assessment"

Grant type: EPA EMAP Regional Environmental Monitoring and Assessment Program Research Projects

Team Member: Dr. Alvin Smucker, Dr. George Bird, Dr. Stuart Gage, Dr. Eun Jin Park and Marisol Quintanilla

Responsibility: Provided leadership for writing and coordination among the team members.

Amount Requested: \$278,901

Title: "Acoustical Signature Assessment for Land Policy Decision-Making; With Special Reference to Sustainable Agriculture and Soil Quality"

Grant type: Land Policy Program, Graduate Research Scholars Grant

Team Member: Dr. George Bird, Dr. Stuart Gage, Dr. Alvin Smucker, Dr. Eun Jin Park and Marisol Quintanilla

Responsibility: Provided leadership for writing and coordination among the team members.

Amount Requested: \$49,661

PROFESSIONAL SOCIETY MEMBERSHIPS

Hawaiian Entomological Society 2014-2015

Society of Nematologists, 2003-2015

Entomological Society of America, 2008-2015

Organization of Nematologists of Tropical America, 2005-2015

American Phytopathological Society, 2007-2008

Soil Science Society of America, 2008-2009

American Society of Agronomy, 2008-2009

Crop Science Society of America, 2008-2009

PROFESSIONAL MEETINGS

2011: Pacific Rim National Partnership for Environmental Technology Education (PETE) meetings, Honolulu, Hawaii

2011: Woman in Science, Technology, Engineering, and Math Conference, University of Guam, April 12-14

2011: Entomological Society of America Annual Meetings. Reno, Nevada

2010: Entomological Society of America Annual Meetings. San Diego, California

2010: 2nd College Natural and Agricultural Sciences research conference. University of Guam January 13, 2010

2009: College of Natural Sciences meetings, University of Guam

2009: USDA-NIFA Grantsmanship workshop. Guam, Mariana Islands

2009: USDA-NIFA Grantsmanship workshop. Kansas City, Missouri

2008: Entomological Society of America Annual Meeting, Reno, Nevada

2007: Society of Nematology and American Phytopathological Society meetings, San Diego, California

2005: Land Policy Meetings in Lansing, Michigan

1997 summer: Practical training and meetings on removing Africanized bees' nests in human populated areas in Matto Grosso, Brazil, and harvesting bee products and learned basic bee biology

LANGUAGE EXPERTISE

Fluent in English, Spanish and Portuguese

Rudimentary in **Serbo-Croatian**

VOLUNTEER WORK

2014-2015: Organize activities and talks to increase knowledge and nature awareness in youth (Oahu, Hawaii)

2011-2014: Gave several talk in the community (Chile) regarding sustainable agriculture and nature to reach out to kids and youth

2010-2011: Member of the Saipan SDA School Board

2010-2011: Member of the Saipan SDA Clinic Board

2010: Visit Saipan Juvenile detention facility to instruct inmates regarding planting, weeding, and pest control

2009: Assisted in people overcome alcohol addiction in Saipan, Mariana Islands

2009: Volunteered in giving health lectures in the community in Saipan, Mariana Islands

2009: Lectured 1st and 2nd graders on my career for career days in Tanapag Elementary School, Saipan, Mariana Islands

2001-2008: Occasionally translate for non-English speaking people in the Lansing, Michigan community

2009: Michigan State University Plant biology greenhouses maintenance

2008: Visited and helped orphans in orphanage in Bosnia

1999 summer: Costa Rica, served as a translator for a volunteer medical team providing free medical care in remote rural mountain areas near Nicaragua's border

1997 summer: Volunteered to help remove Africanized bees' nests in human populated areas in Matto Grosso, Brazil

1994 summer: Ecuador-Guayaquil, worked as a translator for volunteer-medical and dental team providing free medical and dental care for poor communities