

Multicultural Scholars Program 2012 Newsletter



From left to right: Alejandra Marquez and Arlyn Moreno Luna, Laura Cristal Magana, and Omar Miranda

What is the Multicultural Scholars Program?

The Multicultural Scholars Program (MSP) at Oregon State University, funded by two grants from the National Institute of Food and Agriculture (NIFA) of the US Department of Agriculture (USDA), offers scholarships to undergraduate students of diverse cultural backgrounds and first-generation college students who are interested in Agriculture, Natural Resources, Food Science, or Human Health and Nutrition.

MSP Scholars are chosen as first, or second year, students. As part of their reward they receive tuition scholarships for up to a four-year period and a stipend to travel to a conference. As a requirement of receiving the scholarship, recipients must pursue a

B.S. degree in BioResource Research (BRR) in the College of Agricultural Sciences, and join MANRRS (Minorities in Agriculture, Natural Resources and Related Sciences).

MSP Mentors are upper division students in BRR and MANRRS, who receive scholarships in return for acting as mentors for the MSP Scholars. Mentors meet with students throughout the school year to assist them with overcoming academic, professional, and social challenges.

MANRRS Wins 2nd Place in National Contest



Top row (left to right): MSP Jorge Contreras, Matt Saigat, MSP Dominique Sabedra, Sarah Wright, Alejandra Mendoza, MSP Arlyn Moreno Luna, MSP Alejandra Marquez, Quynh Le, Crystall Carillo, Mario Carbajal, Camille Moyers, MSP Kim Barela
Bottom row (left to right): MSP Jose Solis, MSP James Thomas, Daniel Mekonnen, MSP Cynthia Le, Wanda Crannell, and MSP Alumni Vananh Nguyen

Congratulations to our MSP Mentors and Scholars who helped the Oregon State MANRRS Chapter win 2nd Place in the Chapter of the Year (COYA) Contest!

COYA is a prestigious honor given to an outstanding MANRRS chapters for their efforts in professional development, community service, and academic excel-

lence. Many of our MSP students were integral to the success of the chapter in the National Competition and to events throughout the school year.

Read more about the National Conference on page 11.

Meet the 2011 Scholars

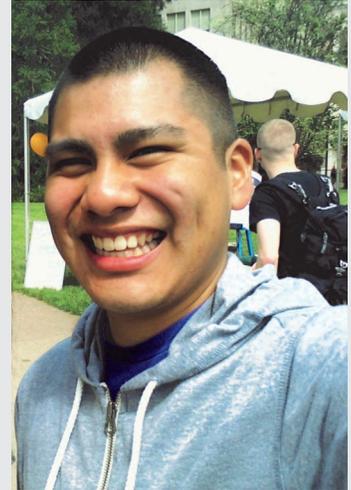
Jorge Lopez-Contreras

Year in School: Freshman

Option: To be determined

Research Interests: Food quality

Long-term goals: To become a doctor or physician's assistant.



Elyssa Trejo

Year in School: Junior

Option: Toxicology

Research Interests: Agriculture

Thesis: Toxicological Effects of Yucca and Quillaja on Rumenant Digestability

Long-term goals: To do agricultural plant research in academia.



Charlie Ta

Year in School: Sophomore

Option: To be determined

Research Interests: Plant pathology

Thesis: Linking Genetic Variability of *X. americanum* Populations to Virus Vectoring Ability

Long-term goals: To conduct environmental science research.



Jose Solis-Ruiz

Year in School: Freshman

Option: Genomics and Bioinformatics

Research Interests: Genetics

Long-term goals: To go to graduate school for genetics and begin conducting my own research



Cynthia Le

Year in School: Freshman

Option: Genomics and Bioinformatics

Research Interests: Biomedical and stem-cell

Long-term goals: To conduct research at Oregon Health Sciences University

James Thomas

Year in School: Sophomore

Option: Genomics and Bioinformatics

Research Interests: Genomics, Food Policy/Health, Urban Agriculture

Long-term goals: To obtain an MD/PhD and work in research addressing food and drug shortages.



Meet the 2009 Scholars

Alejandra Márquez Loza

Year in School: Junior

Option: Toxicology and Applied Genetics

Research Interests: Biomedical

Thesis: Effects of Anti-inflammatory on NMDA receptors and Memory with Aging

Long-term goals: To obtain an M.D. and PhD. in Neuroscience in order to conduct clinical neurological research.



Dominique Sabela

Year in School: Senior

Option: Animal Reproduction and Development

Research Interests: Animal Sciences

Thesis: Serum Haptoglobin as an Indicator for Reproductive Success in Transition Dairy Cows

Long-term goals: To obtain an MA in College Student Services and eventually work in student affairs at a university

Emily Escobedo

Year in School: Senior

Option: Toxicology

Research Interests: Health and Human Sciences

Long-term goals: To work in the field of environmental toxicology



Omar Miranda Garcia

Year in School: Senior

Option: Food Quality

Research Interests: Wheat, Agriculture

Long-term goals: To obtain a career in agriculture working in food quality, graduate school in food safety/microbiology.



Tiffany Harper

Year in School: Junior

Option: Sustainable Ecosystems

Research Interests: Pollination Biology

Long-term goals: To become an environmental educator

Martine Torres

Year in School: Senior

Option: Water Resources and Toxicology

Research Interests: Water Quality and Bioremediation

Thesis: Bioabsorption studies of acid green 3 dye

Long-term goals: To obtain an MS in International Public Health and work in developing nations addressing water quality issues



Meet the 2011 Mentors

Kimberly Barela

Year in School: Senior

Option: Sustainable Ecosystems

Research Interests: Geographic Information Systems, animal conservation

Long-term goals: To work in environmental education



Kimberly Melendez-Rivera

Year in School: Junior

Option: Toxicology

Research Interests: Wildlife Biology

Long-term goals: To work in Alaska for the National Park Service and eventually obtain a Master's or PhD

Arlyn Yire Moreno Luna

Year in School: Senior

Option: Toxicology

Research Interests: Biomedical

Thesis: Xanthohumol and the related health effects on cardiovascular disease, obesity and Type 2 diabetes

Long-term goals: To become an optometrist



Alumni

Vananh Nguyen

Previous Position: Mentor **Option:** Toxicology **Graduated:** 2010

News: Vananh began her Master's in Public Health at Oregon State University in the fall of 2011. In the spring of 2011, she also obtained a second bachelor's degree in International Studies from Oregon State University.



Laura Cristal Magaña

Previous Position: Mentor **Option:** Toxicology **Graduated:** Fall 2011

News: Laura acquired a position working in outreach for Oregon State University. This fall, she begins graduate School in DC at the George Washington University, School of Public Health.

AnnaRose Adams

Previous Position: Mentor **Option:** Sustainable Ecosystems **Graduated:** 2011

News: AnnaRose worked for Oregon Sea Grant in Marine Policy and then traveled to Shark Bay, Australia to be a Field Assistant in marine ecology. She currently holds two positions at Oregon State University. AnnaRose will begin her PhD in Oceanography this fall at Oregon State University.



Eva Arndt

Previous Position: Mentor **Option:** Toxicology **Graduated:** 2012

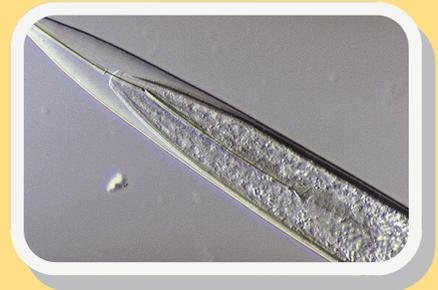
News: Eva recently defended her thesis on attitudes of urban businesses on rodenticides and passed with flying colors. She is currently interning with Dow Agrosiences, and returns to OSU to this fall to finish second degree, BA in Psychology.

MSP Student Research



Alejandra Marquez Loza is completing research that could help Alzheimer's and Age-Associated Memory Impairment. Her research with professors in the department of Biomedical Sciences seeks to determine whether an anti-inflammatory drug can increase a particular set of receptors in the brain critical for building memory.

Charlie Ta is studying a nematode, which is a microscopic roundworm, commonly named as the "American Dagger Nematode." By feeding on plants, this nematode can transfer diseases to plants. Charlie is working to develop a tool for producers to detect disease transmission from these tiny pests.



Arlyn Yire Moreno Luna is using a chemical derived from hops, known as xanthohumol, to treat metabolic diseases such as obesity. Her initial results based upon lab treatments with rats indicate that xanthohumol may decrease body weight and help prevent metabolic disorders.

Dominique Sabedra is working with the OSU Department of Animal Sciences to determine a useful method for finding out if pregnant cows will become ill pre or post-partum. Her research is investigating if serum haptoglobin, a protein, can serve as an indicator for difficulties during childbirth. Initial results indicate that the protein may be sufficient to determine illness and help farmers keep their cattle healthy.



MSP Student Research



Elyssa Trejo is utilizing desert plants such as yucca and *Quillaja saponins* to modify digestive enzymes in horses and related animals. Her work aims to equip these enzymes to digest fructans, a chemical relative of fructose, that can be toxic and induce metabolic syndrome. She is currently expanding her work at the USDA Poisonous Plants Research Laboratory in Logan, Utah

Tiffany Harper spent a summer at the HJ Andrews Experimental Forest conducting research on pollinators. Her work compared the pollination load of bumblebees and syrphid flies. Results of her work indicate that while bumblebees are more present and can carry more pollen, syrphid flies could have a critical role in dispersing pollen throughout the region.



James Thomas completed an internship with the Oregon State College of Public Health. His work documented quality of care and procedural outcomes of outpatient surgeries in Oregon. Results from his project will aid recommendations in best practice policies for outpatient surgery.

Martine Torres is completing the initial-phase tests for a novel way to treat wastewater from the textile industry. Her thesis work examines the potential of using macroalgae and bio-char to remove acid green 3 dyes from textile wastewater. The results of her study indicate that *Fucus vesiculosus*, commonly known as bladderwrack seaweed, is the most effective at removing the dye.



MSP students receive competitive URISC research grants

Congratulations to Charlie Ta and Elyssa Trejo for acquiring prestigious funding from the Office of Academic Research!

Each academic term, Oregon State University's Office of Academic Research offers funding for undergraduate students to undertake research projects. The fund, "Undergraduate Research, Innovation, Scholarship, and Creativity (URISC)," is a highly sought after grant that is highly competitive amongst undergraduates.

As part of their application, students must write a comprehensive two-page proposal and budget for their project. This application is then weighted against other applicants and the standards of the University's Research Agenda.

A unique aspect of the grant is that it recruits students from all disciplines. The Office of Academic Research

broadly defines URISC research to encompass "activities not only in laboratories and field stations, but also in libraries, art studios, and music practice rooms." Student's applications are therefore not only compared against others in their disciplines, but also with applicants from different fields as well.

Charlie Ta received a grant for Winter and Spring terms of 2012 for his project entitled, "Linking Genetic Variability of *X. americanum* Populations to Virus Vectoring Ability."

Elyssa Trejo also received a grant for the same time period for her project, "Toxicological Interactions between *Quillaja Saponins* and Pyrrolizidine Alkaloids."

Alejandra Márquez Loza wins national scholarship

Congratulations to Alejandra for winning the national Barry M. Goldwater Scholarship!

The Barry M. Goldwater Scholarship and Excellence in Education Program is a fund created in memory of Senator Barry M. Goldwater to reward young scientists, engineers, and mathematicians for their efforts. The scholarship is intensely competitive, as students are judged heavily on academic merit, involvement in research, and potential to succeed in a STEM graduate program. Recipients receive up to \$7500 for tuition and fees for a maximum of two years.

Completing the application for the Goldwater Scholarship is not an easy task. Students must write multiple essays, fill

out an extensive application form, and obtain letters of recommendation.

Applying for the Goldwater begins at the individual college level. Departments within universities nominate students who they think would be competitive for the scholarship. Applications are then pooled and reviewed to nominate three individuals to move to the national level. At the national level, students are compared against other national candidates and the applicants that were nominated within their state. Recipients are notified by early spring.

Great work Alejandra!

Report from the 2012 MANRRS National Conference

This year's conference was held in Atlanta, Georgia at the Westin Peachtree Inn from March 29th to April 1st. A total of 26 students, comprised of 22 undergraduates and 4 graduate students, were able to attend the conference. Eleven students attending were current MSP Scholars and Mentors.

The students benefited immensely from the experience of attending the national conference. Six of our students participated in national research contests (Oral and Poster Competitions), with three placing 3rd place or higher. Contest participant Alejandra Marquez (junior in BioResource Research) stated, "Presenting my research poster gave me valuable experience in having conversations with other professionals about my work." The OSU-MANRRS Chapter also competed in the National Chapter of the Year Contest, taking 2nd place overall. Two of our members also received National Officer positions. Tiffany Harper will be the Region VI Undergraduate Vice President and Dominique Sabedra will serve as the Region VI Graduate Vice President.

Many students benefitted from the workshops offered at the conference. Arlyn Moreno Luna, a senior in BioResource Research, reflected "This past conference was a great experience for my overall education. My workshops taught me how to communicate better, balance my money wisely, and contribute to the preservation of natural resources." Taulun Aman, a senior in Biology who is interested in the medical profession, listened to a panel on diabetes management and was able to make a connection with an Emory professor who gave her advice about medical school.

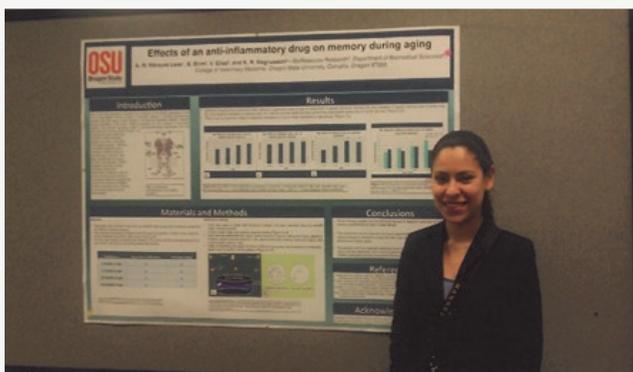
One of the most important skills that many students take away from the conference is experience in networking with other professionals. James Thomas, a sophomore in BioResource Research, deeply valued the opportunity to network with individuals from all over the country and of different cultural backgrounds. "The soft skills of communication and interacting with various people are essential for excellence in any job. Being able to communicate with people who are different than you is a skill that this event helped nurture. Communication and networking skills are arguably more important than any work experience or degree."

A final important take away from the conference was the enhanced sense of community among OSU-MANRRS members. "By far the most meaningful part of the conference for me was watching new friendships be made and laughter being shared. The conference is a unique bonding experience for members and I was delighted to be a part of it for my third year in a row," said GTA Co-Advisor, AnnaRose Adams. This year, eleven of our attendees were new members to the club. OSU-MANRRS believes that in order to ensure the longevity of our organization, it is crucial to excite new members about the vision and experience of being an OSU-MANRRS member. As a result of attending the conference, five of those new members decided to run for an officer position for the club.

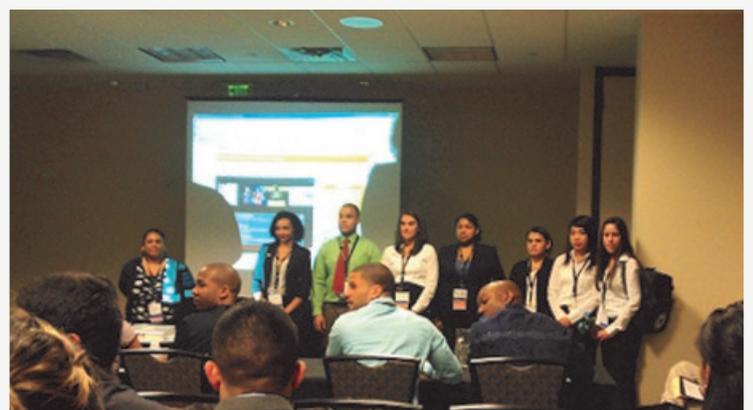
Report from the 2012 Conference



Top row (left to right): Camille Moyers, Matt Saigat, Mario Carbajal, MSP Jorge Contreras, Effrain Cabrera, Crystal Carrilo, Wanda Crannell, Taulun Aman, MSP Dominique Sabedra, Sarah Wright, MSP Kim Barela, MSP Charlie Ta, MSP James Thomas, Quynh Le
Bottom row (left to right): MSP Alejandra Marquez, MSP Alumni Vananh Ngyuen, MSP Tiffany Harper, MSP Arlyn Moreno Luna, MSP Alumni AnnaRose Adams, Daniel Mekonnen



Alejandra Marquez presents her research poster



MANRRS students at National Chapter of the year competition (left to right): MSP Dominique Sabedra, MSP Tiffany Harper, MSP James Thomas, MSP Alumni AnnaRose Adams, MSP Kim Barela, MSP Arlyn Moreno Luna, Quynh Le, and MSP Alejandra Marquez

Noteworthy Tidbits

Elyssa Trejo will be spending her summer doing an internship with Monsanto in Hawaii.

Charlie Ta will be studying abroad next school year to the University of Sussex in England.

Kimberly Melendez-Rivera will be studying Tropical Ecosystem Conservation abroad in Panama.

Arlyn Moreno Luna's research on Xanthohumol will be published in the journal Phytochemistry.

Alejandra Marquez Loza and Cynthia Le will be spending their summer doing research at Oregon Health Sciences University.

James A. Thomas, Jose Solis-Ruiz, Jorge Lopez-Contreras, Omar Miranda-Garcia and Cynthia Le have been elected to serve as officers for the OSU MANRRS Chapter for 2012-13, five out of eight of the team are MSP scholars.

Dominique Sabedra and Martine Torres, will be our first 2009 MSP scholars to graduate Spring 2012. Dom will attending graduate school at U. of West Florida seeking Master's in Student Leadership and Development. Martine is currently spending time in France visiting family and investigating PeaceCorps and International Public Health graduate programs.

James A. Thomas will be spending summer as a PROMISE intern working with OSU Student Leadership Center.

Omar Miranda-Garcia will be spending his summer on campus working as a wheat research assistant..

For more information contact:

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