

Arequipa Nexus Institute Workshops
Purdue University
July 22 - August 2, 2019



Sunday, July 21		LOCATION
~ 1 - 2 pm	UNSA participants arrive at Chicago O'Hare Airport	
5:00-6:30 pm	Dinner at Earhart Dining Court	
6:30-7:00 pm	UNSA Participants' Orientation Meeting, Registration	First Tower, Conference room
Monday, July 22		
9:00-10:00 am	"Welcome, Opening Remarks"	WTHR 172
	Dr. Tomas Diaz de la Rubia, Chief Scientist & Executive Director, Discovery Park Dr. Henry Polanco, Co-Director Arequipa Nexus Institute Dr. Tim Filley, Co-Dir Arequipa Nexus Institute, Dir. Center for the Environment	
10:00 am	"DURI Presentations"	WTHR 172
	Three groups of DURI students	
11:00-11:15 am	Break (coffee/refreshments)	WTHR 172
11:15-11:30 am	"Introduction to the New UNSA Stable Isotope Facility"	WTHR 172
	Dr. Juan Lopa, Professor, Chemistry Department, UNSA	
11:30-11:45 pm	"Introduction to the New UNSA ICP MS"	WTHR 172
	M.Sc. Adriana Larrea, UNSA	
11:45-12:00 pm	"Introduction to the New UNSA Surface Characterization facility"	WTHR 172
	Dra. Corina Vera, UNSA	
12:00-1:15 pm	Lunch Ford Dining Court	
1:30-3:20 pm	"Nexus Projects Overview", PI Presentations	WTHR 172
1:30-1:40 pm	Toward Clean Water: Avoid Intrusion of Contaminants into Water Systems	
1:40-1:50 pm	Develop and deliver undergraduate/graduate courses on Sustainable Dev. at UNSA	
1:50-2:00 pm	Seasonal Heavy Metal Concentrations in Streams in the Arequipa Region	
2:00-2:10 pm	Determining the sources of particulate air pollution in Arequipa, Peru	
2:10-2:20 pm	Equitable Co-existence of Agriculture, Mining, and Regional Development in Arequipa	
2:20-2:30 pm	Robotic Water Quality Monitoring and Distribution Systems	
2:30-2:40 pm	Capacity Strengthening for Postharvest Handling and Storage in Peru	
2:40-2:50 pm	Arequipa Region Soil Vulnerability, Impairment, and Health Assessment	
2:50-3:00 pm	Development of Good Agricultural and Manufacturing Practices Trainings for Growers and Food Processors in Arequipa, Peru	
3:00-3:10 pm	Net Zero Energy Building	
3:10-3:20 pm	Develop and deliver undergraduate/graduate courses on Energy Efficiency at UNSA	
3:20-3:30 pm	Break	
3:30-5:20 pm	"Nexus Projects Overview", PI Presentations	WTHR 172
3:30-3:40 pm	Plant-microbe interactions in agricultural soils with heavy metals contamination	
3:40-3:50 pm	UNSA's Agricultural Experiment Station: A Strategic Plan	
3:50-4:00 pm	Integrated Sensing Systems for Detection of Heavy Metal Contamination Across Food-Water-Environment Nexus in Arequipa	

4:00-4:10 pm	Development of low heavy metal, nutritious processed foods from Arequipa-area staple crops with potential novel health attributes
4:10-4:20 pm	A Framework for Sustainable Water Management in the Arequipa Region
4:20-4:30 pm	Estimating relative inputs of glacial melt-water, groundwater, and irrigation runoff in rivers of Arequipa, Peru
4:30-4:40 pm	Elevating the Peruvian Grape and Wine Industry into a Global Competitor through Advancements in Sustainable Agriculture
4:40-4:50 pm	A Purdue-UNSA Initiative to Establish a Center on Food Security in Peru - Pilot Project
4:50-5:00 pm	Harnessing Luminescent Radiation from Solar Cells for Agricultural and Environmental Monitoring
5:00-5:10 pm	Nexus Crops CRISPR and Phenomics: Individual and Institutional Capacity Building for Crop Science at Universidad Nacional de San Agustin

6:00-8:00 pm	Welcome Dinner	PMU, East West Faculty Lounge
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6:00-6:15	Group Photo
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Tuesday, July 23

9:00-12:00 am & 1:30-4:30 pm	"Water Origins: groundwater and surface-water in mountainous watersheds/isotopic and geochemical techniques used to infer hydrological and hydrogeological processes" Dr. Lisa Welp, Professor, Dept. Earth, Atmospheric & Planetary Sciences Dr. Marty Frisbee, Professor, EAPS	HAMP 2201
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	"Arequipa Air Quality (ARQ) group: using Kintecus and box models in chemistry and air quality applications" Dr. Greg Michalski, Professor, EAPS Dr. Kento Magara-Gomez, Research Assistant, Nexus	WALC 3122
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	"CRISPR/Biotechnology: theories and hands-on practice" Dr. Mohsen Mohammadi, Professor, Agronomy	LILY 2-431
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10:30-11:30 am	Break (coffee/refreshments)	WALC 3127
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9:00 am-1:00 pm	"Soybean Showcase" Dr. Marshall Martin, Professor, Agricultural Economics	Off Campus
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12:00-1:15 pm	Lunch Ford Dining Court	
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1:30-4:30 pm	"Meeting: SWOT analysis, land grant system" Dr. Marshall Martin, Professor, Agricultural Economics	WALC 1087
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9:00 am-5:30 pm	"Visit to Southwest Purdue Agricultural Center (SWPAC)" Dr. Amanda Deering, Professor, Food Sciences Dr. Charles Woloshuk, Professor, Bothany & Plant Pathology	SWPAC
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6:30-8:30 pm	Orientation for "Landscapes, Soils, Agriculture, and Shopping in Northwest Indiana" (*prerequisite for Sat. 27 Field Trip) Dr. Darrell Schulze, Professor, Soil Science	Morgan 121
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Wednesday, July 24

9:00-12:00 am & 1:30-4:30 pm	"Water Origins: Water balance in mountainous watersheds" Dr. Lisa Welp, Professor, EAPS	HAMP 2201
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	Dr. Marty Frisbee, Professor, EAPS	
	"Arequipa Air Quality (ARQ) group: Using and Applying HYSPLIT trajectory models"	HAMP 4247
	Dr. Greg Michalski, Professor, EAPS Dr. Kento Magara-Gomez, Research Assistant, Nexus	
	"CRISPR/Biotechnology: theories and hands-on practice"	LILY 2-431
	Dr. Mohsen Mohammadi, Professor, Agronomy	
	"SWM team meeting"	WALC 3087
	Dr. Laura Bowling, Professor, Agronomy; SWM team	
	"Methods for Analyzing Microbial Activity and Abundance in Soils"	LILY 3-120
	Dr. Abigail Tomasek, Research Assistant, Nexus	
	"Shiva Meeting"	HAMP 3201
	Dr. Tim Filley, Professor, EAPS	
10:30-11:30 am	Break (coffee/refreshments)	WALC 3132
9:00-12:00 am	"Ag Alumni Seed Improvement Assoc. & Indiana Crop Improvement Assoc."	Off Campus
	Dr. Marshall Martin, Professor, Agricultural Economics	
	"Sensor Design & Development: Monitoring Soil Health"	Innovation Center ACRE
	Dr. Daniel Leon-Salas, Professor, Purdue Polytechnic Institute Dr. Cliff Johnston, Professor, Crop, Soil and Environmental Sciences Dr. Zachary Brecheisen, Research Assistant, Nexus Dr. Jino Ramson, Research Assistant, Nexus	
12:00-1:15 pm	Lunch Ford Dining Court	
1:30-4:30 pm	"Meeting: SWOT analysis & report"	WALC 3138
	Dr. Marshall Martin, Professor, Agricultural Economics	
1:30-4:30 pm	"Sensor Design & Development: Water Quality & Smart irrigation"	WALC 1018
	Dr. BC. Min, Professor, Purdue Polytechnic Institute Dr. Suranjan Panigrahi, Professor, Electrical & Computer Engineering Technology Dr. Yogang Singh, Research Assistant, Nexus	
6:00-9:00 pm	"All Fired up" (pottery painting class)	Off Campus
Thursday, July 25		
9:00-12:00 am & 1:30-3:30 pm	"CRISPR/Biotechnology: theories and hands-on practice"	LILY 2-431
	Dr. Mohsen Mohammadi, Professor, Agronomy	
	"Stable Isotope Ratio Monitoring in the Environment: Theory and Application-1"	HAMP 2201
	Dr. Tim Filley, Professor, EAPS Dr. Greg Michalski, Professor, EAPS	
9:00am - 4:30 pm	"Tippy County 4-H Fair "	Off campus
	Dr. Marshall Martin, Professor, Agricultural Economics	

10:00am-12:00 pm	"Summer Undergraduate Research Symposium"	PMU South Ballroom
10:30-11:30 am	Break (coffee/refreshments)	WALC 3132
12:00-1:15 pm	<i>Lunch Ford Dining Court</i>	
1:00-3:15 pm	"Molecular methods for quantifying the composition and activity of soil and plant microbiomes"	HORT 217
	Dr. Lori Hoagland, Professor, Horticulture & Landscape Architecture Dr. Alejandro Rodriguez-Sanchez, Research Assistant, Nexus Dr. Narda Silva, Research Assistant, Nexus	
3:30-6:00 pm	"Nexus Poster Presentations"	STEW 218ABCD
Friday, July 26		
8:00-10:00 am	"Strategies for Successful Research Development & Grant Preparation"	WALC 1087
	Dr. Lynne Dahmen, C4E Managing Director	
10:00-10:30am	"Introduction to the plans of the new Nexus CIEPA research building"	WALC 1087
	Dr. Daniel Leon-Salas, Professor, School of Engineering Technology, Purdue	
10:30-11:30 am	Break (coffee/refreshments)	WALC 3132
9:00am-12:00 pm	"Tour TPAC and Meigs"	Off campus
	Dr. Marshall Martin, Professor, Agricultural Economics	
	"Metal Analysis and Speciation in Water"	HAMP 3153
	Dr. Chad Jafvert, Professor, Civil Engineering	
12:00-1:15 pm	<i>Lunch Ford Dining Court</i>	
	"Executive Committee Meeting" - meet at food court	
1:30-4:30 pm	"Meeting: SWOT analysis & report"	WALC 1087
	Dr. Marshall Martin, Professor, Agricultural Economics	
	"Arequipa Air Quality (ARQ) group: Tours of Purdue Analytical Chemistry facilities"	WALC 1121
	Dr. Greg Michalski, Professor, EAPS	
1:30-4:40 pm	"Metal Analysis in Water, Lab"	HAMP 2146
	Dr. Nadya Zyaykina, Lab Manager, Env. & Ecological Engineering Dr. Alex Ccanccapa, Research Assistant, Nexus	
6:30-9:00 pm	"Visit to Wolf Park"	Off Campus
Saturday, July 27		
7:00 am-5:30 pm	"Landscapes, Soils, Agriculture, and Shopping in Northwest Indiana"	Off campus
	Dr. Darrell Schulze, Professor, Soil Science	
11:30 am-2:00 pm	"Shopping/Lunch at Michigan City Outlet Mall Indiana"	Off campus
Sunday, July 28		
12:00-1:15 pm	<i>Lunch Earhart Dining Court</i>	

3:00-7:00 pm	"Picnic at Martin Acres LLC; Peruvian Independence Day" All UNSA participants and Purdue guests	4840 Hawthorne Ridge Dr.
Monday, July 29		
9:00-10:30 am	"Data Publication and Management -DMP template" Dr. Michael Witt, Purdue Libraries	WALC 3122
10:30-11:30 am	Break (coffee/refreshments)	WALC 3121 & HAMP 2102
10:45am-12:00 pm & 1:30-4:30 pm	"Stable Isotope Ratio Monitoring in the Environment: Theory and Application-2" Dr. Tim Filley, Professor, EAPS Dr. Janine Sparks, PSI Lab Manager	HAMP 2123
10:45am-12:00 pm	"Manuscript Writing Panel" Panel coordinated by Dr. Laura Bowling	WALC 3122
12:00-1:15 pm	Lunch Wiley Dining Court	
1:30-4:30 pm	"Analysis of Nutrients in Water and Soil Extracts" Dr. Sara McMillan, Professor, Agricultural & Biological Engineering Dr. Chad Jafvert, Professor, Civil Engineering Dr. Javier Gonzalez, NSERL	NSERL
	"Meeting: SWOT analysis & report" Dr. Marshall Martin, Professor, Agricultural Economics	WALC 3127
	"Sustainable Urban Agriculture Meeting" Dr. Lori Hoagland, Professor, Horticulture & Landscape Architecture Dr. Sara McMillan, Professor, Agricultural & Biological Engineering Dr. Ron Turco, Professor, Agronomy	HORT 217
6:00-9:00 pm	"Walking around Downtown"	Off Campus
Tuesday, July 30		
9:00-12:00 am & 1:30-4:30 pm	"Stable Isotope Ratio Monitoring in the Environment: Theory and Application-3" Dr. Tim Filley, Professor, EAPS Dr. Janine Sparks, PSI Lab Manager	HAMP 2201
10:30-11:30 am	Break (coffee/refreshments)	WALC 3121 & HAMP 2102
9:00-12:00 am	"Tour Tippy Extension office; Master Gardener demo gardens; Grow Local gardens" Dr. Marshall Martin, Professor, Agricultural Economics	Off Campus
	"Processing and Nutrition Lecture Series" Dr. Bruce Hamaker, Professor, Food Sciences Dr. Grethel Choque, Professor, UNSA	WALC 1018
12:00-1:15 pm	Lunch Wiley Dining Court	
1:30-4:30 pm	"Tour Enology Lab, Foundry, & Plant and Pest Diagnostic Laboratory"	Off Campus

	Dr. Marshall Martin, Professor, Agricultural Economics	
1:30-5:15 pm	"Heavy metals in the food chain: bioavailability, bioaccessibility and potential mitigation strategies"	NLSN 1195
	Dr. Bruce Hamaker, Professor, Food Sciences Dr. Lori Hoagland, Professor, Horticulture & Landscape Architecture Dr. Alex Rodriguez-Sanchez, Research Assistant, Nexus Dr. Yony Roman-Ochoa, Research Assistant, Nexus Dr. Maria Paula Zea, Research Assistant, Nexus	
	"Hands-On Lab Activities for Metal Analysis"	LILY
	Dr. Sara McMillan, Professor, Agricultural & Biological Engineering Dr. Lori Hoagland, Professor, Horticulture & Landscape Architecture Dr. Bruce Hamaker, Professor, Food Sciences	
	"Hands-On Lab Activities for Mycotoxin Analysis"	LILY 1453
	Dr. Charles Woloshuk, Professor, Bothany & Plant Pathology	
Wednesday, July 31		
9:00-12:00 am & 1:30-4:30 pm	"Water Origins and Air Quality Precipitation isotopes and incorporate data analysis"	HAMP 2123
	Dr. Lisa Welp, Professor, EAPS Dr. Marty Frisbee, Professor, EAPS	
	"Stable Isotope Ratio Monitoring in the Environment: Theory and Application-4"	HAMP 2201
	Dr. Tim Filley, Professor, EAPS Dr. Janine Sparks, PSI Lab Manager	
	"Overview of Food Safety in Growing Operations and Food Production Facilities"	WALC 1018
	Dr. Amanda Deering, Professor, Food Sciences Dr. Haley Oliver, Professor, Food Sciences	
10:30-11:30 am	Break (coffee/refreshments)	WALC 3121 & HAMP 2102
12:00-1:15 pm	Lunch Wiley Dining Court	
	"Executive Committee Meeting" - meet at food court	
1:30-4:30 pm	"Meeting: team wrap up and next steps"	WALC 3122
	Dr. Marshall Martin, Professor, Agricultural Economics	
	"Hands on Lab Activities on Microbiological Techniques for Fungi and Bacteria"	NLSN 1152
	Dr. Deering, Professor, Food Sciences Dr. Haley Oliver, Professor, Food Sciences Dr. Charles Woloshuk, Professor, Bothany & Plant Pathology	
6:00-9:00 pm	"Dinner at Scotty's Brewhouse"	Off Campus
Thursday, August 1		
9:00-12:00 am &	"Stable Isotope Ratio Monitoring in the Environment: Theory	HAMP 2123

1:30-4:30 pm	and Application-5" Dr. Tim Filley, Professor, EAPS Dr. Janine Sparks, PSI Lab Manager	
8:30-11:30 am	"Water Engagement in Peru: Needs assessment and discussion of extension & education models" Dr. Laura Bowling, Professor, Agronomy Dr. Edwin Bocardo, Professor, UNSA	WALC 1087
10:30-11:30 am	Break (coffee/refreshments)	WALC 3121 & HAMP 2102
9:00-12:00 am	"Postharvest Management" Dr. Dieudonne Baributsa, Professor, Entomology	SMTH 131
12:00-1:15 pm	Lunch Wiley Dining Court	
12:00-4:30 pm	"Small Farm Education Field Day, Agronomy Center for Research & Education, Postharvest Education and Research Center" Purdue faculty and staff registration at https://purdue.ca1.qualtrics.com/jfe/form/SV_3qQf105iryF3COp	Off Campus
9:00am-4:30 pm	"Small Farm Education Day at Purdue Student Farm" Dr. Marshall Martin, Professor, Agricultural Economics	Off Campus
Friday, August 2		
9:30-10:30 am	"Tour of PRIME Lab" Dr. Tom Woodruff and Dr. Berdine Martin	PRIME Laboratory
11:00am-12:00pm	"Post Doctoral Committee Meeting"	WALC 1087
10:30-11:30 am	Break (coffee/refreshments)	WALC 3121 & HAMP 2102
12:00-1:15 pm	Lunch Wiley Dining Court	
9:00am-3:30 pm	"Water Engagement in Peru: Needs assessment and discussion of extension and education models" Dr. Laura Bowling, Professor, Agronomy Dr. Edwin Bocardo, Professor, UNSA	WALC 3087
4:00-7:00 pm	"Awarding Certificates and Closing Dinner" Minister Franklin Miller Rojas Escalante, Peru General Consul in Chicago	Dean's Auditorium, PFEN 241
Saturday, August 3		
2:30 AM	"Check out of PMU travel to O'hare. Back to Arequipa"	