

## NMSU-HHMI Research Scholars Theses 2007-2017

Name	Title	Year	Mentor	Department
<b>H1</b>				
Victor Abravanel	Developing More Accurate Models of Microbial Diversity Using Comparisons and Analysis of Various Parametric and Non-Parametric Models	2008	Brook Milligan	Biology
Christopher Arrigo	Microbial Fuel Cell Electricity Production using Large and Miniature Systems	2008	Geoff Smith	Biology
Joanna Beeson (Mounce)	The Effects of the Stress Hormone Corticosterone on the Release of Luteinizing Hormone from the Anterior Pituitary	2008	Elba Serrano	Biology
Haley Brown	Lysine based 3,2-HOPO Iron (III) Chelators for Biomedical Applications	2008	Hollie K. Jacobs/A. Gopalan	Chemistry & Biochemistry
Sandy Cervantes	A Taxonomic Reassessment of Federally Endangered Sacramento Mountain Prickly Poppy	2008	Donovan Bailey	Biology
Jennifer Currier	Personality in Budgerigars: Comparing two Methods of Assessment	2008	Tim Wright	Biology
Jarrett Eyer	Cytokinesis in Cells Containing Monopolar Spindles: Differential Recruitment of Factors Required for Contractile Ring Assembly	2008	Brad Shuster	Biology
Christopher Garcia	Identification of Candidate Genes for Conspecific Sperm Precedence in the Ground Cricket <i>Allonemobius</i>	2008	Dan Howard	Biology
Lauren Grabowski	The Nose Knows: Identification of Air Phase Orthonasal and Retronasal Odorant Pairs when Odorant Memory is Controlled	2008	Laura Thompson	Psychology

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Jon Hawthorne	Age Distribution and Stocking of a Piñon-Juniper Woodland in the Oscura Mountains, New Mexico	2008	John Mexal	Plant & Environmental Sciences
Amanda Jordan	Kin-Directed Signaling	2008	Tim Ketelaar	Psychology
Amanda Kemp	Genomic Regions that Control Transcription of <i>cpgb-1</i> and <i>bdm-1</i> in <i>Cryphonectria parasitica</i>	2008	Angus Dawe	Biology
Stacey Lambeth	Interactions of the Hybrid Incompatability Gene Lethal Hybrid Rescue with Heterochromatin Protein 6	2008	Jennifer Curtiss	Biology
Virginia Lee	Analysis of Transcript Abundance and Amino Acid Levels in Nitrogen-Deficient and Nitrogen-Sufficient Alfalfa	2008	Champa Gopalan	Plant & Environmental Sciences
Ryan Paskadi	The Effect of Mutations on NaCl Ion Channel Genes in Symbiotic <i>Vibrio fischeri</i>	2008	Michele Nishiguchi	Biology
Corey Payton	Adapting a Molecular Targets Database for Otic Specificity	2008	Elba Serrano	Biology
Lillian Vosa	Adrenocortical Functioning in Children and Adults and its Relationship to the Comprehension of Animated Stories	2008	Laura Thompson	Psychology
Shahreear Zaman	The Fusidic Acid Shock Stimulon of <i>Staphylococcus aureus</i>	2008	John Gustafson	Biology
<b>H2</b>				
Greggory Mc Pherson	A Structural Evaluation of Bone Stressors; Tracking Bone Mineral Distribution and Morphology Using Both Anomalous and Scanning Small Angle X-Ray Scattering	2009	Jacob Urquidi	Physics

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Jeremy Kreher	The Nucleocytoplasmic Ratio Determines the Efficacy of the Spindle Assembly Checkpoint in Sea Urchin Embryos	2009	Brad Shuster	Biology
Jeremiah Sears	Toward the Synthesis of Bisphosphonate Buckminsterfullerene Derivatives via Alkyne, Alkene, and Halide Tethered Bisphosphonates	2009	Aravamudan Gopalan/ Hollie Jacobs	Chemistry
Andrea Sandoval	Regulation of the Gene Encoding the Retinal Specification Factor <i>Atonal</i> By DAN, DANR, and CTBP in <i>Drosophila melanogaster</i>	2009	Jennifer Curtiss	Biology
Phillip Lujan	Effects of Melanin Inhibiting Compounds on Mycellial Growth, Pigmentation and Pathogenicity of <i>Sclerotinia sclerotiorum</i>	2009	Soum Sanogo	Entomology, Plant Pathology, and Weed Sciences
Adele Garrison	Quantitative Real-Time PCR of Genes Associated with Diclofenac Reduced-Susceptibility in <i>Staphylococcus aureus</i>	2009	John Gustafson	Biology
Laura Dawdy	<i>Juniperus monosperma</i> Impacts on Ruminant Bacterial Populations	2009	Shanna Ivey	Animal Science
Charlene Carr	Development of an Efficient Transformation and Regeneration System for Chile ( <i>Capsicum annuum</i> )	2009	Champa Gopalan	Plant & Environmental Sciences
Rachel Acuña	BDM-1 and Consequences of Phosphorylation by Casein Kinase 2 (CK2) in <i>Cryphonectria parasitica</i>	2009	Angus Dawe	Biology
Tracy Reynolds	Altered CCPA Gene Function Associated with	2009	John Gustafson	Biology

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	<i>Staphylococcus aureus</i> Mutants Expressing Reduced Susceptibility to Household Disinfectants			
Kelsi Painter	<i>Glycine</i> A-Genome: Screening and Optimization of Variable Microsatellite Markers	2009	Donovan Bailey	Biology
Elizabeth Ferrales	Punishment Psychology and the Enjoyment of a Wrongdoer`s Suffering	2009	Tim Ketelaar	Psychology
Lisa Ebbs	Patterns of Soil Organic Carbon and Total Nitrogen Distribution in Mesquite Coppice Dunes	2009	Heather Throop	Biology
Hilary Boyer	Identification of the <i>CIS</i> -Regulatory Elements of the CPG-1 Gene in <i>Cryphonectria parasitica</i>	2009	Tim Wright	Biology
Sonia Arroyos	Synthesis of an Alkenylphenyl Ketone to be Used in Synthesis of a Single Enantiomer of Antofine	2009	James Herndon	Chemistry & Biochemistry
Daniel Acosta	Development and Characterization of Microsatellite Markers for the Endangered Thick-Billed Parrot ( <i>Rhynchopsitta pachyrhyncha</i> )	2009	Tim Wright	Biology
Jessica Gutierrez	Population Genetic Survey of the Bacterial Symbiont <i>Vibrio fischeri</i> Isolated from Natural Host Squid Populations of <i>Euprymna tasmanica</i> (Mollusca: Cephalopoda)	2009	Michele Nishiguchi	Biology
<b>H3</b>				
Nicole Lasky	Development of Signal Sequence Mutations as Tools for Research and Education	2010	Michèle Shuster	Biology
Jeremy Lewis	Improving Ecological Niche Models by Assessing the	2010	Jennifer Frey	Fish, Wildlife and

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	Reliability and Precision of Species Occurrence Records: An Example Based on White-Nosed Coati ( <i>Nasua narica</i> ) in New Mexico			Conservation Ecology
Andrea Stapp	Serum Progesterone, Prolactin, and Thyroid Hormone Profiles in Nulliparous Rambouillet Ewes after Removal of an Intravaginal Progesterone Insert	2010	Dennis Hallford	Animal Science
Bradford Westrich	A Phylogeography of Gray Foxes ( <i>Urocyon cinereoargenteus</i> ) and the Spread of Rabies in the American Southwest	2010	Gary Roemer	Fish, Wildlife and Conservation Ecology
Jennifer Redman	Development of Future Habitat Suitability Models for the Swift Fox ( <i>Vulpes velox</i> ) in the American Southwest	2010	Mark Andersen	Fish, Wildlife and Conservation Ecology
Corina Mendoza	The Sexual Double Standard Toward Homosexual Populations: Evaluations of Promiscuous Homosexual Men and Women	2010	Michael Marks	Psychology
Johnelle Montoya	Body Movement and Cognitive Function	2010	Dominic Simon	Psychology
Ryan McNamara	Functional Significance of Amino Acid Differences in the Non-Structural 4B Protein between Endemic and Sylvatic Dengue Virus Type 4	2010	Kathy Hanley	Biology
Ahmad Manshad	Electrical Activity- Dependent Regulation of Muscle Gene Expression in the Electric Organ after Chronic Stimulation in Live <i>Sternopygus macrurus</i>	2010	Graciela Unguez	Biology
Rachel Johnston	Drosophila RNAI Screen to Identify Novel Cardiac Genes	2010	Jennifer Curtiss	Biology

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Eric Johnson	The Contagion of Emotion, Perception, and Goal-Directed Behavior through Symbolic Environments	2010	Stephen Rice	Psychology
Rebecca Hirsch	Examining the Potential Role of Planar Cell Polarity Signaling in Embryonic Gut Formation in Sea Urchin Embryos	2010	Brad Shuster	Biology
Kenneth Berba	Post-Harvest Physiology of Specialty Cut Greens	2010	Mark Uchanski	Plant & Environmental Sciences
Kellie Jurado	Serum Hormone Profiles and Cyclic Activity in Prepubertal Rambouillet Ewes Treated with Progesterone and Pregnant Mare's Serum Gonadotropin	2010	Dennis Hallford	Animal Science
David Louis	The Significance of Melanization in Defense against <i>Plasmodium yoelii</i> in <i>Anopheles gambiae</i>	2010	John Xu	Biology
<b>H4</b>				
Elizabeth Ortega	What Information Do Observers Infer from Facial Display of Emotion Perceived in Context?	2011	Tim Ketelaar	Psychology
Daniel Aguilar	<i>In Vitro</i> Biofilm Formtion by <i>Vibrio fischeri</i> isolates under Static and Dynamic Atmospheric Conditions	2011	Michele Nishiguchi	Biology
Kelsey Kalbacher	Effects of Ruminant Fluid on the Growth of <i>Vibrio harveyi</i> BB170	2011	Shanna Ivey	Animal Sciences
Shannon Pease	Offspring Sex Ratio in the Lilac- Crowned Amazon ( <i>Amazona finschi</i> )	2011	Tim Wright	Biology

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Kaitlyn Norman	Calf Age Influences Rumen Bacterial Population	2011	Shanna Ivey	Animal Sciences
Victoria Carpenter	Mosquito Cats and Hats- The SLC7 Family of Amino Acid Transporters in <i>Aedes aegypti</i>	2011	Immo Hansen	Biology
Jordan Basham	Vancomycin- Intermediate <i>Staphylococcus aureus</i> Demonstrate Reduced Growth in the Presence of High Salt	2011	John Gustafson	Biology
Hannah Cox-Jesko	Selection of Glyphosate Resistant Chile Plants ( <i>Capsicum annuum</i> ) Using the Cell Selection Method	2011	Champa Gopalan	Plant & Environmental Sciences
Anna Garliss	Phylogenetic Analysis of the Gila Robusta Complex at the Mitochondrial Locus, NADH Dehydrogenase Subunit 2	2011	Michele Nishiguchi	Biology
Matthew Steritz	Multiple Immune Surveillance Mechanisms to Regulate Gut Microbes in the <i>Anopheles gambiae</i> Mosquito	2011	John Xu	Biology
Mary Topalovski	Probing the Role of Cortical Tension during Cytokinesis in Echinoderm Embryos	2011	Brad Shuster	Biology
David Hogan	Lipid Production by Green Algae <i>Nannochloropsis salina</i> and <i>Nannochloropsis oculata</i> under Nitrogen Limitation: An Examination of Biofuel Source Potential	2011	Michele Nishiguchi	Biology
<b>H5</b>				
Marlon Pimienta	The Effect of Locoweed on the Gastrointestinal Tract of Sheep	2012	Sergio Soto-Navarro	Animal Sciences
Emily Johnson	Synthesis and Absolute Configuration of Palmyrolide A	2012	Bill Maio	Chemistry \$

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	Aldehyde			Biochemistry
Sarah Aguirre	Characterization of Aquaporins in <i>Culex quinquefasciatus</i>	2012	Immo Hansen	Biology
Alyson Banegas	Lipid Storage Droplet 2 Protein (LSD2) has a Key Role in Development and Regulation of the Fat Body in <i>Aedes aegypti</i> , the Yellow fever Mosquito	2012	Immo Hansen	Biology
Monica Baldauf	Activating Transcription Factor 2 is Involved in the Surveillance of Midgut Microflora in <i>Anopheles gambiae</i>	2012	John Xu	Biology
Carlos Cano	A Novel Function of Muscle Myosin II in the <i>Drosophila melanogaster</i> Eye	2012	Jennifer Curtiss	Biology
Miriam Garcia	Fasciclins 2 and 3 (FAS2 and FAS3) May Participate in Axonal Guidance during Eye Development in <i>Drosophila</i>	2012	Jennifer Curtiss	Biology
Derik Bendixsen	Triatomine Bugs (Hemiptera: Reduviidae) in Southeastern New Mexico: A Survey for <i>Trypanosoma cruzi</i>	2012	Jane Pierce	Entomology, Plant Pathology, and Weed Sciences
Devin Bendixsen	Influence of Tree Size on Susceptibility to Pecan Nut Casebearer in New Mexico	2012	Jane Pierce	Entomology, Plant Pathology, and Weed Sciences
Aubrey Henderson	Investigation of Swainsonine Metabolite in Ovine Serum	2012	Clint Loest	Animal Sciences
Israel Large	<i>Wolbachia</i> - <i>Drosophila</i> Interactions in the Las Cruces	2012	Avis James	Biology



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	Population of <i>Drosophila simulans</i>			
Julia Silva	Synthesis of a Novel Class of Insecticides for Disease Vector Control	2012	Jeff Arterburn	Chemistry & Biochemistry
Elizabeth Reitzel	Collaborative Inhibition in Memory: A Role for Relational and Item-Specific Processing?	2012	Melissa Guynn	Psychology
Kayla Minser	Identification of C1q in the Hawaiian Bobtail Squid, <i>Euprymna scolopes</i>	2012	Maria Castillo	Biology
Katelin Marchetti	The Addition of Locoweed to Diet Does Not Alter Rumen Bacterial Populations	2012	Shanna Ivey	Animal Science
<b>H6</b>				
Angelina Bortoletto	The Molecular Basis of a DNA Repair-Deficient RECN Mutant Protein	2013	Shelley Lusetti	Chemistry & Biochemistry
Celeste Alvarez	Genome Annotation of <i>Pseudomonas</i> sp. Ag1	2013	Jiannong Xu	Microbiology
Amelia Clayshulte	Role of DNA-PKCS in the DNA Damage Response	2013	Amanda Ashley	Animal and Range
Erin Garcia	How does Mosquito Immunity Affect Dengue Virus Evolution?	2013	Kathy Hanley	Biology
Karen Nehemiah	Interleaving and Multilanguage Learning	2013	Domenic Simon	Psychology
Erika Velasco	The Use of Soil Minerals for Uranium Sorption: Robust Pellets as an Appropriate Approach for Efficient Uranium Sorption	2013	Antonio Lara	Chemistry & Biochemistry
Daniel Heneghan	Evidence against the Presence of <i>Wolbachia</i> in a	2013	W. Boecklen	Biology

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	Population of the Crayfish <i>Procambarus clarkii</i>		Avis James	
Jessica Hancock	PRC1 Recruitment and Production during Late Stages of Cytokinesis	2013	Brad Shuster	Biology
Melanie Peterson	Understanding Litter Decomposition in Drylands: Is Litter Abrasion an Important Abiotic Factor?	2013	Heather Throop	Biology
Jennifer Lindsey	Effects of Obesity on Chemokines and Membrane Progesterone Receptors during Early Pregnancy in Sheep	2013	Ryan Ashley	Animal and Range
Aspen Gutsell	Mutational Analysis of Drosophila KLP61F identifies Residues for Drug Binding In Human EG5	2013	Brad Shuster	Microbiology
Alejandro Lopez	Groundwater Flow and Salinity Monitoring at Swan Pond Broad Canyon Ranch State Parks, New Mexico	2013	Alexander "Sam" Fernald	Animal and Range
Maria Villa	Dengue Virus Lineage Replacement in Sri Lanka is Associated with Dynamic Changes in Infectivity for Mosquito Vectors	2013	Kathy Hanley	Biology
<b>H7</b>				
Jacqueline Alford	Influence of Capsaicin on In Vitro Fermentation	2014	Client Löest	Animal and Range
Hannah Drumm	Characterization of Aedes aegypti SLC7 Amino Acid Transporter CAT3	2014	Immo Hansen	Biology
Lauren Lien	Trends in Male Provisioning Rates During the Breeding Season Provide additional Evidence of Nonrandom Mating in Cooper's Hawk	2014	Gary Roemer	Fishery and Wildlife
Tai Phan	Strategy for the Synthesis of 3-Hydroxypyridin-2-One	2014	Aravamudan	Biochemistry &

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	(3,2-Hopo) Sulfonamide Ligands		Gopalan/ Hollie Jacobs	Chemistry
Nicole Sanchez	Administration of Human Chorionic Gonadotropin to Pregnant Ewes Alters levels of Genes and Proteins Crucial to Implantation and Fetal Growth	2014	Ryan Ashley	Animal Range
Anne Meyer-Miner	Exploring the Role of Cofilin in Actin Dynamics Regulation during Mitosis in the Sea Urchin Embryo	2014	Brad Shuster	Biology
Tawni Voyles	FoxP2 and FoxP1 Protein Expression during Vocal Learning in Developing Budgerigar Parrots	2014	Tim Wright	Biology
Cana Tompkins	Effects Abams Overexpression during Drosophila melanogaster Eye Development	2014	Jennifer Curtiss	Biology
<b>H8</b>				
Lindsey Howard	Does Population Density Affect Spatial Genetic Structure in Merriam's Kangaroo Rats ( <i>Dipodomys merriami</i> )?	2015	Karen Mabry	Biology
Vanessa Montoya	The Unending Host-Pathogen Arms Race: How Mosquito RNA Interference Affects Dengue Virus Evolution	2015	Kathy Hanley	Biology
Cole Tobin	Does Audience Affect the Structure of Warble Song in Budgerigars?	2015	Tim Wright	Biology
Hillary Bennett	Exploring Proliferation Dynamics in the Phoronid Lophophore	2015	Brad Shuster	Biology
Cindy Yeh	Sacromere Disassembly during Tail Regeneration in the Adult Fish <i>Sternopygus Macrurus</i>	2015	Graciela Unguez	Biology

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Lindsay Redman	Biochemical Characterization of the Mutant <i>Deinococcus Radiodurans</i> RECA Q313R Protein	2015	Shelley Lusetti	Chemistry & Biochemistry
Connor Wagner	Locked in Chains: Analysis of a <i>Helicobacter pylori</i> Chaining Mutant	2015	Paul Bosland	Plant & Environmental Sciences
Florence Schoderbek	Calexcitin, a Novel Calcium Binding GTPASE in the Malpighian Tubules	2015	Immo Hansen	Biology
Kelsey Kurupas	Abiotic Drivers of Dryland Litter Decomposition: Interactions between Soil-Litter Mixing and Precipitation Pulses	2015	Heather Throop	Biology
Yung Jones	How do Hemocytes from the Model Organism <i>Euprymna scolopes</i> Interact with Bacteria that are Potentially Pathogenic?	2015	Maria Castillo	Biology
<b>H9</b>				
Noor Muhyi	“Are you my Mother?” Determining the Maternal Origin of Tetraploid <i>Leucaena</i>	2016	Donovan Bailey	Biology
Alejandra Lerma	Progesterin Signaling in Triple Negative Breast Cancer Cells	2016	Ryan Ashley	Animal Range
Anna Garza	The Presence of Quorum Sensing Autoinducers in Ruminal Anaerobic Bacterial Pure Cultures	2016	Shanna Ivey	Animal Range
Joshua Marquez	Expression Analysis of Thioester-Containing Proteins in the Freshwater Snail, <i>Biomphalaria glabrata</i> , in Response to Microbial Challenge	2016	Maria Castillo	Biology
Kira Turnham	Phylogeography of <i>Euprymna</i> and their <i>Vibrio</i>	2016	Michele	Biology

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	Symbionts: The Genetic Architecture of a Symbiotic System		Nishiguchi	
Julia Vulcan	Expression of Mosquito Cationic Amino Acid Transporters in Yeast	2016	Immo Hansen	Biology
Brandon Meyerhoff	Development of a Novel Method to Protect Glucose from Rumen Degradation	2016	Eric Scholljegerdes	Animal Range
Lauren Rath	Mammalian Hormones Associated with Stress Impact Microbial Fermentation of Rumen Fluid in Vitro	2016	Clint Loest	Animal Range
Applehelen Kirby	The PH Sensor <i>arcA/B</i> Shows Differentiation in Biofilm Formation between Wild Type and Deletion Mutants of <i>Vibrio fischeri</i>	2016	Michele Nishiguchi	Biology
<b>H10</b>				
Aaron Rodriguez	Polarity Factors That Affect Mitotic Spindle Orientation in Early Development	2017	Brad Shuster	Biology
Dylan Gallegos	A deadly Intrusion: Competitive Strain Displacement among Dengue Virus Strains in Sri Lanka	2017	Kathy Hanley	Biology
Jacqueline Kieltyka	GPER1 Mediates Tamoxifen-Induced Cell Death in Triple-Negative Breast Cancer (TNBC) Cells	2017	Kevin Houston	Chemistry & Biochemistry
Kimberly Apodaca	Conferring Resistance to <i>Phytophthora capsici</i> in <i>Capsicum annuum</i> using Genetic Engineering	2017	Champa Gopalan	Plant & Environmental Sciences
Ryan Chan	Challenges in Biofilm Formation and Cell Growth of Enterohemorrhagic <i>E. Coli</i> in Various Levels of PH and Ribonuclease	2017	Patricia Lodato	Biology

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Alexander Chaidez	Prediction of Sarcomere Gene Regulation by MicroRNAs in the Electric Organ of a Weakly Fish In Silico and In Vivo	2017	Graciela Unguez	Biology
Franchesca Ortega	Divergent Paralogues Reveal Incomplete Concerted Evolution for nrDNA in the <i>C. annuum</i> Complex	2017	Paul Bosland	Plant & Environmental Sciences
Lynsey Kovar	Data Mining to Identify Genomic Loci Controlling Inflorescence Traits in Maize	2017	Donovan Bailey	Biology
Maria Chavez	Analysis of Copi in <i>Arabidopsis thaliana</i> Stigmas during Compatible Pollination	2017	Emily Indriolo	Biology
Aldo Ramirez	Inter-Colony Aggression and Relatedness in Urban and Rural Populations of the Rough Harvester Ant <i>Pogonomyrmex rugosus</i>	2017	Tim Wright	Biology
Cindy Buraczyk	Dengue Heats Up: Evolution of Dengue Fever Virus in Sri Lanka	2017	Kathy Hanley	Biology