

UNIVERSITY OF MINNESOTA

2002 Life Sciences Summer Undergraduate Research Programs (LSSURP)

Poster Symposium

Friday, August 9, 2002

4:30 p.m. - 6:30 p.m.

Terrace Cafe

St. Paul Student Center

Name <u>Program</u>	Poster Title <u>Mentor(s)/Department(s)</u>	College/University <u>Field(s) of Study</u>	Poster <u>Number</u>
Kathryn Acheson Neuroscience	Neuromodulation of <i>Salmonella cholerasuis</i> Internalization Into Porcine Jejunum David Brown, Veterinary PathoBiology	Calvin College Biology & Spanish	58
Lembe Ambe Independent Research	Cloning and Expression of <i>S. aureus</i> Gyrase Hiroshi Hiasa, Pharmacology	Morris Brown College Biochemistry	20
Imran Babar Molecular Biology	Detection of Bovine Enterovirus via Reverse-Transcriptase Polymerase Chain Reaction Sagar Goyal, Veterinary Diagnostic Medicine	Carleton College Biology	42
Jason Beste Molecular Biology	A Study of the Molecular Differences in Motility of the Model Laboratory Strains of <i>E. coli</i> K12 Arkady Khodursky, BMBB	Creighton University Chemistry/Biology	43

Ola Betiku Independent Research	<i>In Situ</i> Synthesis of Heterocyclic Tetrahydrocarbozoles Wayland Noland, Chemistry	University of MN - Twin Cities Biochemistry	21
Katie Bittner Neuroscience	Therapeutic Potential of Moxonidine in a Mouse Model of Tourette's Frank Burton, Pharmacology	University of Maryland Biochemistry	59
Adam Boettcher Biomedical Engineering	Melanoma Chondroitin Sulfate Proteoglycan Mediates Migration of Melanoma Cells to Laminin James McCarthy, Laboratory Medicine & Pathology	Northwestern College Biology/Bible	1
Jason Bowe Biomedical Engineering	Device Design for Penile Tissue Indentation Art Erdman, Mechanical Engineering	Rose-Hulman Institute of Technology Mechanical Engineering	2
Paul Bowlin Independent Research	Transgenic Sickle Mice Have Lung Vascular Inflammation Gregory Vercellotti, Medicine	University of Kansas Microbiology	22
Elizabeth Brodeen Environmental Sciences	Prairie Plants Create Microbial Communities to Protect Against Pathogens Linda Kinkel, Plant Pathology	Claremont McKenna College Environmental Science	12
Andrew Bryan Molecular Biology	Frequency and Distribution of Tetracycline Resistance Determinants Among Escherichia coli Isolated From Various Human and Animal Sources Michael Sadowsky, Soil, Water & Climate	University of WI – Madison Microbiology Immunology/Molecular Biology	44
Nigel Campbell Biomedical Engineering	Designing a Portable Driver for the HeartMate IP LVAD Soon Park, Surgery	Washington University Biological Systems	3
Leilani Castleman Molecular Biology	The Effects of Opioids on Reactive Hyperemia Paul Iaizzo, Anesthesiology	University of MO - Columbia Biological Sciences	45
Glorimar Chiclana Independent Research	Extractions of Low Molecular Weight Phenolic Compounds From Cereal Seed Surfaces Gary Fulcher, Food Science & Nutrition	Universidad Metropolitana Sales and Distribution of Medics and Chemical Products	23

Rowland Chigbu Independent Research	Diels Alder Synthesis of Tetrahydrocarbozoles and Aliphatic Maleimides Wayland Noland, Chemistry	University of MN - Twin Cities Chemical Engineering/Chemistry	24
Seunghun Choe Biomedical Engineering	Mechanical Properties of AT-1 Tumor Cell Populated Collagen Gels Under Different Post-Cryoinjury Periods John Bischof, Mechanical Engineering	University of TX - Arlington Mechanical Engineering	4
John Coar III Independent Research	A Study in the Aluminum Tolerance of Belle Oats Deborah Samac, Plant Pathology	Fort Valley State University Biology	25
Jose Colon Independent Research	Purification of RAR/RXR Heterodimer Li-Na Wei, Pharmacology	University of PR – Cayey Biology	26
Zorybel Colon-Torres Molecular Biology	Effects of Nicotine on cADPR Production Timothy Walseth, Pharmacology	University of PR – Cayey General Sciences	46
Emilee Conley Molecular Biology	Na,K-ATPase Gene Expression in the Lung Tissue of Mice After Bone Marrow Transfer David Ingbar, Medicine	St. Mary's University Biology	47
Kai daCosta Molecular Biology	Definition and Characterization of Rac1 Binding Domain in Formin Homology Domain Containing Protein 1 Jennifer Westendorf, Orthopedic Surgery	Salem State College Chemistry	48
Yamaris deLeon-Lozado Independent Research	Use of Histidine Tag and Ni ²⁺ Affinity Columns in Preparation of Recombinant Proteins Len Banaszak, Biochemistry-Medicine	University of PR – Cayey Chemistry	27
Edugie Ekuase Independent Research	The Interaction of Double Mutant Adipocyte Lipid Binding Protein with Fatty Acid David Bernlohr, BMBB	Fort Valley State University Biology	28

Mary Eller Biomedical Engineering	Kinetic Modeling of the Secondary Metabolism of <i>Streptomyces coelicolor</i> With Hybrid Petri Nets Wei-Shou Hu, Chemical Engineering & Material Science	Tennessee Tech University Mechanical Engineering	5
Sorin Fedeles Molecular Biology	Creating the Myosin VI Bait Protein for Use in the Yeast Two-Hybrid Margaret Titus, GCBD	Hampshire College Biochemistry	49
Alex Galaitsis Molecular Biology	Segregation in Oat Populations of Molecular Markers Associated with Crown Rust Resistance QTLs Howard Rines, Agronomy & Plant Genetics	Oberlin College Biology	50
Emily Gilles Neuroscience	Role of Sex Hormones in Severity of Disease in a Mouse Model of Multiple Sclerosis Moses Njenga, Veterinary PathoBiology	University of WI - Eau Claire Biochemistry/Molecular Biology	60
Radames Gonzalez- Ramos Environmental Sciences	Effects of Male Mating History on Number of Sperm Transferred in Monarch Butterflies (<i>Danaus plexippus</i>) Karen Oberhauser, Ecology, Evolution & Behavior	Universidad del Este Science Education	13
Isadora Gonzalez- Rosario Neuroscience	Relationship of Impulsivity and Drug Abuse Using Rats as an Animal Model Marilyn Carroll, Psychiatry	University of PR – Cayey Biology	61
Stephanie Gordan Environmental Sciences	Ultraviolet Effects on Biodegradable Dissolved Organic Carbon James Cotner, Ecology, Evolution, & Behavior	Grambling State University Chemistry	14
Clair Hamilton Neuroscience	Neurotrophins Protect Against SemaphorinIII A-Induced Growth Cone Collapse of Chick Sympathetic Neurons Paul Letourneau, Neuroscience	Earlham College Biochemistry	62

Chinhnam Hathuc Neuroscience	Estrogen Receptor and c-FOS Expression Location in the Spinal Cord in Two Mouse Pain Models Alvin Beitz, Veterinary Pathobiology	Simons Rock College Biology	63
Christina Horn Neuroscience	3-Dimensional Mapping of the Swine Coronary Sinus Paul Iaizzo, Anesthesiology	University of MN – Twin Cities Biomedical Engineering	64
Dana Huebert Molecular Biology	Inflorescence Evolution and the Origin of a Pollination Mutualism in Moraceae George Weiblen, Plant Biology	Wellesley College Biological Chemistry	51
Jeremy Johnson Independent Research	Synthesis of Phosphoramidate Using Diphenyl Phosphite and AZT Carston Wagner, Medicinal Chemistry	St. Cloud State University Biochemistry	29
Sidney Kuo Neuroscience	A Novel PCR-based Approach for Rapid Mutation Screening in the CACNA1A Gene Chris Gomez, Neurology	Pomona College Molecular Biology	65
Reginald LaFleur Independent Research	Respiratory Delivery of Polymeric Difluoromethyl Ornithine (DFMO) for Lung Cancer Prevention Timothy Wiedmann, Pharmaceuticals	Florida A & M University Pharmacy	30
Leah Laurich Environmental Sciences	Organic Carbon in Wetlands with Differing Primary Producer James Cotner, Ecology, Evolution, & Behavior	North Dakota State University Zoology	15
Laura Lien Neuroscience	Thyroid Hormone Regulates BTEB mRNA Levels in the Developing Rat Brain Cary Mariash, Medicine	Winona State University Pred-Med/Cell & Molecular Bio	66
Chris Long Biomedical Engineering	Development and In Vitro Studies of a Potential Synthetic Substitute for Platelet Transfusions Gundu Rao, Laboratory Medicine & Pathology	University of Arkansas Biological Engineering	6

Amanda Miller Molecular Biology	Mutagenic Structural Analysis of Rad51p From the Ciliate Tetrahymena Thermophila Daniel Romero, Pharmacology	Benedictine University Molecular Biology	52
Rachel Moor Molecular Biology	The Biologic Function of the EGF-Like Domains of the Intestinal Cell Surface Mucin Glycoprotein MUC 3 Samuel Ho, Medicine	Grinnell College Biology	53
Mohamed Moussa Independent Research	A Meta-Analysis of Outcomes Following Femoral Neck Fractures in the Elderly Khaled Saleh, Orthopaedic Surgery & Michael Kuskowski	University of MN – Twin Cities Genetics	31
Colleen Murray Computational Neuroscience	Structural Characterization of the Cross-link Formed by 1,2,3,4-Diepoxy Butane, Using Molecular Dynamics Simulations David Ferguson, Medicinal Chemistry	University of WI – LaCrosse Physics-Biomedical Concentration	67
Kathryn Murray Neuroscience	Comparisons of Contrast Discrimination Responses as Measured by Psychophysics and the fMRI Dan Kersten, Psychology	Clark University Psychology	68
Kortlan Nelson Independent Research	Dual Color Imaging of Intracellular Trafficking of the Human Reduced Folate Carrier Jonathan Marchant, Pharmacology	Xavier University (LA) Biology	32
Steve Nelson Computational Neuroscience	Single Cerebellar Neurons Encode Information Related to Dynamic Movement Parameters During a Reach-to-Grasp Task Timothy Ebner, Neuroscience	Winona State University Mathematics/Psychology	69
Hedvig Nenzen Environmental Sciences	The Field Diversity of Arbuscular Mycorrhizal Fungi and its Role in Determining Plant Growth of Native Tallgrass Prairie and Invasive Plant Species Nicholas Jordan, Agronomy & Plant Genetics	Whittier College Biology	16

Paul Nolan Molecular Biology	Effect of IL-13 on CD38/cADPR Mediated Calcium Signaling in Human Airway Smooth Muscle Cells Mathur Kannan, Veterinary PathoBiology	University of Toledo Biology	54
Shavonne Norfleet Independent Research	Aminoguanidine Toxicity Study in Young Chick Model Lisa Schrott, Pharmacology	Morris Brown College Biology	33
Lisa Normile Independent Research	Effect of Sex on Food Intake During PCP Withdrawal in Rhesus Monkeys Marilyn Carroll, Psychiatry	University of Notre Dame Biochemistry	34
Kimberly Opraseuth Biomedical Engineering	NMR Imaging and Cell Preservation Allison Hubel, Laboratory Medicine & Pathology	Emory University Math/Physics	7
Justin Pattee Neuroscience	Bringing Cerebellar Imaging to Life: Optical Recordings of Cerebellar Activity in the Awake Mouse Timothy Ebner, Neuroscience	St. John's University Biology	70
Maria Peraza Independent Research	Analysis of DNA End-Joining in a Human Tumor Cell Line Colin Campbell, Pharmacology	Cal State Polytechnic University Biological Sciences	35
Kerry Phillips Biomedical Engineering	Interfering Optical Beam 3-D Imaging for Early Caries Detection Ahmed Tewfik, Electrical & Computer Engineering	University of Notre Dame Electrical Engineering	8
Matthew Robertson Neuroscience	Brain Gene Expression Analysis of a Mouse Model of Alzheimer's Disease Using cDNA Microarrays Catherine Kotz, Food Science & Nutrition	Goucher College Molecular Biology	71
Mehrdad Safavian Computational Neuroscience	Spike Sorting of Data Collected from Neuron Firing of the Amygdala and Hippocampus Peter Steinmetz, Biomedical Engineering	Xavier University (OH) Computer Science/Natural Science	72

Rachel Saplis Independent Research	Abnormal DNA Repair in a Mouse Model of Fanconi Anemia Colin Campbell, Pharmacology	Augustana College Biology	36
Emily Schunk Neuroscience	The Effects of Amine Treatments on Swim Episode of the Medicinal Leech Hirudo Medicinalis Karen Mesce, Entomology	University of MN-Twin Cities Child Psychology	73
Netsanet Shewandagn Independent Research	Mechanism of N ₂ O Formation from O-Alkyl Substituted Benzenesulfohydroxamic Acids Herbert Nagasawa, Medicinal Chemistry	Minneapolis Community College	37
Adetola Shodeinde Independent Research	The Ubiquitination of Opioid Surface Receptors Ping Law, Pharmacology	Tuskegee University Biology	38
Rebecca Shult Biomedical Engineering	The Influence of Implantable Device and Lead Locations on Lung Impedance Measurements Robert Patterson, Physical Medicine/Rehabilitation	University of Southern California Biomedical Engineering	9
Andrew Sloan Biomedical Engineering	Reducing Muscle Fatigue in FES Using Doublet Pulse Trains and Neural Net Control William Durfee, Mechanical Engineering	University of Oklahoma Mechanical Engineering	10
Shanequa Smith Independent Research	Aluminium Tolerance of Vernal Alfalfa and Transgenic Tobacco Seedlings Deborah Samac, Plant Pathology	Fort Valley State University Biology	39
Oluseun Soyombo Molecular Biology	Molecular Studies Of phyA and phyB Early Signaling Events In Arabidopsis Min Ni, Plant Biology	Texas Southern University Biology	55
John Stanton-Geddes Environmental Sciences	Family Feud: Spatial Proximity, Antibiotic Inhibition, and Nutrient Utilization Among Prairie Streptomycetes Linda Kinkel, Plant Pathology	Amherst College Biology	17

Marisa Sylvester Biomedical Engineering	Biomechanical Testing of Statically Locked Intramedullary Nails For Use in Tibial Fracture Fixation Joan Bechtold, Surgery	Louisiana State University Biological Engineering	11
Leon Toussaint Molecular Biology	The Effect of Disruption in the β -Tubulin Genes of Maize Susan Wick, Plant Biology	York College Biology	56
Jon Underwood Independent Research	Bringing Proteins Together Through Molecular Dimerization Carston Wagner, Medicinal Chemistry	Tuskegee University Biology	40
Melanie Valentin-Torres Neuroscience	What Form of Star Protein is Critical in Steroidogenesis? William Engeland, Surgery	Pontifical Catholic University of PR General Sciences	74
Rachel Weisert Environmental Sciences	Steroid Hormone Exposure Influences Aggression and Reproductive Success in Male Fathead Minnow Peter Sorensen, Fisheries & Wildlife	University of MN - Twin Cities Biology	18
Wynette Will Environmental Sciences	Green Manure and Crop Species Affect Plant Health and Pathogen Decline in Soil Linda Kinkel, Plant Pathology	Hamline University Biology	19
Abena Williams Independent Research	Gene Expression Analyses of Legume-specific Genes in Medicago Truncatula Kathryn VandenBosch, Plant Biology	Clark Atlanta University Biology	41
John Zukowski Molecular Biology	Defense Mechanism Evolution in Corn Peter Tiffin, Plant Biology	University of WI – Madison Biology	57