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I.

THE FOURTEENTH ANNUAL
**UNDERGRADUATE BIOLOGY
RESEARCH
CONFERENCE**

January 25, 2003

14th Annual Undergraduate Biology Research Conference

Life Sciences South Building
Saturday, January 25, 2003

8:00 am - 9:00 am	Students set up posters Refreshments Room 240	
9:00 am - 9:05 am	Welcome	Carol Bender, Director UBRP and BRAVO!
9:05 am – 9:30 am	Introduction of Keynote Speaker	Mark Fernandez, UBRP and BRAVO! student
	Keynote Address – “Careers in the Life Sciences”	Dr. Raymond Woosley Vice President for Health Sciences, University of Arizona
9:30 am - 10:30 am	Poster Session I – Life Sciences 2nd and 3rd Floor (Includes posters by participants in outreach programs)	
10:30 am – 10:45 am	Mini-awards Ceremony for Outreach Programs' Participants	Dr. Michael Wells Regents Professor of Biochemistry
*		
10:45 am – 11:45 am	Poster Session II – Life Sciences 2nd and 3rd Floor	
11:45 am - 12:45 pm	Poster Session III – Life Sciences 2nd and 3rd Floor	
12:45 pm – 1:00 pm	Presentation of Awards	Dr. Michael Wells Regents Professor of Biochemistry Carol Bender, Director UBRP and BRAVO!

LIST OF UNDERGRADUATE PRESENTERS AND THEIR ABSTRACTS

FOURTEENTH ANNUAL UNDERGRADUATE BIOLOGY RESEARCH CONFERENCE

1. ORGANIZATION OF THE HONEY BEE MUSHROOM BODY: INTRINSIC NEURONS. Andy Abrams
2. EXPERIMENTAL STUDIES OF FISH PREDATION ON BULLFROGS AND LEOPARD FROG TADPOLES. Shannon Baker
3. SYNTHESIS AND CHARACTERIZATION OF (Tp*) MoO₂ (THIOLATE) COMPOUNDS. Pablo Bernardson
4. INVESTIGATING SMALL HEAT SHOCK PROTEIN FUNCTION IN TRANSGENIC PLANTS. Julie Bordowitz
5. STRUCTURE-ACTIVITY STUDIES OF MELANOTROPIC RECEPTORS USING NOVEL PEPTIDE ANALOGUES. Christopher Cabello
6. DIFFERENTIAL GENE EXPRESSION CAUSED BY CALBINDIN-D28K KNOCKOUT IN MOUSE KIDNEY. Xuemei Cai
7. TRANSCRIPTIONAL REGULATION OF HUMAN DIVALENT METAL ION TRANSPORTER 1 (DMT1). Rowena Campbell
8. THE ABNORMAL BEHAVIOR OF P53 DUE TO ALTERED EXPRESSION OF HSP70. Steven Carey
9. MUTAGENESIS APPROACH TO IDENTIFYING AMINO ACIDS ESSENTIAL FOR THE FUNCTION OF A SMALL HEAT SHOCK PROTEIN. Belmund Catague
10. VITAMIN-D RECEPTOR IS DOWN REGULATED BY CALCINEURIN INHIBITORS. Ok-Kyung Choo
11. LABORATORY TECHNIQUES USED IN PRELIMINARY STAGES OF DETERMINING THE MOLECULAR MECHANISMS OF MOTHER-TO-INFANT TRANSMISSION OF HIV-1. Tiffany Davis
12. INHIBITION OF HEPATIC TNF α DECREASES THE SEVERITY OF NECROTIZING ENTERCOLITIS. Sarah Doelle
13. WINTER TERM FELLOWSHIP PROGRAM. Trista Vick, Sarah Menamin, Chrissy Mekmaysy, Jonathan Chapman
14. EVIDENCE FOR POSITIVE SELECTION AT MC1R, A GENE UNDERLYING ADAPTIVE COLOR VARIATION IN POCKET MICE. Kristen Drumm
15. CULTURAL ATTACHMENTS TO THE SEA: CONSULATION AS A TOOL FOR PRESERVATION. Jill Dumbauld
16. AFFECT OF PEG ON THE INTEGRITY AND BINDING CAPACITY OF AGAROSE IDA GELS. Michael Durando
17. COMPARISON OF IL-12 PRODUCTION FROM MONOCYTE-DERIVED DENDRITIC CELLS IN CORD VS. ADULT BLOOD. Samira Ehteshami

18. LIGANDED VDR INDUCES CYP3A4 VIA DR3 AND ER6 VDREs: A POTENTIAL MECHANISM FOR VITAMIN D-MEDIATED CELLULAR DETOXIFICATION. Kristi Eichhorst
19. WATER USE BY VELVET MESQUITE *Prosopis velutina*. Patrick Ellsworth
20. GENETIC ANALYSIS OF Hsp 101 FUNCTION IN HEAT STRESS TOLERANCE. Mindy Escobar
21. TARGETING A PROTEIN TYROSINE PHOSPHATASE, PRL-1, FOR THE TREATMENT OF PANCREATIC CANCER. Amanda Farnsworth
22. BONE STRAIN TRANSFER THROUGH TRICALCIUM PHOSPHATE COATED POLYBUTYL TEREPHTHALATE SCAFFOLDS. Bijiibaa' Garrison
23. A 122.5 KB DELETION OF THE P GENE UNDERLIES THE HIGH PREVALENCE OF OCULOCUTANEOUS ALBINISM TYPE 2 (OCA2) IN THE NAVAJO POPULATION. Nanibaa' Garrison
24. IDENTIFICATION OF A CATALYTIC ANTIBODY OF GP120, AN HIV-1 SURFACE GLYCOPROTEIN. Maey Gharbiah
25. CLONING THE OXYTOCIN RECEPTOR FOR MULTIMERIC LIGAND BINDING STUDIES. Dana Gilmore
26. CETis HIGH SCHOOL ECOLOGY CLUB: PROMOTING AN UNDERSTANDING OF ECOLOGY AND THE ENVIRONMENT IN NOGALES, SONORA. Alan Basaca Gracia, Alfonso Mendoza Hinojos, Carmina Cervantes Sinohui, Cesar Espinoza Romo
27. EFFICIENT SYNTHESSES OF HETEROCYCLIC COMPOUNDS. Luisa Gronenberg
28. BAC (BACTERIAL ARTIFICIAL CHROMOSOME) END-SEQUENCED MAP OF CHROMOSOME5 OF *GIARDIA LAMBLIA*. Daneen Grossman
29. DIMETHYL SULFOXIDE AND ETHANOL, ORGANIC SOLVENTS MOST COMMONLY USED AS VEHICLES *in Vitro*, AFFECT PRECISION-CUT LIVER SLICE VIABILITY. Wyatt Ho, Michael French
30. EFFECTS OF XDLL3 AND XDLL4 OVEREXPRESSION ON THE DEVELOPMENT OF CRANIOFACIAL STRUCTURES IN *XENOPUS LAEVIS*. Jennifer Hoy, Doug Ota
31. IDENTIFICATION OF REGULATORY PROTEINS THAT BIND TO A LINEAGE SPECIFIC SILENCER IN THE GATA-3 GENE. Dru Imrie
32. FEB2 CRITICAL INTERVAL: CANDIDATE GENE ANALYSIS. Keta Joshipura
33. FUNCTIONAL IMPACT OF HUMAN VITAMIN D RECEPTOR COMMON GENE POLYMORPHISMS IN RELATION TO OSTEOPOROSIS. Magdalena Kaczmarska
34. EXPRESSION OF ADHERENS PROTEINS IN HUMAN SCHLEMM'S CANAL. Salma Kaochar
35. URBAN COMMUNITY-BASED CONSERVATION IN NOGALES, SONORA, MEXICO. Nick Kawa
36. ARE CALBINDIN-D28K KNOCKOUT MICE CALCIUM-SEEKING? Devin Kim

37. LINKAGE DISEQUILIBRIUM AROUND *G6pd* AND THE SIGNATURE OF SELECTION BY MALARIA IN HUMANS. Julia Kim
38. GENOME BASED RNA INTERFERENCE SCREEN IDENTIFIES CUP-2, A PROTEIN THAT REGULATES ENDOCYTOSIS IN *CAENORHABDITIS ELEGANS*. Sarah Knuth
39. SCHOOL YARD REHABILITATION: EROSION CONTROL, WATER HARVESTING AND REVEGETATION. Susanne Koestner
40. INTERSPECIFIC VARIATION IN *MC1R*, A GENE UNDERLYING ADAPTIVE COAT COLOR DIFFERENCES IN POCKET MICE. Alana Kurosaki
41. PREDATOR-PREY INTERACTIONS AMONG AQUATIC INSECTS AND TADPOLES (*Rana pipiens* Complex) IN SONORAN DESERT STREAMS. Lisa Labita
42. IMMUNOCYTOCHEMICAL STAINING FOR THE COLOCALIZATION OF GABA WITH NEUROPEPTIDES. Emily Landeen
43. CONTROLLING INVASIVE *BROMUS INERMIS* IN A NORTHERN ARIZONA GRASSLAND: EFFECTS OF FUEL-SUPPLEMENTED BURNS AND SEEDING ON SPECIES RECOVERY AND SOIL SEEDBANK. Alice Levine
44. BIFUNCTIONAL PEPTIDES: CCK ANTAGONIST/OPIOID AGONIST FOR THE TREATMENT OF NEUROPATHIC PAIN. Brian Lew
45. CAN HUMANS ACCURATELY NAVIGATE WITHIN A VIRTUAL ENVIRONMENT USING VISUAL MOTION CUES? Erin Lindstedt
46. STUDENT PARTICIPATION IN AMBOS NOGALES RE-VEGETATION PROGRAM. Alejandra Lopez-Munoz
47. TARGETING OF THALAMOCORTICAL AXONS TO THE AUDITORY NEOCORTEX. Vanessa Lopez
48. CHARACTERIZING THE TRANSCRIPTIONAL REGULATION OF LATE TRYPSIN EXPRESSION IN *AEDES AEGYPTI*. Stephen Lu
49. CONSTRUCTION AND SYNTHESIS OF A CHOLECYSTOKININ-RED FLUORESCENT PROTEIN. Jennifer Madison
50. BIOTIC FACTORS INFLUENCING PRESENCE AND ABSENCE OF THE HUACHUCA SPRINGSNAIL (*PYRGULOOPSIS THOMPSONI*). Kelsey Maloney
51. HOST ACCEPTANCE AND HOST SURVIVAL OF *DROSOPHILA MOJAVENSIS* AND *DROSOPHILA ARIZONAE* ON FOUR SPECIES OF CACTUS. Earnest Clark
52. SCREENING STRATEGIES TO IDENTIFY NOVEL RECEPTORS THAT MEDIATE THE EXCITATORY ACTIONS OF DYNORPHIN. Mark McClain
53. MOLECULAR CHARACTERIZATION OF CARBOXYPEPTIDASE B PROMOTER REGIONS IN *Aedes* MOSQUITOES. Anisha Menezes
54. THE EFFECTS OF AMPAKINES ON THE COMPONENTS OF LEARNING & MEMORY IN THE HIPPOCAMPUS OF AGED RATS. Retsina Meyer

55. OSMOTIC REGULATION OF AQUAPORIN-5 EXPRESSION IN MOUSE LUNG EPITHELIAL CELLS. Linda Mobula
56. PHARMACODYNAMICS OF GELDANAMYCIN USING LUCIFERASE AS A REPORTER. Shafinaz Momen
57. INCREASED ANTIOXIDANT DEFENSE ALTERS CELLULAR REDOX ENVIRONMENT AND PROTECTS AGAINST GLUCOCORTICOID-INDUCED APOPTOSIS. Ehren Nelson
58. FUNCTIONAL GENOMICS OF RECEPTOR KINASES IN *Arabidopsis thaliana*. Danielle Nevarez
59. IRON DEFICIENCY DURING LACTATION OR PREGNANCY-WHAT MAKES THE GREATEST IMPACT UPON ERYTHROPOIESIS AND IRON STATUS IN THE MURINE OFFSPRING? Lisa Ngo
60. EXPRESSION OF MMP-2, MMP-9, TIMP-1 AND TIMP-2 IN AN *In Vitro* MODEL FOR ANGIOGENESIS. Annetta Odeh
61. THE EFFECTS OF AGING: A MAGNETIC RESONANCE IMAGING INVESTIGATION. Mary Pankratz, Andrea Morrison
62. THE INTERACTION BETWEEN THE CONTRACTILE PROTEINS TROPOMODULIN AND TROPOMYOSIN STABILIZES THIN FILAMENTS. Cynthia Perry
63. IDENTIFICATION OF GENOMIC SEQUENCES ASSOCIATED WITH EYE3 AND MLT1 INSERTION MUTANTS. Michael Pham
64. CLONING AND CHARACTERIZATION OF THE PROMOTER REGION OF THE CYCLIN DEPENDENT KINASE 11 GENE (CDK11). Veronica Placencio
65. THERMOREGULATION OF DESERT TORTOISES WITH SIGNS OF UPPER RESPIRATORY TRACT DISEASE. Cathryn Pokorny
66. EFFECT OF THE COMBINATION OF DFMO AND DICLOFENAC ON A KERATINOCYTE CANCER CELL LINE. Prakash Ramsinghani
67. TRANSLOCATION OF A HYPERSENSITIVE BINDING REGION UPSTREAM TO THE PROMOTER LEADING TO OVEREXPRESSION OF CYCLIN D1 IN CHROMOSOME 11. Jennifer Roll
68. NEURAL CORRELATES OF DECISION MAKING IN THE MEDIAL PREFRONTAL CORTEX OF THE RAT. Ryan Roop
69. DETERMINING THE ORDER OF TWO GENES IN BRASSINOLIDE SIGNAL TRANSDUCTION IN *Arabidopsis thaliana*. Scott Rowe
70. THE EFFECT OF BIFIDOBACTERIUM BIFIDUM ON INDUCED ENTEROCOLITIS IN MICE. Miriam Ruth
71. IDENTIFICATION OF THE HAIRLESS GENE PRODUCT AS A PHYSICAL INTERACTANT AND TRANSCRIPTIONAL COREPRESSOR OF THE VITAMIN D RECEPTOR. Stephanie Slater
72. INHIBITION OF EXTRA-CELLULAR PROTEIN AGGREGATION: TARGETING AMYLOID- β BY DIRECTED EVOLUTION. Thaddeus Smith

73. PATTERNS OF VARIATION IN AFRICA AT THE HUMAN β -GLOBIN LOCUS. Daryn Stover
74. GIARDIA IN A PERUVIAN SHANTYTOWN. Margarethe Stringham
75. EXPERIMENTING WITH THE RELATIONSHIP BETWEEN WATER AND SEED GROWTH. Sunnyside High School
76. UNDERSTANDING DROSOPHILA MOLESKIN AND INTEGRIN LINKED KINASE FUNCTION IN CELL ADHESION AND SIGNALING THROUGH MISSENSE MUTATIONS. Stephanie Tang
77. ISOLATION OF SKBR3 AND HER-2/NEU REACTIVE ANTIBODIES BY PANNING OF A PHAGE DISPLAYED IMMUNOGLOBULIN LIBRARY. Leah Tatum
78. NEST SITE CHARACTERISTICS OF MOUNT GRAHAM RED SQUIRRELS (*Tamiasciurus hudsonicus grahamensis*) IN MIXED CONIFER HABITAT. Sadie Taylor
79. EROSION CONTROL: FINDING AND PROPOSING SOLUTIONS. Delia Nataly Gastelum Sanchez, Alejandra Razcon Duarte, Ana Patricia Solano Landavzo
80. SCHOOL YARD MAPPING: IDENTIFYING RESOURCES AND TROUBLE SPOTS. Cintya Gabriela Martinez Leon, Rafael Segobia Montoya, Moncerrat Lira Bonilla, Jesus Valenzuela Valenzuela,
81. WATER HARVESTING: A MODEL FOR SECUNDARIA #3 GENERAL. Teodora Elena Rios Ibarra, Gloria Elizabeth Cazares Ponce, Juan Carlos Alarcon Monarez, Josue Cervantes Escarrega, Gibran Fernando Mendoza Perez, Oscar Cervantes Escarrega,
82. CONSTRUCTION AND CHARACTERIZATION OF A NOVEL TWO GENE MAMMALIAN EXPRESSION VECTOR CONTAINING TWO MULTIPLE CLONING SITES FOR SIMULTANEOUS EXPRESSION OF TWO DIFFERENT REPORTER GENES. Jennifer Thompson
83. CHARACTERIZATION OF *Manduca sexta* IMMULECTIN-2 AND DISCOVERY OF AN IMMUNOLOGICALLY RELATED, BACTERIA-INDUCED PROTEIN FROM MOSQUITO *Aedes albopictus* C7-10 CELLS. Hung Tran
84. ABIOTIC FACTORS AFFECTING THE PRESENCE OF THE HUACHUCA SPRINGSNAIL (*Pyrgulopsis thompsoni*). Jean Tsai
85. NEURONAL RESPONSE STABILITY REDORDED ACROSS TWO DAYS. Gustaf VanAcker III
86. MAPPING OF *HOT4* AND *HOT5* THERMOTOLERANCE MUTANTS. Chris Wie
87. SPECIATION WITHOUT SEX. Cindy Wolf
88. HOW SMALL IS TOO SMALL: MINIMUM VIABLE POPULATION SIZE IN TREE SQUIRRELS. David Wood
89. BUTTERFLY DIVERSITY ALONG AN URBAN GRADIENT IN A DROUGHT YEAR IN TUCSON, ARIZONA. Eric Yip
90. HOMOLOGOUS PROTOCEREBRAL REGIONS IN FLIES, HONEYBEE AND COCKROACH BRAIN REVEALED BY OCTOPAMINE IMMUNOREACTIVITY. Mamiko Niwa

II.

UNDERGRADUATE BIOLOGY RESEARCH PROGRAM

2002-2003

***UNDERGRADUATE BIOLOGY RESEARCH PROGRAM
PARTICIPANTS AND FACULTY SPONSORS
2002-2003***

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Iram N. Ahmad
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Karie Brentlinger
Tara Burke
Xuemei Cai
Isis Calsoyas
David Caretto
Steven Carey
Stephanie Castrillo
Ok-Kyung Choo
Catherine Clark
Annie Dahlgran
Jane Davis
Jason Davis
Sarah Doelle
Candice Donald
Matthew Drake
Kristen Drumm
Samira Ehteshami
Kristina Eichhorst
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Prakash Ramsinghani
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Ryan Roop

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Dr. Anne Grete Bechensteen
Dr. Nicholas Strausfeld
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Dr. Josephine Lai
Dr. Dominic McGrath
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Dr. Danny Brower
Dr. Valerie Bontrager, Dr. Lynn Joens
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Dr. Julia Coronella
Dr. John Koprowski
Dr. Elizabeth Willott, Dr. Leslie

Dr. Thomas Bever

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Dr. Tricia LeVan
Dr. Roger Miesfeld
Dr. John Law
Dr. Nancy Moran
Dr. Brian Larkins
Dr. Bill Birky
Dr. John Koprowski
Dr. Judith Ulreich

*High School Student

*UBRP/MINORITY ACCESS TO RESEARCH CAREERS
(MARC) STUDENTS
2002-2003*

UNDERGRADUATE

Irene Alvarez
Alexandrina Barela
Chris Cabello

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Dr. Ronald Lynch
Dr. Victor Hruby

*MARC STUDENTS, Continued
2002-2003*

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Nanibaa Garrison
Clarita Lefthand-Begay
Linda Mobula
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Humberto Sirvent
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Dr. Linda Meade-Tollin
Dr. David Harris
Dr. Bernard Futscher

UBRP VISITING STUDENT RESEARCHERS
2002

BRAVO!/MIRT

JULIE BORDOWITZ

University of Heidelberg
Heidelberg, Germany

Worked with Dr. Bernd Bukau in the Department of Molecular Biology

DAVID CARETTO

University of Zurich
Zurich, Switzerland

Worked with Dr. Renate Gay in the Center of Experimental Rheumatology

CARLOS CHACON

University of Florence
Florence, Italy

Worked with Dr. Giancarlo Pepeu in the Department of Pharmacology

SAMIRA EHTESHAMI

TVW Telethon Institute for Child Health Research
West Perth, Australia

Worked with Dr. Patrick Holt in the Division of Cell Biology

MARK FERNANDEZ

University of Ulm
Ulm, Germany

Worked with Dr. Lutz Claes in the Department of Orthopedic Research and Biomechanics

JENNIFER GARDETTO

National Institute of Infectious Disease
Tokyo, Japan

Worked with Dr. Kozo Tsuchida in the Division of Radiological Protection

NANIBAA' GARRISON

Institut Pasteur
Paris, France

Worked with Dr. Jean-Louis Guenet in the Mammalian Genetics Unit

NICOLE JARRETT

Institute Pasteur
Paris, France

Worked with Professor Michel Goldberg in the Department of Cellular Biochemistry

THUY LE

Institute of Parasitology
Ceske Budejovice, The Czech Republic
Worked with Dr. Jan Kopecky in the Laboratory of Parasite Immunology

LISA NGO

University of Oslo
Oslo, Norway
Worked with Dr. Anne-Grete Bechensteen in the Department of Pediatrics

HARDEEP PHULL

University of Technology and Agriculture
Bydgoszcz, Poland
Worked with Dr. Elwira Sliwinska in the Department of Genetics and Plant Breeding

MIRIAM RUTH

Institute of Microbiology
Prague, The Czech Republic
Worked with Dr. Hana Kozakova in the Department of Immunology and Gnotobiology

ROBERT SCHMITZ

University of Toronto
Toronto, Canada
Worked with Dr. Daphne Goring in the Department of Botany

MARGARETHE STRINGHAM

PRISMA
Lima, Peru
Worked with Dr. Robert Gilman in the Department of International Health

JENNIFER TALLEY

Swedish University of Agricultural Sciences
Alnarp, Sweden
Worked with Dr. Bill S. Hansson in the Department of Crop Science, Division of Chemical Ecology

KAY YEUNG

Utrecht University Medical Center
Utrecht, The Netherlands
Worked with Dr. Jan D. Blankensteijn in the Department of Vascular Surgery

*EXPLORING TRANSLATIONAL RESEARCH AND MEDICINE
(ExTrReMe) SEMINARS
2002*

DR. DAVID BEARSS

Assistant Professor, Molecular and Cellular Biology
and UBRP Faculty Sponsor

and

DR. LUKE WHITESELL

Associate Professor, Pediatrics Section of Pediatric Oncology
and UBRP Faculty Sponsor

and

DR. CHARLES PUTNAM

Professor, Surgery and Molecular and Cellular Biology Graduate Student

“Compare and Contrast: Career Options in Biomedical Research”

July 24, 2002

DR. ROBERT ERICKSON

Professor, Pediatrics and Molecular and Cellular Biology
and UBRP Faculty Sponsor

and

DR. CHARLES PUTNAM

Professor, Surgery and Molecular and Cellular Biology Graduate Student

“Insert Gene Here: Gene Therapy, Past and Prologue”

August 28, 2002

DR. KENNETH J. RYAN

Associate Dean for Academic Affairs & Interim Dean College of Medicine

**“The Physician-Scientist Program of the College of Medicine: Career Paths to
Tomorrow’s Translational Medicine”**

October 30, 2002

UBRP SEMINARS 2002

SHAMEEMA SIKDER and NICHOLE DANZL

UBRP Alumni

“Brief Research Presentations by Past Students”

May 21, 2002

MICHAEL WELLS

Department of Biochemistry and Molecular Biophysics

“How to Make a Scientific Presentation”

“Elements of a Scientific Poster”

June 11 and June 18, 2002

KEN FRIDERICH, JESSICA DOMINGUEZ, DR. JEAN WILSON

BMCB Graduate Student, UBRP Alumnus and Faculty Sponsor

“Panel Presentation: Graduate School: What You Need To Know”

June 25, 2002

JACQUELINE BACA, MARK YANAGIHASHI, SARAH IDEN AND RACHEL HUGHES

Lab Technician, Research Specialist, Genetic Counselor and Science Education Liaison

“Career Options: A Panel Presentation: How Did We Get Here?”

July 16, 2002

DR. LESLIE BOYER

Arizona Poison Control Center

and

DR. GRETA BINFORD

Center for Insect Science

“The Continuum of Research Into Practice: Brown Spider Venom”

July 23, 2002

DR. STUART WILLIAMS

Director, Biomedical Engineering Program
Arizona Research Labs – Surgery

“Man in a Box: Bioengineering”

July 30, 2002

***UBRP FIELD TRIPS AND SOCIAL ACTIVITIES
2002***

May	Orientation Picnic
	Arizona Sonora Desert Museum Tour
	Biosphere II Tour, Oracle, Arizona
June	Annual Saguaro Harvest at the Arizona-Sonora Desert Museum with Stella Tucker, our Tohono O’odham guide.
August	Poster Session and Closing Ceremony for NSF REU Students
October	Fulbright/UBRP Fall Reception

BRAVO! DATABLITZES 2002

RUPALI ROY

BRAVO! Participant, UBRP Student

“Oxygen Sensing in Oxford”

February 15, 2002

BRIAN VAN TINE

Department of Pathology, University of Alabama
at Birmingham, UBRP Alumnus from
Dr. Victor Hruby’s Lab and BRAVO! Participant

**“Human Papillomavirus DNA Persistence via Association with Centrosome and
Transcription Template Selection by Methylation”**

March 29, 2002

DR. HANA KOZAKOVA

Senior Research Scientist at the Institute of Microbiology,
Prague, The Czech Republic
BRAVO! Foreign Faculty Sponsor

“The Effect of Intestinal Microflora on Enterocyte Brush Border Enzymes”

April 24, 2002

NICOLE JARRETT

BRAVO! Participant, UBRP Student

“Paris and Proteins: Kinetics of Epitope Regain During Refolding”

and

THUY LE

BRAVO! Participant, UBRP Alumna, UA Medical Student

“Ceske Budejovice at Below Zero Celsius”

May 15, 2002

MARK FERNANDEZ

BRAVO! Participant, UBRP Student

“Biomechanics in the Bundesrepublik”

June 14, 2002

DR. EMMANUEL AKPORIAYE

UBRP and BRAVO! Faculty Sponsor

“An Introduction to Research Opportunities in Ghana Through BRAVO!”

July 26, 2002

KAY YEUNG

BRAVO! Participant, UBRP Alumna, UA Medical Student

“Diagnostic Imaging of the Future in Vascular Surgery”

and

CARLOS CHACON

BRAVO! Participant, UA Medical Student

“Putting the Brakes on Alzheimer’s Progression”

September 19, 2002

JENNIFER GARDETTO

BRAVO! Participant, UBRP Student

“Carotenoid Binding Protein in the Midgut of Bombyx mori may be Involved in Absorption of Carotenoid”

October 1, 2002

SAMIRA EHTESHAMI

BRAVO! Participant, UBRP Student

“Mozzies, Chooks and a Footy: Down Under in Oz”

and

MARGARETHE STRINGHAM

BRAVO! Participant, Graduate Student

“Giardia in a Peruvian Shantytown”

October 14, 2002

JULIE BORDOWITZ

BRAVO! Participant, UBRP Student

“Protein Purification, Proteases, and Pilse”

and

MIRIAM RUTH

BRAVO! Participant, UBRP Student

“Clams, Piggies, and So Much Green”

November 4, 2002

NANIBAA' GARRISON

BRAVO! Participant, MARC Student

“Positional Cloning in Paris”

and

LISA NGO

BRAVO! Participant, UBRP Student

“Iron Deficiency During Lactation or Pregnancy – What Makes the Greatest Impact Upon Erythropoiesis and Iron Status in the Murine Offspring?”

November 6, 2002

III.

OUTREACH PROGRAMS IN BIOLOGY

THE MANDUCA PROJECT

For the past eleven years, the Department of Biochemistry has been engaged in an elementary school, educational outreach program known as “The Manduca Project”. The program was developed through the collaborative efforts of many teachers and scientists. Development was guided by the philosophy that teachers are the educational experts and scientists are resources ripe for exploitation. The Manduca Project, although originally intended as a science project on insect development, has evolved into an integrative program involving lessons in mathematics, art, science, computer technology, and the language arts. Graduate students and research associates, especially women and Hispanic scientists, routinely visit the local schools to provide information and to serve as role models. Since its inception, hundreds of children have taken part in the project. Teachers report that the children become so excited with the caterpillars and their lessons that they involve their parents in the project.

Additional information on the The Manduca Project can be found on the web: <http://www.manducaproject.com>. Elementary school teachers can obtain the knowledge and materials to conduct the project in their classrooms, including where to order *Manduca sexta* eggs and diet.

In July 2002, a week-long workshop for elementary school teachers was offered at the University, taught by TUSD teachers, Patricia Weaver, School Improvement Facilitator at Miller and Johnson Elementary School and Cecilia Valenzuela from Davis Bilingual Elementary School. Both teachers have considerable experience in running this project and have developed a broad range of interdisciplinary approaches to the study of the *Manduca sexta* and its life cycle in the elementary curriculum. Twenty-four teachers from eighteen elementary schools and seven school districts participated. Listed below are the teachers who took the summer workshop.

2002 Manduca Project Teachers

Daniel Ashford – Mission View Elementary School
Liz Broussard – Warren Elementary School
Dee Caldwell – Dunham Elementary School
Amanda Carson – Roadrunner Elementary School
Judy Cook – Casas Christian Elementary School
Lisa Church - Casas Christian Elementary School
Jo Falls – Tohono Chul Park Elementary School
Dionne Fernandez – Warren Elementary School
Sherrie Gordon – DeGrazia Elementary School
Ana Hernandez – Mission View Elementary School
Sharon Krimmel – OCHOA Elementary School
Debra McClanahan – Quail Run Elementary School
Harriet Meador – Van Horne Elementary School
Christina Miles – Kellond Elementary School
Kathy Moore Cuprak – Fruchthendler Elementary School
Doris Newell – Valencia Middle School
Kasey Ohrns – Tag Elementary School
Elizabeth Razi – Safford Middle School
Jane Rodriguez – Corbett Elementary School
Nancy Spivey – Corbett Elementary School
Danise Touseull – Mission View Elementary School

Tessa Valencia – Vesey Elementary School
Lori Whitlach – CE Rose Elementary School
Ronald Wysocki – Khalsa Montessori School

NON-UNIVERSITY OF ARIZONA UBRP

SUMMER 2002

The Undergraduate Biology Research Program, in an effort to make the resources of the institution available to undergraduate science majors at other institutions, particularly small liberal arts colleges, offers a 12-week summer research program for non-UA students. This program, like UBRP, requires participating faculty members to pay half of the student's wages and for all of the supplies the students use in their work. The remaining costs are covered by grants from the National Science Foundation, and the American Society for Pharmacology and Experimental Therapeutics.

Listed below are the students who were part of Non-UA UBRP for the summer of 2002, with their home institutions and UA faculty sponsors.

Molly Friedman

Pennsylvania State University, Pennsylvania
Dr. Ronald Lynch, Physiology and Pharmacology

Daneen Grossman

Cedar Crest College, Pennsylvania
Dr. Rodney Adam, Medicine/Microbiology and Immunology

Jacob Kagey

Ohio Wesleyan University, Ohio
Dr. Mark Nelson, Pathology

Jennifer Madison

University of New Mexico, New Mexico
Dr. Josephine Lai, Pharmacology

SCIENCE CONNECTION

2002

Science Connection is an outreach program to pre-college classrooms in the Tucson metropolitan area that is in its 18th semester. The goal of Science Connection is to help undergraduates share their enthusiasm for science with children and to make the undergraduates aware of current issues in science education and teaching as a possible career choice. The main thrust of the program is for undergraduate students to visit local schools to do hands-on science activities on topics that range from astronomy through zoology. Information about the course

(MCB 491) and volunteer program can be found at the Science Connection webpage
<<http://student.biology.arizona.edu/sciconn/>>.