

**PROGRAM SESSIONS**

**86<sup>TH</sup> Annual Meeting**

**Of the Pennsylvania Academy of Science**

**Radisson Hotel, Camp Hill, PA**

**April 9-11, 2010**

**Program Chairs**

**Sherri Bergsten and Theo Light**

---

**MEETING WELCOME**

**SATURDAY, APRIL 10**

**8:45-9:00 a.m.**

**Deborah Ricker**

**President, Pennsylvania Academy of Science**

**ORAL PRESENTATIONS**

**PLENARY SESSION**

**SATURDAY, APRIL 10**

**9:00-11:15 a.m.**

**AVIAN ECOLOGY**

**Terry Master, Session Chair**

**9:00-9:20**

1. **HABITAT FRAGMENTATION: A THREAT TO PENNSYLVANIA'S FOREST BIRDS. Brittingham\*, Margaret C. and Laurie J. Goodrich.** (The Pennsylvania State University, University Park).

**9:20-9:40**

2. **AVIAN-MEDIATED SEED DISPERSAL: ITS IMPLICATIONS FOR CONSERVATION. Steele, Michael A. \*, Nathanael Lichti, Shealynn Marino, and Robert K. Swihart.** (Department of Biology, Wilkes University, Department of Forestry and Natural Resources, Purdue University).

**9:40-10:00**

3. THE STATUS AND CONSERVATION OF FARMLAND BIRDS IN PENNSYLVANIA. **Wilson, Andrew** and **Margaret Brittingham**. School of Forest Resources, The Pennsylvania State University,

**10:00- 10:15 COFFEE BREAK AND POSTER BROWSING**

**10:15-10:35**

4. STOPOVER ECOLOGY OF LANDBIRD MIGRANTS IN PENNSYLVANIA. **Smith, Robert J.\*** (University of Scranton, Scranton), and **Margret I. Hatch**, (Penn State Worthington Scranton).

**10:35-10:55**

5. USE OF RIPARIAN BIRDS AS BIOINDICATORS. **Master, Terry L.\*** (East Stroudsburg University).

**10:55-11:15**

6. URBANIZATION AND BIRDS: AN OVERVIEW. **Stratford, Jeff<sup>1</sup>, W. Douglas Robinson<sup>2</sup>, and John Hogland<sup>3</sup>**. (<sup>1</sup>Wilkes University, <sup>2</sup>Oregon State University, Corvallis, <sup>3</sup>Montana Forest Management Bureau).

**ORAL SESSION I  
SATURDAY, APRIL 10**

**1:30-4:30 p.m.**

**ORGANISMAL AND CELL BIOLOGY**

**K. Joy Karnas- Session Chair**

**1:30-1:45**

7. MRNA DECAY IN BIOLOGICAL FLUIDS FOR CRIME SCENE STAIN IDENTIFICATION AND ESTIMATION OF TIME OF DEPOSITION. **Moran, Kimberly A. \***, and **K. Joy Karnas**. (Cedar Crest College).

**1:45-2:00**

8. ISOLATION OF VERTEBRATE DNA FROM MAGGOT CROPS. **Drago, Caroline G.\*** and **Jane E. Huffman**. (East Stroudsburg University).

**2:00-2:15**

9. MORPHOMETRIC ANALYSIS OF INTERLOBULAR RENAL ARTERIES OF SPONTANEOUSLY HYPERTENSIVE RAT PUPS BORN TO MOTHERS TREATED WITH METHYLPHENIDATE PRIOR TO AND DURING PREGNANCY. **Tadesse, Bemnete E.\***, **M. Dana Harriger**, and **Catherine Santai**. (Department of Physical and Life Sciences, Wilson College).

**2:15-2:30**

10. OBSERVING THE TIME COURSE OF ROD PHOTORECEPTOR DIFFERENTIATION AND THE MIGRATION OF NEWLY PROLIFERATED

RODS IN ROCIO OCTOFASCIATA. **Cornish, Tasha L.\***, **Erin M. O'Donnell**,  
**and Audrey J. Ettinger.** (Cedar Crest College).

**2:30-2:45**

11. FURTHER STUDIES ON ENCYSTMENT AND EXCYSTMENT OF ZYGOCOTYLE LUNATA. **LeSage, Karen E.\*** and **Bernard Fried.** (Lafayette College).

**2:45-3:00**

12. USING DIHYDRORHODAMINE 123 TO MEASURE REACTIVE OXYGEN SPECIES PRODUCTION IN EISENIA HORTENSIS DURING PHAGOCYTOSIS: A FLOW CYTOMETRIC METHOD TO STUDY INNATE IMMUNITY IN INVERTEBRATES. **Bearoff, Frank M.\*** and **Sheryl L. Fuller-Espie.** (Cabrini College).

**3:00-3:15 COFFEE BREAK AND POSTER BROWSING**

**3:15-3:30**

13. THE EFFECT OF OXIDATIVE STRESS ON PHAGOCYTOSIS AND APOPTOSIS IN THE EARTHWORM EISENIA HORTENSIS. **Nacarelli, Timothy\***, **Erin L. Blake\***, **Frank M. Bearoff** and **Sheryl L. Fuller-Espie.** (Cabrini College).

**3:30-3:45**

14. VERTEBRATE CYTOKINES INTERLEUKIN 12 AND GAMMA INTERFERON, BUT NOT INTERLEUKIN 10, ENHANCE PHAGOCYTOSIS IN THE ANNELID EISENIA HORTENSIS. **Fuller-Espie, Sheryl L.** (Cabrini College).

**3:45-4:00**

15. A SUBPOPULATION OF POORLY AGGRESSIVE MELANOMA CELLS EXPRESS HIGH LEVELS OF EPHA2 AND HAVE AN INCREASED PROLIFERATIVE CAPACITY. **Kida, Jillian\*** and **Angela R. Hess.** (Bloomsburg University).

**4:00-4:15**

16. INVESTIGATING THE ROLE OF EPHRIN-A1 IN REGULATING THE PROLIFERATION RATES OF HIGHLY AGGRESSIVE HUMAN MELANOMA TUMOR CELLS. **Carper, Shannon M.\*** and **Angela R. Hess.** (Bloomsburg University).

**4:15-4:30**

17. OVEREXPRESSION OF EPHA2 CORRELATES WITH INCREASED TUMOR CELL MIGRATION. **Busada, Jonathon\*** and **Angela R. Hess.** (Bloomsburg University).

ORAL SESSION II  
SATURDAY, APRIL 10

1:30-4:30 p.m.  
APPLIED ECOLOGY

Greg Czarnecki- Session Chair

1:30-1:45

18. CLIMATE CHANGE ADAPTATION AND CONSERVATION - A NEW PARADIGM. **Czarnecki, Greg\***. (Pennsylvania Department of Conservation and Natural Resources).

1:45-2:00

19. STREAMSIDE BIRD COMMUNITY INTEGRITY WITH EMPHASIS ON THE LOUISIANA WATERTHRUSH (*SEIURUS MOTACILLA*) IN THE DELAWARE WATER GAP NATIONAL RECREATION AREA. **Yuhas, Joseph A.<sup>1\*</sup>, Terry L. Master<sup>1</sup>, and Brady J. Mattsson<sup>2</sup>**. (<sup>1</sup> Department of Biology, East Stroudsburg University).

2:00-2:15

20. POPULATION DENSITY AND HABITAT PREFERENCES OF THE CERULEAN WARBLER, (*DENDROICA CERULEA*), IN THE DELAWARE WATER GAP NATIONAL RECREATION AREA. **Curley, Shannon\* and Terry Master**. (East Stroudsburg University).

2:15-2:30

21. CHANGES IN AUTUMN MIGRATION COUNTS OF SHARP-SHINNED HAWKS AT BAKE OVEN KNOB, PENNSYLVANIA 1974-2007. **Ernst-Nicholas\***. (East Stroudsburg University, Department of Biological Sciences).

2:30-2:45

22. THE EFFECT OF GOOSE MANAGEMENT ON WATER QUALITY. **Swallow\*<sup>1</sup>, Matthew, Gino D'Angelo<sup>2</sup>, and Kyle Van Why<sup>2</sup>**. (<sup>1</sup>East Stroudsburg University, <sup>2</sup>USDA-APHIS Wildlife Services)

2:45-3:00

23. DO INVASIVE RUSTY CRAYFISH INCREASE PREDATION ON TESSELLATED DARTER BY LARGEMOUTH BASS? **Snyder, Eric\* and Theo Light**. (Shippensburg University).

3:00-3:15 COFFEE BREAK AND POSTER BROWSING

3:15-3:30

24. IN-SITU TESTING OF TROUT NURSERY WASTE AS A FEEDSTOCK FOR CULTIVATING ALGAE FOR BIOFUEL OR ORGANIC FERTILIZER

PRODUCTION. **Show, Michael\***, and **J. Michael Campbell**. (Mercyhurst College).

**3:30-3:45**

25. SCREENING-LEVEL ASSESSMENT OF WINTER ALGAE COMMUNITIES FOR BIOFUEL PRODUCTION IN NORTHWESTERN PENNSYLVANIA. **Crowe, Robert\*** and **J. Michael Campbell**. (Mercyhurst College).

**3:45-4:00**

26. LICHEN DISTRIBUTION IN SOUTHWESTERN PENNSYLVANIA AS AN INDICATOR OF ENVIRONMENTAL CONDITIONS. **Roy, Joshua D.\***, **Matthew R. Opdyke**, and **Bryan Dolney**. (Point Park University).

**4:00-4:15**

27. EXPLORING THE DIVERSITY OF DESICCATION RESPONSES OF ORGANISMS ISOLATED FROM THE DESERT CRUST. **Cosgrove, Christopher\***, and **Laurie F. Caslake**. (Lafayette College).

**ORAL SESSION III  
SATURDAY, APRIL 10**

**1:30-4:30 p.m.  
VERTEBRATE ECOLOGY**

**Pablo Delis- Session Chair**

**1:30-1:45**

28. DEMOGRAPHICS AND MORPHOMETRIC CHARACTERISTICS OF BREEDING COPE'S GREY TREE FROG (HYLA CHRYSOSCELIS) AT WALLOPS ISLAND, VIRGINIA, USA. **Lowry, Dustin L.\*** and **Pablo R. Delis**. (Shippensburg University).

**1:45-2:00**

29. DISTRIBUTIONS AND POPULATION TRENDS OF BATS IN THE UPPER DELAWARE SCENIC AND RECREATIONAL RIVER CORRIDOR. **Williams, Shannon M.\***, and **Howard P. Whidden**. (Department of Biological Sciences, East Stroudsburg University).

**2:00-2:15**

30. FOOD HABITS OF THREE SOLITARY TREE-ROOSTING BATS FROM EASTERN PENNSYLVANIA. **Newbern, Jessica L.\***, and **Howard P. Whidden**. (Department of Biological Sciences, East Stroudsburg University).

**2:15-2:30**

31. VOCAL COMMUNICATION IN THE SOUTHERN FLYING SQUIRREL (GLAUCOMYS VOLANS): CALL STRUCTURE AND CONTEXT OF USE.

**Arnold, Michael J.\***, and **Howard P. Whidden**. (Department of Biological Sciences, East Stroudsburg University).

**2:30-2:45**

32. IDENTIFICATION AND DISTRIBUTION OF WHITE-FOOTED MICE AND DEER MICE (GENUS PEROMYSCUS) FROM NORTHEASTERN PENNSYLVANIA. **Hussein, Madina\***, **Sandhya Arjun**, **Maria Kitchens-Kintz**, and **Howard P. Whidden**. (Department of Biological Sciences).

**2:45-3:00**

33. EVALUATION OF AN ALLEGHENY WOODRAT (NEOTOMA MAGISTER) POPULATION PRE- AND POST- CONSTRUCTION IN THE NORTH BLOCK OF THE TUSCARORA STATE FOREST, SOUTH-CENTRAL PENNSYLVANIA. **Kindlin, Craig M.\*** and **Richard S. Stewart**. (Shippensburg University).

**3:00-3:15 COFFEE BREAK AND POSTER BROWSING**

**3:15-3:30**

MATERNAL GENETIC VARIANCE DETERMINED BY SEQUENCING ODOCOILEUS VIRGINIANUS (WHITE-TAILED DEER) MTDNA D-LOOP. **Linden, Lara\***, **Jacqueline McCullough**, **Mark Gooss**, **Andrew Berglund**, **Advisors: Durwood B. Ray PhD.**, **Frederic J. Brenner PhD.** (Grove City College).

**3:30-3:45**

34. ANALYSIS OF THE GENETIC VARIABILITY AND DIVERSITY OF LONTRA CANADENSIS UTILIZING EIGHT POLYMORPHIC MICROSATELLITE LOCI. **Palmer, L.M.\***, **J.C. Kauffman**, and **J.E. Huffman**. (Northeast Wildlife DNA Laboratory, East Stroudsburg).

**3:45-4:00**

35. SEASONAL DIETARY PREFERENCES OF NORTHERN RIVER OTTERS (LONTRA CANADENSIS) IN PENNSYLVANIA AND NEW JERSEY. **Kauffman, James C.\*** and **Jane E. Huffman**. (East Stroudsburg University).

**4:00-4:15**

36. EVALUATION OF AVERSIVE CONDITIONING IN NEW JERSEY USING SATELLITE COLLARS ON BLACK BEARS (URSUS AMERICANUS). **Madonia, Michael J.\***<sup>1,2</sup>, **Andrew S. Zellner**<sup>1,2</sup>, **Jane Huffman**<sup>1</sup>, **Kelcey Burgess**<sup>2</sup>, **Patrick Carr**<sup>2</sup>, **Eugenia Skirta**<sup>1</sup>. (<sup>1</sup>Northeast Wildlife DNA Lab, East Stroudsburg University, <sup>2</sup>New Jersey Division of Fish and Wildlife).

**4:15-4:30**

37. RETROFITTING DUMPSTERS WITH BEAR RESISTANT LIDS TO REDUCE HUMAN-BEAR CONFLICT IN NEW JERSEY. **Makkay, Amanda M.\***, **Kelcey I. Burgess**<sup>b</sup>, **Andrew S. Zellner**<sup>ac</sup>, **Jane E. Huffman**<sup>a</sup>. (<sup>a</sup>East Stroudsburg University, Applied DNA Sciences, Northeast Wildlife DNA Laboratory, East

Stroudsburg Pennsylvania. <sup>b</sup>New Jersey Division of Fish & Wildlife, Clinton Wildlife Management Area, Hampton, New Jersey. <sup>c</sup>Pennsylvania Game Commission, Headquarters).

**SYMPOSIUM  
SUNDAY, APRIL 11**

**9:00-11:00 a.m.  
SCIENCE EDUCATION**

**Howard Whidden - Session Chair**

**9:00-9:20**

38. ASSESSING INTERDISCIPLINARY, COMMUNITY-BASED RESEARCH OUTCOMES FOR COURSE DEVELOPMENT, IMPLEMENTATION AND IMPROVEMENT. **Dunbar, David\***, **Melissa Terlecki**, **Caroline Nieslen**, **Susan Gill** and **Kristen Travers**. (Cabrini College)

**9:20-9:40**

39. BRIDGING THE GAP: HELPING TEACHERS TRANSLATE COLLEGE SCIENCE INTO THE LOWER GRADE LEVELS. **Pekala, Susan T.\***, and **Howard P. Whidden**. (Pleasant Valley Intermediate School, and Department of Biological Sciences, East Stroudsburg University)

**9:40-10:00**

40. EXPLORING LOW-INPUT METHODS OF GROWING ALGAE FOR BIOFUEL IN THE INTRODUCTORY BIOLOGY LABORATORY. **Campbell, J. Michael**. (Mercyhurst College)

**10:00-10:15 COFFEE BREAK AND POSTER BROWSING**

**10:15-10:35**

41. USING EARTHWORMS TO TEACH THE FUNDAMENTALS OF INNATE IMMUNITY IN INVERTEBRATES: A FLOW CYTOMETRY APPROACH TO INVESTIGATE PHAGOCYTOSIS. **Fuller-Espie, Sheryl L.** (Cabrini College).

**10:35-10:55**

42. USING A PROBLEM-BASED LEARNING APPROACH TO ILLUSTRATE MECHANISMS OF IMMUNITY AND IMMUNOLOGICAL PROBLEMS IN THE MEDICAL FIELD. **Yorty, Jodi\***. (Elizabethtown College).

**ORAL SESSION IV  
SUNDAY, APRIL 11**

**9:00-11:30 a.m.  
CELL BIOLOGY**

## Lawrence Mylin- Session Chair

9:00-9:15

43. MEASURING SELENIUM UPTAKE IN CHLAMYDOMAS REINHARTII CELLS. **Williams, Elizabeth\***, **Caroline, Druckman** and **Melinda, Harrison**. (Cabrini College).

9:15-9:30

44. ARABIDOPSIS THALIANA EXPOSED TO EXOGENOUS HISTIDINE EXHIBITS INCREASED NICKEL RESISTANCE. **Thompson, Andrew \***, **Richard Schaeffer**, and **Michael Shin**. (Messiah College).

9:30-9:45

45. ANALYSIS OF REPLICATION PROTEIN A PHOSPHORYLATION IN REGULATING PROTEIN LOCALIZATION AT TELOMERES IN THE BUDDING YEAST SACCHAROMYCES CEREVISIAE. **Matika, Christina\***, and **André P. Walther**. (Cedar Crest College).

9:45-10:00

46. CHARACTERIZATION OF RHODOTORULA STRAINS AND INVESTIGATION INTO CAPSULE BINDING MECHANISMS. **Catherine Bradshaw\*<sup>1</sup>**, **Young-eun Choi<sup>1</sup>**, **Carrie Olson<sup>2</sup>**, and **Amy J. Reese<sup>1</sup>** (<sup>1</sup>Department of Biological Sciences, Cedar Crest College, <sup>2</sup>Master of Science in Physician Assistant Studies, King's College).

10:00-10:15 COFFEE BREAK AND POSTER BROWSING

10:15-10:30

47. INVESTIGATION OF THE ATR-MEDIATED CHECKPOINT ACTIVATION BY TAMOXIFEN-INDUCED DNA DAMAGE. **Hasan, Nafis\***, **Ioana A. Marin\***, **Shyamal K. Majumdar**. (Lafayette College).

10:30-10:45

48. DETERMINING THE PREDICTED CDR REGION SEQUENCES OF ANTIGEN RECEPTOR SUBUNITS EXPRESSED BY CD4+ T CELL HYBRIDOMA CLONES SPECIFIC FOR THE SIMIAN VIRUS 40 LARGE TUMOR ANTIGEN (SV40 T AG). **Bowers, Laura\***, **William Smallridge** and **Lawrence Mylin** (Department of Biological Sciences, Messiah College).

10:45-11:00

49. INSTALLATION AND INITIAL USE OF A DIGITALLY-CONTROLLED FOCUSING AND CCD CAMERA IMAGE CAPTURE SYSTEM WITH DECONVOLUTION SOFTWARE. **Leidy, Timothy\*** and **Lawrence Mylin**. (Department of Biological Sciences, Messiah College).

11:00-11:15

50. AN ARRAYED HUMAN GENOMIC LIBRARY FOR FUNCTIONAL GENOMIC STUDIES. **Bireley, Stephanie\*** and **Jonathon Coren**. (Department of Biology, Elizabethtown College).

**11:15-11:30**

51. ENDOGENOUS CHOLECYSTOKININ (CCK) EXPRESSION IN HUMAN PANCREATIC CANCER. **Awad, Christina\***, **Christopher McGovern**, **John F. Harms**, **Gail Matters**, **Jill P. Smith**. (Pennsylvania State University College of Medicine).

**ORAL SESSION V  
SUNDAY, APRIL 11**

**9:00-11:30 a.m.**

**BOTANY AND PHYSICAL SCIENCE  
Anne Reeve- Session Chair**

**9:00-9:15**

52. A VEGETATION COMMUNITY MAP AND FLORA OF THE BRANDYWINE CREEK WATERSHED, NEW CASTLE COUNTY, DELAWARE. **Coxe, Robert\*** and **William A. McAvoy**. (Delaware Natural Heritage and Endangered Species Program).

**9:15-9:30**

53. A VEGETATION COMMUNITY MAP OF BLACKISTON WILDLIFE AREA, KENT COUNTY, DELAWARE. **Coxe, Robert\***. (Delaware Natural Heritage and Endangered Species Program).

**9:30-9:45**

54. VASCULAR FLORA AND COMMUNITY ASSEMBLAGES OF A COASTAL PLAIN FOREST IN BUCKS COUNTY. **Spitz, Lauren\***, **Ann Rhoads**, and **Tim Block**. (Morris Arboretum of the University of Pennsylvania).

**9:45-10:00**

55. LEGUME RHIZODEPOSITION AND GRAIN ENHANCEMENT. **Mikesell, Jan\***. (Gettysburg College).

**10:00-10:15 COFFEE BREAK AND POSTER BROWSING**

**10:15-10:30**

56. GEOLOGY OF MARCELLUS SHALE GAS PLAY IN PENNSYLVANIA – AN OVERVIEW. **Panah, Assad.\*** (University of Pittsburgh at Bradford).

**10:30-10:45**

57. FACILE SYNTHESIS OF POLYHYDROXYLATED FULLERENES (FULLERENOLS) AND THEIR USE IN FRIEDEL- CRAFTS ALKYLATION

REACTIONS WITH BIOLOGICALLY ACTIVE SUBSTRATES. **Guaragno Michelle\***, **Mark Farrell** and **Laura Frost**, (Point Park University).

**10:45-11:00**

58. SYNTHESIS OF AN ASPERNIGRIN A ANALOG FROM A MODEL PYRONE. **Hoeckele, Scott\***, **Anne Reeve**. (Messiah College).

**11:00-11:15**

59. DESIGN OF A BIOLOGICAL SENSOR FOR POTASSIUM IONS. **Diegelman-Parente, Amy\*** and **Andrew, Catherine**. (Penn State Altoona).

**11:15-11:30**

60. IN-SITU ELECTROPHILIC ADDITION OF BROMINE AND CHLORINE TO CIS- AND TRANS-STILBENES IN IONIC LIQUIDS. **Emberger, Jaime L.\*** and **Roseann K. Sachs**. (Messiah College).

## POSTER SESSION I

SATURDAY, APRIL 10

10:00 a.m. - 12:00 noon

CELL BIOLOGY

**Alyssa Bumbaugh, Session Chair**

61. REGULATION OF TELOMERE LENGTH BY REPLICATION PROTEIN A PHOSPHORYLATION IN SACCHAROMYCES CEREVISIAE. **McQuilken, Molly\***, and **André P. Walther**. (Cedar Crest College).
62. REGULATION OF THE CELL CYCLE DNA DAMAGE CHECKPOINTS BY REPLICATION PROTEIN A PHOSPHORYLATION IN SACCHAROMYCES CEREVISIAE. **Klein, Sarah\***, **Sakina Khaku**, and **André P. Walther**. (Cedar Crest College).
63. IDENTIFICATION OF PHOSPHORYLATION DEPENDENT INTERACTIONS BETWEEN REPLICATION PROTEIN A AND CELLULAR REPAIR PROTEINS IN THE BUDDING YEAST SACCHAROMYCES CEREVISIAE. **Hager, Kayla** and **André Walther**. (Cedar Crest College).
64. EXAMINATION OF THE ROLE OF REPLICATION PROTEIN A PHOSPHORYLATION IN THE CELLULAR RESPONSE TO ULTRAVIOLET-INDUCED DNA DAMAGE. **Nole, Kirsten\***, **Molly McQuilken**, **Rebecca Tutino** and **André Walther**. (Cedar Crest College).
65. INCREASING THE IMMUNOGENICITY OF A TUMOR REJECTION ANTIGEN. **Hurst, Stephen\*** and **Jodi L. Yorty**. (Elizabethtown College).

66. SCREENING OF AN ARRAYED HUMAN GENOMIC LIBRARY IN THE PAC SHUTTLE VECTOR PJCPAC-MAM2. **Fuesler, John\***, **Stephanie Bireley\*** and **Jonathon Coren**. (Biology Department, Elizabethtown College).
67. DETERMINATION OF CHICKENS AS A USEFUL MODEL FOR ANTIBODY PRODUCTION TO GREEN FLUORESCENT PROTEIN AND A TOMATO PROTEINASE INHIBITOR II PEPTIDE. **Sechrist\***, **Tyler**, and **Jeffrey P. Thompson**. (York College of Pennsylvania).
68. ANALYZING THE EFFECTS OF GENE-SPECIFIC SI RNA ON IL13RA-2 MRNA AND PROTEIN LEVELS IN GLIOBLASTOMA MULTIFORME CELLS. **Cheng\***, **Raisa**, and **Jeffrey P. Thompson**. (York College of Pennsylvania).
69. MYD88 INVOLVEMENT IN THE REDUCED TUMOR GROWTH RATE CAUSED BY LPS. **Egunsola, Adetutu T.\***, and **Robert A. Kurt**. (Department of Biology, Lafayette College).
70. DETERMINATION OF GENE AND PROTEIN EXPRESSION CHANGES IN BREAST EPITHELIAL CELLS AFTER EXPOSURE TO HUMAN CHORIONIC GONADOTROPHIN. **Schenk, Nicholas\*** and **Thomas M. McGuire**. (DeSales University).
71. EFFECT OF HUMAN CHORIONIC GONADOTROPHIN ON EXPRESSION OF LHX5 IN BREAST EPITHELIA. **Reznik, Oleg E.\***, **Babatunde S. Sholanke\***, **Eric P. Ingersoll**, and **Thomas M. McGuire**. (Penn State Abington).
72. INDUCTION OF LMO1 IN BREAST EPITHELIAL CELLS BY HUMAN CHORIONIC GONADOTROPHIN. **Ongari, A.\***, **Thomas M. McGuire**, and **Eric P. Ingersoll**. (Department of Biology, Penn State).
73. EXPRESSION, CLONING AND SEQUENCING OF THE AUTOPHAGE RELATED GENE ATG13 IN SNB-19 BRAIN TUMOR CELLS. **Swartz\***, **Emily, Joseph Thomas\***, and **Lucinda H. Elliott**. (Shippensburg University).
74. EXPRESSION, CLONING AND SEQUENCING OF THE AUTOPHAGE RELATED GENE ATG7 IN SNB-19 BRAIN TUMOR CELLS. **Gorski\***, **Jonathan, Justin Rodrigo\***, and **Lucinda H. Elliott**. (Shippensburg University).
75. ROLE OF ATG5 ON KINETICS OF EXPRESSION OF AUTOPHAGE RELATED GENES IN ADHERENT GLIOMA CELLS. **Martin, Ashley.\***, **Kaur, Nitasha\*** and **L.H. Elliott**. (Shippensburg University).
76. PROBING CCHL (CYTOCHROME C HEME LYASE) BINDING TO IAP (INHIBITOR OF APOPTOSIS) AS A NEW MECHANISM FOR ACTIVATION APOPTOSIS (PROGRAMMED CELL DEATH). **Jones, Heather<sup>1\*</sup>**, **Snider Desir<sup>1</sup>**, **Audrey Foster<sup>1</sup>**, **Brian Chwiecko<sup>1</sup>**, **Matthew Junker<sup>2</sup>**, and **Carsten Sanders<sup>1</sup>**. (Departments of Biology<sup>1</sup> and Physical Sciences<sup>2</sup>, Kutztown University).
77. A FLOW CYTOMETRIC IN VITRO STUDY USING PHOSPHATIDYLSERINE TRANSLOCATION TO DETECT APOPTOSIS IN THE EARTHWORM EISENIA HORTENSIS. **Nacarelli, Timothy\*** and **Sheryl L. Fuller-Espie**. (Cabrini College).

78. AN IN VITRO STUDY INVESTIGATING APOPTOSIS INDUCTION OF COELOMOCYTES IN THE EARTHWORM EISENIA HORTENSIS USING A DNA FRAGMENTATION ASSAY. **Blake, Erin L.\* and Sheryl L. Fuller-Espie.** (Cabrini College).
79. HEAVY METAL INDUCTION OF REACTIVE OXYGEN SPECIES IN THE EARTHWORM EISENIA HORTENSIS: AN IN VITRO STUDY EXAMINING THE INNATE IMMUNE RESPONSE OF INVERTEBRATES. **Bearoff, Frank M.\*, Madeleine A. Minutillo\*, and Sheryl L. Fuller-Espie.** (Cabrini College).
80. HSP70 EXPRESSION IN EISENIA HORTENSIS COELOMOCYTES IN RESPONSE TO CORTICOSTERONE, DEXAMETHASONE, AND CADMIUM: AN IN VITRO MODEL USING IMMUNOBLOTTING AND FLOW CYTOMETRIC METHODOLOGIES. **Bongiorno, Emily K.\*, Madeleine A. Minutillo, and Sheryl L. Fuller-Espie.** (Cabrini College).
81. Q-RT-PCR ANALYSIS OF HEAT SHOCK PROTEIN GENE EXPRESSION IN RESPONSE TO THERMAL STRESS IN THE TOBACCO HORNWORM, MANDUCA SEXTA. **Orlen, Rachel\*, and K. Joy Karnas.** (Cedar Crest College).
82. SELECTION OF INTERNAL CONTROL GENES FOR QUANTITATIVE REAL TIME RT-PCR STUDIES ACROSS MANDUCA SEXTA LARVAL INSTARS. **Ross, Emily\*, and K. Joy Karnas.** (Cedar Crest College, Allentown).
83. IDENTIFYING AND CHARACTERIZING THE ROLE OF A TRYPTOPHAN HYDROXYLASE (TPH-1) GENE HOMOLOG IN C. ELEGANS USING SIRNA KNOCK-DOWN. **Wilson, Kayla\* and Ron Kaltreider.** (York College of Pennsylvania).
84. TEMPORAL AND SPATIAL EXPRESSION OF AN ALZHEIMER'S DISEASE ASSOCIATED GENE, SORL1 IN ZEBRAFISH. **Horst, Elizabeth\* and Wendy Boehmler.** (York College of Pennsylvania).
85. ZEBRAFISH AS A MODEL TO INVESTIGATE THE DISEASE MECHANISMS OF INFANTILE NEURONAL CEROID LIPFUSCINOSIS. **Brant, Nicole\* and Wendy Boehmler.** (York College of Pennsylvania).
86. LOCALIZATION OF TGF-BETA IN BRAINS OF WILD TYPE AND TSP-KO MICE. **Bucher, Megan M., K-C-Ann Creque, Melissa L. Jones, and Valerie G. Kalter\*** Department of Biology. (Wilkes University).
87. EXPRESSION PATTERNS OF MATRIX METALLOPROTEINASES 14 AND 17 DURING SEA URCHIN DEVELOPMENT. **Lent, Nathan H,\* Katie A. Pokiniewski\*, and Eric P. Ingersoll.** (Department of Biology, Penn State Abington).
88. IDENTIFICATION OF A MAMMALIAN HOMOLOG TO AMPHIBIAN ALLURIN, A SPERM CHEMOATTRACTANT. **Harrison, Zachary\*, Jeffery Thompson, and Deborah Ricker.** (York College of Pennsylvania).
89. MICROARRAY AND REAL-TIME PCR ANALYSIS OF OVARIAN GENE EXPRESSION IN VITELLOGENESIS IN DROSOPHILA MELANOGASTER.

- Basti, Michael C.\***, **Margaret A. Gardner**, **Caitlin E. Clouser** and **David S. Richard**. (Susquehanna University).
90. RAB7 GTPASE ACTIVITY IS REGULATED BY JUVENILE HORMONE DURING VITELLOGENESIS IN DROSOPHILA MELANOGASTER. **Gardner, Margaret A.\*** and **David S. Richard**. (Susquehanna University).
91. THREE APPROACHES INVESTIGATING THE ROLE OF ALPHA-(1-3)-GLUCANASES FROM CRYPTOCOCCUS NEOFORMANS. **Fikes, Brittany\***,<sup>1</sup> **Brittany Symbol\***,<sup>1</sup> **Michelle LaClair\***,<sup>1</sup> **Christie Hay**,<sup>2</sup> **Sherri Rennoll**,<sup>3</sup> **Lindsay Horvath**,<sup>3</sup> and **Amy J. Reese**<sup>1</sup> (<sup>1</sup>Department of Biological Sciences, Cedar Crest College. <sup>2</sup>Duke Mycology Research Unit, Duke University Medical Center. <sup>4</sup>Department of Biochemistry and Molecular Biology, Penn State College of Medicine).
92. EFFECTS OF COPPER ON THE EXPRESSION OF THE CTR4 AND CUF1 GENES IN DIFFERENT STRAINS OF C. NEOFORMANS. **Attanasio, Nicholas\*** and **Jeramia Ory**. (King's College).
93. CLONING AND EXPRESSION OF THE COPPER SENSITIVE TRANSCRIPTION FACTOR CUF1P FROM CRYPTOCOCCUS NEOFORMANS. **Capozzelli, Regina\*** and **Jeramia Ory**. (King's College).
94. THE DETECTION OF SERINE-PROTEASE AUTOTRANSPORTERS OF ENTEROBACTERIACEAE (SPATES) WITHIN THE PHYLOGENETIC FRAMEWORK OF THE INVASIVE ESCHERICHIA COLI. **Longenecker, Darin\***, **Kimberly Simmons\***, and **Alyssa C. Bumbaugh**. (Shippensburg University).
95. THE INVESTIGATION OF REPETITIVE ELEMENT GENOME PROFILING TO DIFFERENTIATE BETWEEN ISOLATES OF THE PLANT PATHOGEN ERWINIA TRACHEIPHILA. **Belemou, Oumou**, **Katy Ryan**, **James A. Winsor\***, and **Alyssa C. Bumbaugh**. (Shippensburg University, Shippensburg, PA 17257, \*Pennsylvania State University - Altoona College).
96. SMALL SUBUNIT RIBOSOME GENE DIVERGENCE IN HALOSIMPLEX CARLSBADENSE IS AN ADAPTATION TO DIFFERENT GROWTH CONDITIONS. **Lewis, Dana\***, **Heather Stanley\***, **Morgan Boyer**, **Tami Myslewic**, and **David Dunbar**. (Cabrini College).
97. SCREENING FOR TEMPERATE PHAGES CONFERRING SELECTIVE ADVANTAGES TO THEIR HOSTS. **Jones, Gillian\*** and **Steven Mauro**. (Mercyhurst College).
98. ANALYSIS OF RESISTANCE PROTEINS PRODUCED BY TURFGRASS IN RESPONSE TO INFECTION BY THE BROWN PATCH DISEASE PATHOGEN, RHIZOCTONIA SOLANI. **Cuperman\***, **Tzvia** and **Shannon Nix**. (Clarion University of Pennsylvania).
99. DIFFERENTIAL GENE REGULATION IN JAPONICA AND INDICA RICE AND THEIR F1 HYBRIDS. **Grow, Casey**<sup>1</sup>, **Jai Shah**<sup>1,2</sup>, **Emily Debuck**<sup>1</sup>, **Michael**

**Ritsick<sup>1</sup>, Neil Kocher<sup>1</sup>, James Bird<sup>1</sup>, Mohamed Jalloh<sup>1</sup>, Xing-Wang Deng<sup>2</sup>, Terzaghi, William<sup>1,2</sup>.** (1: Wilkes University, 2: Yale University).

100. ANTISENSE TRANSCRIPTS OF LIGHT-REGULATED RICE GENES.  
**Kocher, Neil \*<sup>1</sup>, Jai Shah<sup>1,2</sup>, Michael Ritsick<sup>1</sup>, Emily Debuck<sup>1</sup>, Xing-Wang Deng<sup>2</sup>, Terzaghi, William<sup>1,2</sup>.** (1: Wilkes University, 2: Yale University).

## POSTER SESSION II

SATURDAY, APRIL 10

3:00-5:00 p.m.

### ORGANISMAL AND PHYSICAL SCIENCE

**Brad Rehnberg- Session Chair**

101. MICROSCOPIC STUDY OF THE CUTICULAR SETAE ON THE SECOND ANTENNAE OF MALE AND FEMALE ARTEMIA FRANCISCANA. **Zentz, Tiffany\* and Allan F. Wolfe.** (Biology Department, Lebanon Valley College).
102. BLOCKAGE OF PUPIL CONSTRICTION BY MERCURONIUM BROMIDE AT THE CILIARY GANGLION IN THE RED-EARED SLIDER TURTLE, TRACHEMYS SCRIPTA ELEGAN. **Schlitt, Meghan A.\* and James R. Dearworth Jr.** (Department of Biology and Neuroscience Program, Lafayette College).
103. THE EFFECTS OF WATER FLOW RATE AND SWIM TIME ON THE ESCAPE RESPONSE DISTANCE OF GOLDEN SHINERS (NOTEMIGONUS CRYSOLEUCAS). **Broking, Christopher\* and Brad Rehnberg.** (York College of Pennsylvania).
104. THE IMPACT OF THE THREAT OF PREDATION BY CICHLIDS (PETENIA SPLENDIDA) ON REPRODUCTION IN GUPPIES (POECILIA RETICULATA). **Bauernfeind, Stephanie\* and Bradley Rehnberg.** (York College of Pennsylvania).
105. AGGRESSIVE BEHAVIORS IN ADULT MALE AND FEMALE ROCIO OCTOFASCIATA AND THE EMERGENCE OF AGGRESSION IN JUVENILES. **Mogle, Catherine A.\*, Katherine A. Kemmerer\*, Sonia R. Weimann, and Audrey J. Ettinger.** (Cedar Crest College).
106. IMPACT OF IMPAIRED PHEROMONE DETECTION ON COURTSHIP BEHAVIOR IN DROSOPHILA MELANOGASTER. **Dalious, Brielle\*, Kristin Bowman\*, Magen Hutson\*, Dale Haupt and Sherri Bergsten.** (Department of Biology, Shippensburg University).
107. EFFECTS OF SEROTONIN AND LARVAL DENSITY ON SETTLEMENT AND METAMORPHOSIS OF THE POLYCHAETE ANNELID CAPITELLA TELETA. **Deats, Sean\*, Tylor Ricker, Licia Witt, Brittney Sines, and William J. Biggers.** (Wilkes University, Department of Biology).

108. TEMPERATURE EFFECTS ON THE SEASONAL POLYPHENISM FOR MELANIZATION OF PAPILIO POLYXENES LARVAE. **Ditzler, Bobbie\***, **Brad E. Engle** and **Deborah Austin**. (Department of Physical and Life Sciences, Wilson College).
109. RAPID COLD HARDENING IN DROSOPHILA MELANOGASTER: ECOLOGICAL SIGNIFICANCE AND PHYSIOLOGICAL PERFORMANCE. **Omar, Roy\*** and **Michael A. Elnitsky**. (Department of Biology, Mercyhurst College).
110. ENVIRONMENTAL TRIGGERS FOR THE ACQUISITION OF FREEZE TOLERANCE AND ENHANCED ANTIOXIDANT CAPACITY IN THE GOLDENROD GALL FLY, EUROSTA SOLIDAGINIS. **Magestro, Leanne\*** and **Michael A. Elnitsky**. (Department of Biology, Mercyhurst College).
111. INVESTIGATING THE NATURE OF COLD INJURY AND CELLULAR REPAIR MECHANISMS IN INSECTS. **Coello, Litza\*** and **Michael A. Elnitsky**. (Department of Biology, Mercyhurst College).
112. LIFE AT LOW TEMPERATURES: ANTIOXIDANT CAPACITY AND OXIDATIVE STRESS IN THE FREEZE-TOLERANT WOLLY BEAR CATERPILLAR. **Nedley, Michalle\*** and **Michael A. Elnitsky**. (Department of Biology, Mercyhurst College).
113. SUBUNIT EXCHANGE BETWEEN OLIGOMETRIC COMPLEXES OF ZEA MAYS SMALL HEAT SHOCK PROTEIN, ZMHSP17.0, USING FLUORESCENCE RESONANCE ENERGY TRANSFER. ( **Martin, Jennifer M.<sup>A\*</sup>**, **Richard Bouchard<sup>B</sup>**, **Virginia B. Pett<sup>B</sup>** **Hannah S. Tims<sup>A</sup>** (A: Messiah College, B: The College of Wooster).
114. THE USE OF HIGH-THROUGHPUT ISOTHERMAL TITRATION CALORIMETRY (HT-ITC) AND HIGH-THROUGHPUT DIFFERENTIAL SCANNING CALORIMETRY (HT-DSC) TO INVESTIGATE THE EFFECTS OF LIGAND BINDING ON DNA APTAMERS. **Diegelman-Parente, Amy** and **Andrew Catherine.\*** (Penn State Altoona, Altoona).
115. RATIONAL DESIGN OF A BIOLOGICAL SENSOR FOR ATP. **Diegelman-Parente\*, Amy, Bryan K. Koronowski, Kevin Patel** and **Dustin L. Yothers**. (Penn State Altoona).
116. PROGRESS IN THE SYNTHESIS OF 6-PHENYLMETHYL-4-HYDROXY-2-PYRONE AS AN ASPERNIGRIN A PRECURSOR. **Howard, Derek\***, **Caitlin McMahan\***, **Anne Reeve**. (Messiah College).
117. ISOLATION OF PIGMENTS FROM THE FRUITING BODIES OF OMPHALOTUS ILLUDENS. **De Young, Naomi\***, **Anne Reeve**. (Messiah College).
118. GLOW-DISCHARGE PLASMA AS A SYNTHETIC METHOD FOR NANOCRYSTALLINE NON-MOLECULAR METAL OXIDES. **Shirar, Amanda, Amy Silva, Clair Fleeger, Matt Dorsey, Ryan Edwards, and Richard W. Schaeffer.\*** (Department of Chemistry and Biochemistry, Messiah College).

119. SYNTHESIS AND STABILITY OF STOICHIOMERS IN THE COPPER (II) HYDROXYNITRATE MINERAL SYSTEM: A STUDY OF LIKASITE, ROUAITE, AND GERHARDTITE. **Martin, Katrina, Jonathan Lorgunpai, and Richard W. Schaeffer.\*** (Department of Chemistry and Biochemistry, Messiah College).
120. STUDY OF METAL-MEDIATED BARBIER ALLYLATION REACTIONS IN IONIC LIQUIDS. **Petrone, Adam \***, and **Renuka Manchanayakage.** (Susquehanna University).
121. GEOPHYSICAL RESISTIVITY APPARATUS TO INVESTIGATE SEPTIC PLUME DISPERSION ON THE VENCH SCALE AND IN THE FIELD. **Stepanik, Nicholas E\*, Ahmed Lachhab** and **Derek J. Straub.** (Susquehanna University).
122. THE BIO-ACCUMULATION OF MERCURY IN FISH SCALES. **Janzen, Christopher\*, Patricia L. Henegan, and Brian Mangan.** (Susquehanna University).
123. DETECTABLE LIMITS OF BLOOD USING LUMINOL FOLLOWING EXPOSURE TO THE EXTREME HEAT OF FIRE. **Williams, Capulet\*, Deborah S. Austin,** and **Catherine Santai.** (Department of Physical and Life Sciences, Wilson College).
124. PSEUDOMONAS SYRINGAE AS A DISTRIBUTOR AND VECTOR FOR ESCHERICHIA COLI IN SPINACEA OLERACEA. **Davies, Susan\*, Brad E. Engle** and **Laura Altfeld.** (Department of Physical and Life Sciences, Wilson College).
125. FREQUENCY OF ANTIBIOTIC RESISTANT ENTERIC BACTERIA IN THREE POPULATIONS OF DOMESTICATED HORSES IN CLARION COUNTY, PA. **Blair\*, Jordan** and **Shannon Nix.** (Clarion University of Pennsylvania).

### POSTER SESSION III

SUNDAY, APRIL 11

10:00 a.m. - 12:00 noon

ECOLOGY

**Carlos Iudica, Session Chair**

126. PRELIMINARY ANALYSIS OF A MEGACRYOMETEROR RECOVERED FROM AN IMPACT IN YORK COUNTY OCTOBER 2008. **Singleton, David R.\*, William E. Kreiger,** and **Jason M. Kreiger.** (York College of Pennsylvania).
127. IS WASHING SEDIMENTS ON A MICRO-MESH A SOLUTION TO ACCURATELY PORTRAIT STRUCTURE AND COMPOSITION OF VERTEBRATE PALEOCOMMUNITIES? **Tanis, Brian P.\*** and **Carlos A. Iudica.** (Susquehanna University).

128. RECONSTRUCTION OF VERTEBRATE PALEOCOMMUNITIES FROM A CAVE IN CENTRAL PENNSYLVANIA. **Tanis, Brian P.\***, and **Carlos A. Iudica**. (Susquehanna University).
129. SMALL MAMMALS IN CENTRAL PENNSYLVANIA: IS THREE YEARS ENOUGH? **Clinton, Christopher O.\*** and **Carlos A. Iudica**. (Susquehanna University).
130. WHAT IS TRIGGERING THE EMERGENCE OF LITTLE BROWN BATS (MYOTIS LUCIFUGUS) IN CENTRAL PENNSYLVANIA? **Fidiam, Kathryn L.\*** and **Carlos A. Iudica**. (Susquehanna University).
131. FACTORS AFFECTING THE DISTRIBUTION OF HAIRY-TAILED MOLES AND EASTERN MOLES IN PENNSYLVANIA. **Hoffman, Michael J.\***, and **Howard P. Whidden**. (Department of Biological Sciences, East Stroudsburg University).
132. GENOTYPING NEW JERSEY BLACK BEARS (URSUS AMERICANUS) BY STATE MANAGEMENT ZONES. **Ombrello, Teresa A.\*<sup>1</sup>**, **Andrew S. Zellner<sup>2</sup>**, **Kelcey I. Burgess<sup>2</sup>**, and **Jane E. Huffman<sup>1</sup>**. (<sup>1</sup>East Stroudsburg University, <sup>2</sup>New Jersey Division of Fish and Wildlife).
133. PREVALENCE OF BABESIA SP. IN NORTH AMERICAN RIVER OTTERS (LONTRA CANADENSIS) IN PENNSYLVANIA AND NEW JERSEY. **Harle, Kimberly\***, **James Kauffman**. (East Stroudsburg University).
134. THE RELATIONSHIP BETWEEN HAEMOSPORIDIAN PARASITES IN SONG SPARROWS (MELOSPIZA MELODIA) ALONG AN URBAN GRADIENT. **Bartlow, Andrew\***, **Katie White**, and **Jeffrey A. Stratford**. (Wilkes University).
135. DIET OF COMMON BARN OWLS NESTING ON VERMEJO PARK RANCH, NORTHEASTERN NEW MEXICO. **Klomps, Lawrence V.\*** and **Christopher B. Goguen**. (Science Program, Pennsylvania State University).
136. A STUDY OF RED-BELLIED TURTLES, PSEUDEMYR RUBRIVENTRIS, AT CODORUS STATE PARK (YORK COUNTY, PA). **Harabin, Richard\*** and **Jessica K. Nolan**. (York College of PA).
137. FISH DIVERSITY IN SALT MARSH TIDAL POOLS AT WALLOPS ISLAND, VIRGINIA, USA. **Koroncai\*, Bob** and **Pablo R. Delis**. (Shippensburg University).
138. IMPORTANCE OF TERRESTRIAL INVERTEBRATE INPUTS IN THE DIET OF APPALACHIAN BROOK CRAYFISH CAMBARUS BARTONII. **Helfrick, A.\***, **S. Chervenyak**, and **T. Light**. (Department of Biology, Shippensburg University).
139. IS THE INVASIVE NEW ZEALAND MUD SNAIL IN LAKE ST. CLAIR? **Bilka, Rachel H.\***, **Carol A. Opiela**, and **Edward P. Levri**. (Division of Math and Science, Penn State-Altoona).

140. AN EXAMINATION OF THE INFLUENCE OF SHELL ARMATURE IN THE GEOTACTIC BEHAVIOR OF A FRESHWATER SNAIL IN RESPONSE TO FISH PREDATORS. **Opiela, Carol A.\* and Edward P. Levri.** (Division of Math and Science, Penn State-Altoona).
141. IMPACT OF FLUOXETINE HYDROCHLORIDE ON AGGRESSION IN ZEBRAFISH (DANIO RERIO). **Wasik, Molly\* and Wendy Boehmler.** (York College of Pennsylvania).
142. TINKLE, TINKLE LITTLE DOG: HOW I WONDER IF QUANTITY, QUALITY, AND MASKING FACTORS INFLUENCE SIGNAL EFFICACY IN URINE-MARKING BEHAVIOR OF MALE DOMESTIC DOGS (CANIS FAMILIARIS). **Veverka, Laura\*, Britany Hufnagle, and Matthew Persons.** (Susquehanna University).
143. BACHELOR NUMBER ONE OR BACHELOR NUMBER TWO? EXAMINING THE EFFECTS OF MALE BODY CONDITIONS ON FEMALE MATING DECISIONS AND OFFSPRING SURVIVAL IN PARDOSA MILVINA (ARANEAE: LYCOSIDAE). **Sweger, Alex\* and Matthew Persons.** (Susquehanna University).
144. READING BETWEEN THE (DRAG) LINES: CAN MALE WOLF SPIDERS ASSESS FEMALE NUMBER, MALE COMPETITION, AND TEMPORAL ORDER OF SILK DEPOSITION BY SILK CUES ALONE? **Kohler, Neil\*, and Matthew Persons.** (Susquehanna University).
145. THE COST OF BEING AN OVERSEXED WOLF SPIDER: MALES THAT COURT AND COPULATE LONGER DIE YOUNG. **Procopio, Rachel\*, Alex Sweger, and Matthew Persons.** (Susquehanna University).
146. DOES MULTIPLE PREY LOADING IN BLUE JAYS RESULT IN SELECTIVE DISPERSAL OF SMALLER ACORNS? **Bartlow, A.\*, M. Kachmar, and M. A. Steele.** (Wilkes University).
147. MASTING IN OAKS (QUERCUS): DO RED OAK (SECTION LOBATAE) AND WHITE OAK (SECTION QUERCUS) EXHIBIT DIFFERENT MASTING STRATEGIES? **Otis, A.\* and M. A. Steele.** (Wilkes University).
148. DOES THE ENVIRONMENT AFFECT THE SIZE OF THE FEMALE GAMETOPHYTE IN ARABIDOPSIS THALIANA (L.) HEYNH ECOTYPES? **Amato, Dena\*, and Bruce B. Smith**
149. THE EFFECT OF CIRCA-NEUTRAL ABANDONED MINE DRAINAGE IN PULSE AND CONSTANT AMOUNTS ON THE DECOMPOSITION OF CATTAIL (TYPA LATIFOLIA) LEAVES. **Lutter, Robin M\* and Cynthia Walter, Ph.D..** (Biology Department, St. Vincent College)
150. WOODY PLANT COLONIZATION OF A RECLAIMED ANTHRACITE SURFACE MINE IN NORTHEASTERN PENNSYLVANIA. **Rizzardi, C.\*, E. Janosov\*, R. Mercatili\*, J. Akakpo, T. Ricker, J. Lor, P. Payne, and K. Klemow.** (Department of Biology, Wilkes University).

151. USE OF COMMUNITY-LEVEL PHYSIOLOGICAL PROFILING TO ACCESS THE IMPACT OF STRIP MINING ON MICROBIAL FUNCTIONAL DIVERSITY. **Weyandt\***, **Samantha** and **Shannon Nix**. (Clarion University of Pennsylvania).
152. THE ASSESSMENT OF ROCK BASKETS AS ARTIFICIAL SUBSTRATE SAMPLERS FOR BENTHIC MACROINVERTEBRATES: NATIVE ROCK AND LIMESTONE IN A LARGE RIVER SYSTEM, THE SUSQUEHANNA RIVER AT BYERS ISLAND. **Kilmer, John A. \***, **Renae E. Marshall\***, **Mike D. Bilger**, and **Jack R. Holt**. (Susquehanna University).
153. DIAGNOSTICS OF DIATOM AND PERIPHYTON PROTOCOLS: SCRAPED VERSUS UNSCRAPED SLIDES. **Campbell, Scott M\*. , Austin W. Sorchik\***, and **Jack R. Holt**. (Susquehanna University).
154. DETAILED MACROINVERTEBRATE, CHEMICAL ANALYSIS AND COMMUNITY ATTITUDE STUDIES OF CRABBY CREEK, POST-STREAM RESTORATION. **Cusmiani, Matt, Neil Gogno, Ryan Pashley, Melissa Phillips\***, **Amanda Rosica, Cynthia McGauley, Caroline Nielsen, Melissa Terlecki, Kristen Travers, Susan Gill and David Dunbar**. (Cabrini College).
155. THE EFFECT OF INCREASING SALT CONCENTRATIONS ON THE GROWTH RATE OF SPOROSARCINA PASTEURII. **aber, Melissa\* and Laurie F. Caslake**, (Lafayette College).
156. THE PRESENCE, DISTRIBUTION, AND IMPACT OF CHEMICALS OF CONCERN IN THE BEACH WATERS OF PRESQUE ISLE STATE PARK. **Clark, Eric\***, **Ryan Hindman, Kendall Greene\***, **Matt Lieberman, Steven Lovewell\***, **Surafel Mulugeta\***, **Adam Olszewski\***, and **Steven Mauro**. (Mercyhurst College).
157. WATER QUALITY ANALYSIS OF THE GOLDEN TRACT WEST WETLAND MITIGATION AT NEW BRITTANY. **Braightmeyer, Kelli\***, and **Bruce B. Smith**. (York College of Pennsylvania).
158. OPTIMIZATION OF ENERGY USE BASED ON ENVIRONMENTAL AND ECONOMIC CRITERIA. **Corel, Brett\*** and **Wes Grebski**. (Penn State Hazleton).
159. HHMI INTEGRATIVE LABORATORY "SUPERLAB" EXPERIENCE FOR POST-SOPHOMORE BIOLOGY MAJOR. **Gutierrez, L., V. Kalter, K. Klemow\***, **W. Terzaghi, and M. Steele**. (Biology Department, Wilkes University).