Widener University: Institutional Animal Care and Use Committee
Project Application Form

1. Name and Department of Applicant (faculty member or course instructor): Drs. Bruce Grant and Itzick Vatnick

Students: Kat Constance, Jon Schiavi and Krista Bonhert

2. Title of Project: Allometric Comparison of Metabolic rates at the Muscle Level in Spot (Leiostomus xanthurus) and Croaker (Micropogonias undulates)

3. Is this a new application, revision or renewal? New application

   Date and approval number of last application? n/a

4. If this is a course project, please indicate:

Course Name and Number	Instructors	Estimated Enrollment
Biology 401, fall 2003	Itzick Vatnick and Bruce Grant	16

5. Dates of Project (1 Year): 2003

   From: October 7, 2003 To: December 15, 2003

6A. Statement of qualification of applicant. Provide a biographical statement of the experience and training of applicant for the procedures described below. (n/a see Vatnick)

6B . Names and positions of persons (e.g. students) authorized by the applicant to participate in the procedures described below. Also, name the person responsible for instruction in the care and use of laboratory animals of each research participant.

Name	Title	Instruction in Animal Handling by:
Kathryn Constance	Student	Itzick Vatnick
Jon Schiavi	Student	Itzick Vatnick
Krista Bonhert	Student	Itzick Vatnick

7A. If this is a research project, supply an abstract of the project. Abstract should be written in terms understandable by a non-scientist. Describe the overall purpose of the project and the importance of the research.

Not a research project

7B. If this is a course project, provide a course description. Also, append a copy of the syllabus of the course. (See Vatnick)

8. Give the specific reasons why live animals must be used for this study. Are alternative methods available (e.g. computer simulations, cell or tissue culture)? If so, why are they not used?

We will be using live tissue samples, which will be obtained from another group that is using the same species of fishes. We will be measuring oxygen consumption, which can only be done in live tissue.

9A. Animals to be used in this protocol. Numbers used may be estimates. If needed, base estimates on usage in previous years.

Species/Strain	No. / Year	Sex	Age	Weight
Spot (Leiostomus xanthurus)	4	n/a	6 mos- 1 ½ years	100-500g
Croaker (Micropogonias undulates)	4	n/a	6 mos- 1 ½ years	100-500g

9B. How are the animals obtained? Where and how are they housed?

They were obtained from a hatchery and are currently being kept in Kirk 500 in a large aquarium.

9. Provide complete details on each procedure involving the species listed under section 9A. The description of each procedure should supply the category of animal utilization (see appendix). If drugs or anesthetics are to be used, provide dosage and duration of treatment. As appropriate, identify all aspects of post-procedural care, including euthanasia, and describe procedures for identification and intervention in the care and use of animals if painful or stressful outcomes are anticipated. For course projects, refer to the course syllabus as possible.

We are receiving our tissue samples from a group that will have previously killed the fish. Therefore, we will not be involved in taking the life of any fish. Instead, we will use tissue samples, which will be kept active in a physiological saline solution on ice.

11. I hereby certify that the above information is accurate. The care and use of animals proposed will abide by the National Research Council guidelines published in the *Guide for the Care and Use of Laboratory Animals*.

Name Kathryn Constance Title student
Krista Bonhert Title student
Jon Schiavi Title student

Signature_____ Date_____

The signature of the Associate Dean of Science is required.

Name Marc Brodkin Title Associate Dean of Science

Signature_____ Date_____

APPENDIX

CATEGORIES OF USE LEVEL FOR APPLICATIONS UTILIZING VERTEBRATE ANIMALS IN RESEARCH TESTING AND INSTRUCTION.

CATEGORY A - Experiments on vertebrate animal species that are expected to produce little or no discomfort.

Mere holding of animals captive for experimental purposes; simple procedures such as injections of relatively harmless substances; blood sampling; physical examinations; food/water deprivation for shore periods (a few hours); standard methods of euthanasia that induce rapid unconsciousness, such as anesthetic overdose or decapitation preceded by sedation or light anesthesia.

CATEGORY B - Experiments that involve some minor stress or pain (short-duration pain) to vertebrate animal species.

Experiments on completely anesthetized animals which do not regain consciousness; with anesthesia and subsequent recovery, exposure of blood vessels or implantation of chronic catheters behavioral experiments on awake animals that involve short-term stressful restraint; immunization employing Freund's Adjuvant; noxious stimuli from which escape is possible; major surgical procedures under anesthesia that result in post-operative discomfort that is treated with analgesics. Category B procedures incur additional concern in proportion to the degree and duration of unavoidable stress or discomfort.

CATEGORY C - Experiments that involve significant but unavoidable stress or pain to vertebrate animal species.

Deliberate induction of behavioral stress in order to test its effect; major surgical procedures under anesthesia that result in significant post-operative discomfort that is not treated with analgesics; induction of an anatomical or physiological deficit that will result in pain or distress; application of noxious stimuli from which escape is impossible for prolonged periods (up to several hours or more) or physical restraint; maternal deprivation with substitution of punitive surrogates; induction of aggressive behavior leading to self-mutilation or intra-species aggression; procedures that produce pain in which anesthetics are not used, such as toxicity testing with death as an end point, production of radiation sickness, certain injections, and stress and shock research that would result in pain approaching the pain tolerance threshold, i.e. the point at which intense emotional reactions occur. Category C experiments present an explicit responsibility on the investigator to explore alternative designs to ensure that animal distress is minimized or eliminated.

CATEGORY D - Procedures that involve inflicting severe pain near, at, or above the pain tolerance threshold of unanesthetized conscious animals.

Use of muscle relaxants or paralytic drugs such as succinyl choline or other curariform drugs used alone or surgical restrain without the use of anesthetics; severe burn or trauma infliction on unanesthetized animals; attempts to induce psychotic-like behavior; killing by use of microwave ovens designed for domestic kitchens or by strychnine; inescapably severe stress or terminal stress.