

**Application for a Curriculum Development Grant  
Designing an *Introductory Environmental Studies* Course for Davidson College**

**Submitted by (in alphabetical order):  
Dr. Dave Martin, Professor of Economics  
Dr. Chris Paradise, Associate Professor of Biology  
Dr. Pat Peroni, Associate Professor of Biology**

*Abstract:* This proposal is one of three (two *Curriculum Development Grants* and one small grant) to fund development of two team-taught environmental studies courses at Davidson College, one introductory course (this proposal) and one senior-level course. A new funding initiative at the College supports team-teaching courses, and ACS support of these three proposals would permit Davidson faculty to submit competitive proposals for the opportunity to offer the two environmental studies courses.

## **1. Introduction**

*Goals for an Introductory Environmental Studies course:* Student enrollment in discipline-specific environmentally-related courses at Davidson College is very high, but there are only limited opportunities for students to study environmental issues in interdisciplinary ways. The outcome of this project will be the development of an introductory-level environmental studies course team-taught by one member of the humanities faculty, one member of the natural sciences and mathematics faculty, and one member of the social sciences faculty. The pedagogical purpose of the course will be to demonstrate the necessity and process of interdisciplinary synthesis in identifying, studying, and resolving environmental issues through the analysis of an environmental studies canon. We intend this objective to build upon the College's liberal arts foundation and traditions by preparing the students to think critically about other disciplines' perspectives as they consider environmental issues from the narrow lenses of their future discipline-specific coursework.

*Justification for an Introductory Environmental Studies course:* For longer than any one of us has been associated with Davidson College (22 years), there has been some faculty effort to create a formal environmental studies program. Lacking that structure, the two primary options for students interested in environmental studies are to develop an individualized major through our Center for Interdisciplinary Studies or to select a traditional major and to take additional environmentally-related coursework as electives. While both of these options are satisfactory in some regards, both leave the learning of the interdisciplinarity inherently involved in environmental issues to the student and to the individualized quirks of their academic planning. There is no organized, coherent way for students to learn that fundamental concept early in their academic careers. All Davidson teachers of environmentally-related courses have stories of seniors majoring in a different discipline who say, "I wish that I would have learned this way of thinking about the material earlier." This course addresses that problem by having three faculty members teach the same material from the different perspectives of their areas (humanities, natural sciences, and social sciences) to introductory-level students. The course will prepare them to study environmental issues much more effectively and much earlier in their academic career than the scheduling happenstance permits today.

*Match with listed priorities:* This proposal clearly matches three of the six funding priorities listed in the request for grant proposals: the course will focus on the environment (first priority), it creates an interdisciplinary course (third priority), and the course has not previously received funding (the fifth). In addition, most of the involved faculty members have not previously received CFD funding (the sixth priority) and the course will discuss global environmental issues (tangentially related to the second priority). But, it obviously does not fill a void in an existing environmental studies program (the fourth priority).

## **2. Description of the development of an *Introductory Environmental Studies* course**

*Activities and Timetable:* At the April 4, 2006, Faculty Meeting, the Vice President for Academic Affairs (VPAA) announced that The Duke Endowment has agreed to fund an expansion of Davidson's team-teaching efforts. More details about this program have come subsequently. Specifically, the VPAA's office would be able to provide financial support to individual departments to replace faculty team-teaching courses; such support has not been available before, which greatly limited the availability of faculty members to team-teach interdisciplinary environmental studies courses. The VPAA will support a limited number of courses from applications due September 1, 2006; applications must come from department chairs who have signed off on them, not from (teams of) individual faculty members. Our goal is to develop a competitive course proposal by August 1, so that it can be approved by the appropriate department chairs and forwarded to the VPAA by September 1.

This project will develop within "a large group and two small groups" context. The large group consists of all faculty interested in environmental studies (the subject of a small funds grant<sup>1</sup>), while the two small groups each consist of three faculty members focused on developing an environmental studies course: this introductory level course and a senior-level course (the subject of a second Curriculum Development Grant proposal<sup>2</sup>). This introductory-level course development would be led by Dr. Chris Paradise (Biology) along with Dr. Annie Ingram (English) and Dr. Gayle Kaufman (Sociology).

First, these three faculty members will meet to develop the broad strokes of the introductory-level environmental studies course (as will the faculty members developing the senior-level course). Second, the two small groups will present these initial ideas to the larger faculty group for discussion and feedback. Then, the small group will revise their ideas and bring them back to the large group again; the resulting revisions would then be presented to the large group a third time as a reasonably finalized product.

This feedback cycle will be important for several reasons. Of course, there is the obvious

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<sup>1</sup> These faculty include (in alphabetical order and excluding those involved in the two Curriculum Development Grant proposals): Dr. David Brown (Chemistry), Dr. Larry Cain (Physics), Dr. Scott Denham (German and CIS Director), Dr. Cindy Hauser (Chemistry), Dr. Peter Hess (Economics), Dr. Carol Higham (Humanities), Dr. Fuji Lozada (Anthropology), Dr. Andy Lustig (Religion), Dr. Lynn Poland (Religion), Dr. Bill Ringle (Anthropology), Dr. Susan Roberts (Political Science), Dr. Brian Shaw (Political Science), Dr. Mark Stanback (Biology), and Dr. Michael Tomazou (Classics).

<sup>2</sup> Dr. Pat Peroni (Biology) would lead the development of the senior-level course along with Dr. Dave Martin (Economics) and Dr. Lynn Poland (Religion).

pedagogical goal of ensuring that the final product is based on a canon that we collectively agree allows the most important issues to be viewed from as wide a perspective as possible. A less obvious, but equally important goal is to ensure that enough faculty members are excited about the course that we could rotate a variety of faculty members through teaching it and so offer it on an annual basis.

*Budget and justification:* The development of this course would be easy to start, but difficult to consummate. That is, there are several existing models of such courses (including a 2005 CIS thesis) from which we can draw initial ideas of the components of a canon, teaching styles (lecture-discussion, seminar, field work), and assignments. The hard work will come in winnowing those ideas down into a coherent course that makes sense in the Davidson context.

Given the Small Funds Grant proposal and the other Course Development Grant proposal, the proposed budget is straight-forward:

- Summer stipend of \$1,000 for Dr. Chris Paradise (Biology),
- Summer stipend of \$1,000 for Dr. Annie Ingram (English), and
- Summer stipend of \$1,000 for Dr. Gayle Kaufman (Sociology).

These funds will support these faculty members in taking time from their other professional activities at this short notice to pursue this exciting, once-in-a-Davidson-career opportunity.

### **3. Evaluation and Dissemination of an *Introductory Environmental Studies* course**

The success of this project will be easy to discern: the student demand for enrollment and the faculty demand to join in the teaching of this course. At this point in time, we envision that the course would be offered first in the spring semester of 2007 and again in the fall semester of 2007. We would then offer it on a regular basis every fall semester. We intend to offer the course through our Center for Interdisciplinary Studies (CIS), which is important for two reasons. First, that “home” clearly signals the goal of teaching the interdisciplinary nature of environmental studies. Second, as a logistical simplification, a CIS course doesn’t require approval by the entire faculty the first three times it is offered (although it requires approval by the Center Director and would have been approved by the relevant department chairs and the VPAA). During spring 2008 we would begin the process of official faculty approval for a CIS course that would be permanently listed in the College Catalog.

With respect to dissemination, we politely suggest that our celebration of the first course meeting will be loud enough to be heard throughout the ACS region. Of course, as with all Davidson courses, information about the course would be available through the College’s web pages and could easily be linked to ACS web pages. Further, in whatever context the ACS brings together teachers of introductory environmental studies courses, we will have a pool of teachers of our course to offer as participants in those discussions so as to share what we have learned with others schools and we can learn from their experiences.

**The following aspects apply to all three proposals (two *Curriculum Development Grants* and one *A.C.S. Small Grant*) and so will be presented only once.**

#### **4. Institutional Approval**

The institutional approval will be emailed to:

Dr. Elizabeth McNabb  
Director of Environmental Programs  
Email: emacnabb@colleges.org  
Phone: (859) 238-6234

by:

Dr. Clark Ross  
Vice President for Academic Affairs and Dean of the Faculty, Davidson College  
Email: cross@davidson.edu  
Phone: (704) 894-2204.

#### **5. Disclosure Statement**

- Dr. Dave Martin will be the Resident Director of the Semester in India program. On-campus orientation for that program begins on August 19, followed by departure for India on August 23.
- Dr. Chris Paradise is working under a 3-year (August 2003 – August 2006) N.S.F. grant during which he will be supervising the research conducted by three students on the Davidson College campus.

#### **6. Curriculum vitae**

The curriculum vitae for Dr. Martin, Dr. Paradise, and Dr. Peroni are attached to the end of this document.

**Application for a Curriculum Development Grant  
Designing a Senior-Level Environmental Studies Course for Davidson College**

**Submitted by (in alphabetical order):  
Dr. Dave Martin, Professor of Economics  
Dr. Chris Paradise, Associate Professor of Biology  
Dr. Pat Peroni, Associate Professor of Biology**

*Abstract:* This proposal is one of three (two *Curriculum Development Grants* and one small grant) to fund development of two team-taught environmental studies courses at Davidson College, one introductory course and one senior-level course (this proposal). A new funding initiative at the College supports team-teaching courses, and ACS support of these three proposals would permit Davidson faculty to submit competitive proposals for the opportunity to offer the two environmental studies courses.

## **1. Introduction**

*Goals for a Senior-Level Environmental Studies course:* Student enrollment in discipline-specific environmentally-related courses at Davidson College is very high, but there are only limited opportunities for students to study environmental issues in interdisciplinary ways. The outcome of this project will be the development of a small (a dozen students) senior-level environmental studies seminar team-taught by one member of the humanities faculty, one member of the natural sciences and mathematics faculty, and one member of the social sciences faculty. The course's pedagogical purpose will be to help students who have achieved senior-level standing in a variety of different disciplines learn from each other and the interdisciplinary faculty team in a seminar focused on themes drawn from a single focus (currently, Jared Diamond's *Collapse*<sup>3</sup>). The key point will be to have the students define and investigate questions that flow from that topic and push them to understand how disciplines other than theirs' contribute to the asking and answering of environmentally important questions. In contrast to an introductory-level course, here we will count on the students' senior-level standing to help them teach their peers when appropriate; we can also exploit their senior-level maturity as an asset in helping them learn difficult concepts from their peers and the faculty. The active learning we envision will help to draw their undergraduate work to an appropriate conclusion and set the stage for their post-Davidson careers.

*Justification for a Senior-Level Environmental Studies course:* For longer than any one of us has been associated with Davidson College (22 years), there has been some faculty effort to create a formal environmental studies program. Lacking that structure, the two primary options for students interested in environmental studies are to develop an individualized major through our Center for Interdisciplinary Studies or to select a traditional major and to take additional environmentally-related coursework as electives. While both of these options are satisfactory in some regards, neither brings the interested students and faculty together into a rigorous, interdisciplinary discussion of environmental issues. Current discussions necessarily need to be

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<sup>3</sup> The choice of *Collapse: How Societies Choose to Fail or Succeed* will not be a static focus. As noted below, we will create a structure that will facilitate changing that focus over time.

open to all, which limits the capability of the discussion leaders to productively push all of the participants as hard as possible. This seminar is intended to hone the students' understanding of their "home" discipline's role in environmental debates as well as to be able to participate actively in (instead of simply appreciating) discussions involving a variety of other disciplines.

*Match with listed priorities:* This proposal clearly matches three of the six funding priorities listed in the request for grant proposals: the course will focus on the environment (first priority), it creates an interdisciplinary course (third priority), and the course has not previously received funding (the fifth). In addition, most of the involved faculty members have not previously received CFD funding (the sixth priority) and the course will discuss global environmental issues (tangentially related to the second priority). But, it obviously does not fill a void in an existing environmental studies program (the fourth priority).

## **2. Description of the development of a *Senior-Level Environmental Studies* course**

*Activities and Timetable:* At the April 4, 2006, Faculty Meeting, the Vice President for Academic Affairs (VPAA) announced that The Duke Endowment has agreed to fund an expansion of Davidson's team-teaching efforts. More details about this program have come subsequently. Specifically, the VPAA's office would be able to provide financial support to individual departments to replace faculty team-teaching courses; such support has not been available before, which greatly limited the availability of faculty members to team-teach interdisciplinary environmental studies courses. The VPAA will support a limited number of courses from applications due September 1, 2006; applications must come from department chairs who have signed off on them, not from (teams of) individual faculty members. Our goal is to develop a competitive course proposal by August 1, so that it can be approved by the appropriate department chairs and forwarded to the VPAA by September 1.

This project will develop within "a large group and two small groups" context. The large group consists of all faculty interested in environmental studies (the subject of a small funds grant<sup>4</sup>), while the two small groups each consist of three faculty members developing this senior-level course and an introductory-level environmental studies course (the subject of a second Curriculum Development Grant proposal<sup>5</sup>). This senior-level course development would be led by Dr. Pat Peroni (Biology) along with Dr. Lynn Poland (Religion), and Dr. Dave Martin (Economics).

First, these three faculty members will meet to develop the broad strokes of a senior-level environmental studies course (as will the faculty members developing the introductory course). Second, the two small groups will present these initial ideas to the larger faculty group for discussion and feedback. Then, the small group will revise their ideas and bring them back to

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<sup>4</sup> These faculty include (in alphabetical order and excluding those involved in the two Curriculum Development Grant proposals): Dr. David Brown (Chemistry), Dr. Larry Cain (Physics), Dr. Scott Denham (German and CIS Director), Dr. Cindy Hauser (Chemistry), Dr. Peter Hess (Economics), Dr. Carol Higham (Humanities), Dr. Fuji Lozada (Anthropology), Dr. Andy Lustig (Religion), Dr. Lynn Poland (Religion), Dr. Bill Ringle (Anthropology), Dr. Susan Roberts (Political Science), Dr. Brian Shaw (Political Science), Dr. Mark Stanback (Biology), and Dr. Michael Tomazou (Classics).

<sup>5</sup> Dr. Chris Paradise (Biology) would lead the development of the introductory-level course along with Dr. Annie Ingram (English), and Dr. Gayle Kaufman (Sociology).

the large group again; the resulting revisions would then be presented to the large group a third time as a reasonably finalized product.

This feedback cycle will be important for several reasons. First, it is crucial that we develop as broad a set of interesting questions drawn from *Collapse* as possible. Second, this process will be important to etch into our institutional memory; after some point we will switch from *Collapse* to another focus, and we will want to develop an effective, inclusive model for selecting that focus and questions from it. Third, we will want to ensure that enough faculty members are excited about the course that we could rotate a variety of faculty members through teaching it and so offer it on an annual basis.

*Budget and justification:* In some senses, the development of this course sounds like a straight-forward exercise as there are now numerous reviews and investigations of *Collapse* to draw upon. Still, the development of this course will be a very interesting pedagogical exercise. It will necessarily involve taking course time away from the instructor and giving it to the students (the hallmark of any seminar), selecting a few themes from the many possible (the nature of any course creating student exploration rather than simple discussion), and integrating in-depth discussions of unfamiliar territory (to meet our senior-level interdisciplinary emphasis).

Given the Small Funds Grant proposal and the other Course Development Grant proposal, the proposed budget is straight-forward:

- Summer stipend of \$1,000 for Dr. Pat Peroni (Biology),
- Summer stipend of \$1,000 for Dr. Lynn Poland (Religion), and
- Summer stipend of \$1,000 for Dr. Dave Martin (Economics).

These funds will support these faculty members in taking time from their other professional activities at this short notice to pursue this exciting, once-in-a-Davidson-career opportunity.

### **3. Evaluation and Dissemination of a *Senior-Level Environmental Studies* course**

The success of this project will be easy to discern: the student demand for enrollment and the faculty demand to join in the teaching of this course. At this point in time, we envision that the course would be offered first in the spring semester of 2008<sup>6</sup> and every spring semester thereafter. We intend to offer the course through our Center for Interdisciplinary Studies (CIS), which signals the course's interdisciplinary nature. Further, as a logistical simplification, a CIS course doesn't require approval by the entire faculty the first three times it is offered, so we could begin the process of obtaining official faculty approval in fall 2008 for a permanent CIS course after building upon that initial teaching experience.

With respect to dissemination, as with all Davidson courses, information about the course would be available through the College's web pages and could easily be linked to ACS web pages. Further, in whatever context the ACS brings together teachers of environmental studies courses, we will have a pool of teachers of our course to offer as participants in those discussions so as to share what we have learned with others schools and we can learn from their experiences.

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<sup>6</sup> This delay allows the introductory course to be offered twice before this one is offered, so we would have a large pool of students who already understand the fundamental interdisciplinarity of environmental studies. The delay also eases the burden imposed by up coming faculty leaves and sabbaticals upon the pool of interested teachers.

**Application for an A.C.S. *Small Grant***  
**Designing Two Environmental Studies Courses for Davidson College**

**Submitted by (in alphabetical order):**  
**Dr. Dave Martin, Professor of Economics**  
**Dr. Chris Paradise, Associate Professor of Biology**  
**Dr. Pat Peroni, Associate Professor of Biology**

*Abstract:* This proposal is one of three (two *Curriculum Development Grants* and this small grant) to fund development of two team-taught environmental studies courses at Davidson College, one an introductory course and one senior-level course. A new funding initiative at the College supports new team-teaching courses, and ACS support of these three proposals would permit Davidson faculty to submit competitive proposals for the opportunity to offer the two new courses.

***Goals for this grant:*** As noted in the two *Curriculum Development Grant* proposals, we have a once-in-a-Davidson-career opportunity to solicit funding to support the team teaching of new courses. We are responding to that challenge by developing an introductory environmental studies course and a senior-level environmental studies course. This proposal solicits funds to support a large group of interested faculty to meet over lunch and provide feedback to the small groups developing the specific course proposals.

***Project Description:*** The timetable for this opportunity calls for a very quick turn-around. At the April 4, 2006, Faculty Meeting, the Vice President for Academic Affairs (VPAA) announced that The Duke Endowment has agreed to fund an expansion of Davidson's team-teaching efforts. More details about this program have come subsequently. Specifically, the VPAA's office would be able to provide financial support to individual departments to replace faculty team-teaching courses; such support had not been available before, which greatly limited the availability of faculty members to team-teach interdisciplinary environmental studies courses. The VPAA will support a limited number of courses from a pool of applicants due September 1, 2006; applications must come from department chairs who have signed off on them, not from (teams of) individual faculty members. Our goal is to develop two competitive course proposals by August 1 so that they can be approved by the appropriate department chairs and forwarded to the VPAA by September 1.

We will pursue developing these courses within "a large group and two small groups" context. The large group consists of all faculty interested in environmental studies (the subject of this small funds grant<sup>7</sup>), while the two small groups each consist of three faculty members focused on developing one of the two environmental studies courses<sup>8</sup> (the subject of the two

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<sup>7</sup> These faculty include (in alphabetical order and excluding those involved in the two Curriculum Development Grant proposals): Dr. David Brown (Chemistry), Dr. Larry Cain (Physics), Dr. Scott Denham (German and CIS Director), Dr. Cindy Hauser (Chemistry), Dr. Peter Hess (Economics), Dr. Carol Higham (Humanities), Dr. Fuji Lozada (Anthropology), Dr. Andy Lustig (Religion), Dr. Lynn Poland (Religion), Dr. Bill Ringle (Anthropology), Dr. Susan Roberts (Political Science), Dr. Brian Shaw (Political Science), Dr. Mark Stanback (Biology), and Dr. Michael Tomazou (Classics).

<sup>8</sup> Dr. Chris Paradise (Biology), Dr. Annie Ingram (English), and Dr. Gayle Kaufman (Sociology) will develop the

*Curriculum Development Grants*).

First, each team of three faculty members will meet to develop the broad strokes of their courses. Second, the two teams will present these initial ideas to the larger faculty group for discussion and feedback. Then, the small groups will revise their ideas and bring them back to the large group a second time. After another round of revisions, the third gathering would be for discussion of two reasonably finalized products.

Summarizing what is in the two *Curriculum Development Grant* proposals, this feedback cycle will be important for several reasons. One pedagogical goal is to ensure that the introductory course is based on a canon that we collectively agree allows the most important issues to be viewed from as wide a perspective as possible. Similarly, we want to develop as broad a set of interesting questions drawn from *Collapse* as possible. Further, for both courses, we want to ensure that enough faculty members are excited about them that we could rotate a variety of faculty members through teaching them and so offer them on an annual basis.

***Budget and justification:*** This proposal seeks funds to buy the interested faculty lunch as a simple reward for taking time away from other opportunities. Since we must solicit the feedback over the summer, it is doubtful that all interested faculty will be able to attend all three large group meetings so we are requesting funds to support buying three lunches for twelve faculty members at a time. According to Davidson's Catering Office<sup>9</sup>, nice luncheon salads or sandwiches can be purchased for just under \$14 per person including delivery charges. So, we request \$500 to fund such meals for twelve people three times.<sup>10</sup>

***Evaluation and Dissemination:*** This proposal will be successful if two courses can be developed for submission to the relevant department chairs. Note that this sets a lower bar than the standard for the two *Curriculum Development Grant* proposals. Information about these proposed courses could be disseminated across the ACS regardless of whether the offerings are approved by the relevant department chairs or selected for Duke Endowment funding by the VPAA. If the courses do pass both of these hurdles, then information about them would be disseminated as discussed in the *Curriculum Development Grant* proposals. If the courses do not pass both hurdles, then our faculty will be in a position to take the feedback from those processes and develop courses that could be offered through our Center for Interdisciplinary Studies independent of Duke Endowment funding.

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introductory course while Dr. Pat Peroni (Biology), Dr. Dave Martin (Economics) and Dr. Lynn Poland (Religion) will develop the senior-level course.

<sup>9</sup> <[www2.davidson.edu/administration/auxil/catering%20menu1.pdf](http://www2.davidson.edu/administration/auxil/catering%20menu1.pdf)>

<sup>10</sup> If we are wildly successful in attracting faculty to these gatherings, we will switch to the cheaper breakfasts so as to accommodate a larger number of people.

# *David W. Martin*

## *Professional*

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## *Personal*

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## *Primary Professional Positions*

- ◆ *Professor of Economics*, Davidson College (8/97-Present)  
*Teaching Areas:* Environmental and Natural Resource Economics, Environmental Policy, Statistics, Econometrics, Finance  
*Research Areas:* Land Conservation Policies, Applications of Econometrics  
*Member:* American Association for the Advancement of Science, American Economic Association, American Statistical Association, Association of Environmental and Resource Economists, Econometric Society, Financial Management Association, International Society for Ecological Economics, Southern Economic Association, Western Economic Association
- ◆ *Assistant and Associate Professor of Economics*, Davidson College (9/84-7/97)

## *Education*

- ◆ *Ph.D., Economics*, University of Illinois at Urbana-Champaign (October 1984)  
Dissertation: *Spent Nuclear Fuel Disposal Liability Insurance*
- ◆ *M.S., Economics*, University of Illinois at Urbana-Champaign (August 1981)
- ◆ *B.A., Economics*, DePauw University, Greencastle, IN (May 1979)

## *Honors and Awards*

- ◆ *1999 Reach Out Faculty Award*, Davidson College Community Service Program (4/99)
- ◆ *Freeman Foundation Student-Faculty Fellow* with L. Amanda Walker '98, ASIANetwork (Summer 1998)
- ◆ *1997 Reach Out Faculty Award*, Davidson College Community Service Program (5/97)
- ◆ *Fulbright Lecturer* (Council for International Exchange of Scholars) and *Rotary International Teacher* (Rotary Foundation Grant for University Professors to Serve in Developing Countries), Post Graduate and Research Department of Environmental Sciences, Bishop Heber College, Tiruchirapalli, Tamil Nadu, India (7/94-1/95)

## *Some Community Service*

- ◆ Member of the Board of Directors, Davidson Lands Conservancy (11/05-present)
- ◆ Chair, Town of Davidson Affordable Housing Task Force (3/04-10/04)
- ◆ Elected to the Town of Davidson's *Board of Commissioners* (11/97, 11/99, and 11/01)
- ◆ Member of the Board of Directors, Catawba Lands Conservancy (1/97-1/03)

## ***Recent Academic Activity***

### ***Recent Publications:***

- ◆ Martin, David, and Vikram Kumar. 10 October 2005. Detecting Outliers and Influential Observations with Heteroscedasticity-Corrected Models. *Applied Economics Letters*. **12**(12):745-748.
- ◆ Kodandapani, Narendran, Sreenath Subrahmanyam, and David W. Martin. Forthcoming. Environmental Impacts of Thermal Power Plant: Case Study – Tamil Nadu, in Behnam Ta’I (editor), *Environmental Impact Assessment of Urban Development Projects* edited by Behnam Ta’i (IHSIndia, New Delhi).
- ◆ Martin, David. 2004. Land Covenant Trends in New Zealand. In Ellen Carlson (editor), *Proceedings (Refereed Papers) from “A Future That Works: Economics, Employment, and the Environment.”* Centre of Full Employment and Equity: The University of Newcastle, Australia. 279-293.
- ◆ Kumar, Vikram, and David Martin. 2003. Effects of Economies of Scale and Exchange Rate Volatility on U.S. Bilateral Trade. *Proceedings of the American Society of Business and Behavioral Sciences*. **10**(1):878-886.

### ***Other Research Work***

- ◆ Public Incentives for Local Land Conservation. Manuscript in preparation.
- ◆ Borkowski, Sarah, and David Martin. The Decision to Major in Economics through One College’s Coeducational History. Revision of a manuscript presented at the 2004 Western Economic Association International annual meeting.
- ◆ Teaching Leverage, Outliers, and Influential Observations in Introductory Statistics Courses. Manuscript in revision.
- ◆ An Agency Argument That Nonprofit Land Trusts Should Lead Biodiversity Protection. Manuscript presented at the Western Economic Association International annual meeting, June 2004, Vancouver, British Columbia.

### ***Supervision of Undergraduate Theses at Davidson College:***

- ◆ Noelle Thomas ’06, *Corporate Environmental Sustainability and Financial Performance*, Center for Interdisciplinary Studies.
- ◆ Molly Pickall ’05, *Environmental and Social Analysis*, Center for Interdisciplinary Studies.
- ◆ Laurel Clayton ’03, *Home Sale Price and Public School Quality in Mecklenburg County*, Honors Thesis: Department of Economics.
- ◆ Wendy Adams ’02, *Power and Disturbance: Changes in the Policy Process after the 1980 Eruptions of Mount St. Helens*, Honors Thesis: Center for Interdisciplinary Studies.
- ◆ Jill Neumayer ’01, *Why have conservation efforts failed in Madagascar? Deciphering Conservation in Zahamena PN, Madagascar*, Center for Interdisciplinary Studies.

### ***Representing Davidson College to the A.C.S. Environmental Program:***

- ◆ Mentored Brian Nickerson’s ’04 paper “Modeling Carbon Dioxide Emissions – An Empirical Analysis of Past Hypotheses” for the *Undergraduate Environmental Research and Faculty Development Conference* (4/24-25/04, Atlanta).
- ◆ Representative, Sustainable Development and the Global Community Alliance (8/01-5/03) and the Faculty and Curriculum Development Alliance (1/02-5/03)
- ◆ Environmental Program Committee Representative (1/98-7/01)
- ◆ Environmental Fellow (8/98-7/99)

## CHRISTOPHER J. PARADISE

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### **EDUCATION:**

Ph.D., 1997, Biology: The Pennsylvania State University. *Abiotic and Biotic Factors Controlling the Structure of Insect Treehole Communities*

M.A., 1989, Biology: State University of New York at Binghamton. *Physiological & Behavioral Consequences for Chinese Praying Mantids When Encountering Variable Prey*

B.S., 1986, Biology, w/ Chemistry minor: State University of New York at Albany

### **EMPLOYMENT:**

Present: Associate Professor of Biology, Davidson College

Aug 2000-Apr 2006: Asst Prof of Biology, Davidson College.

Aug 1998-May 2000: Asst Prof, Director of Env'tl Studies, King's College, Wilkes-Barre, PA.

January 1998-August 1998: Instructor, The Pennsylvania State University.

September 1997-August 1998: Postdoctoral Research Fellow with Dr. William Dunson, PSU.

1995-1997: Research Assistant with Dr. William Dunson, PSU.

1990-1994: Laboratory Coordinator, The Pennsylvania State University.

### **RELEVANT COURSES TAUGHT (# of times taught):**

- Environmental Science Lecture and Laboratory (4)
- Ecology Lecture and Laboratory (6)
- Issues in Environmental Biology (non-science majors lecture course - 3)
- Ecotoxicology Seminar (3)

### **REFEREED JOURNAL PUBLICATIONS SINCE 2000 (\*indicates undergraduate):**

Cook LW\*, Paradise CJ, and Lom B (2005) The pesticide Malathion reduces growth and survival in the development of zebrafish, *Danio rerio*. *Envtl Tox & Chem* 24:1745-1750.

Paradise CJ (2004) Relationship of water and leaf litter variability to insects inhabiting treeholes. *J N Am Benth Soc.* 23(4):793-805.

Gage M\*, Spivak A\* & Paradise CJ (2004) Effects of land use and disturbance on benthic insects in headwater streams draining small watersheds north of Charlotte, NC. *Southeastern Naturalist* 3(2):345-358.

Paradise CJ (2001) A standardized soil ecotoxicological test using red worms (*Eisenia fetida*). *The American Biology Teacher* 63:504-510.

\*Wynn G & Paradise CJ (2001) Effects of scaling and food resources on growth and survival of larval *Culex pipiens*. *BMC Ecol* 2001 1:3 [www.biomedcentral.com/1472-6785/1/3](http://www.biomedcentral.com/1472-6785/1/3).

Paradise CJ (2000) Effects of pH and resources on a processing chain interaction in simulated treeholes. *J Anim Ecol* 69:651-658.

### **SELECTED PAPERS PRESENTED SINCE 2000 (\*indicates undergraduate):**

Apr. 2006: 67<sup>th</sup> Annual Meeting of the Association of Southeastern Biologists, Gatlinburg, TN, "Effects of a top predator on insect communities in treeholes" w/ L Smith, J Carlson, G Metz

Sep. 2005: 7<sup>th</sup> Annual Southern Appalachian Conference on Arthropod Biology, Asheville, NC, "Bottom-up and top-down effects on insect communities in treeholes," with JQ Burkhart\*, L Smith\*, B Kegan\*, S Villalpando, J Carlson\*, G Metz\*, L Harshaw\*, and C Chrisawn\*

- Aug. 2005: 90<sup>th</sup> Meeting of Ecological Society of America, Montreal, Quebec, "Scirtid beetles, resource levels, and insect assemblages: investigating processing chains in treeholes," with JQ Burkhardt\*, L Smith\*, S Villalpando, B Kegan\*.
- Nov. 2004: 2004 Annual Meeting of the Entomological Society of America, "Effects of resources and processing chains on mosquito species richness and abundance in simulated treeholes," with co-authors JQ Burkhardt\*, B Kegan\*, and S Villalpando\*.
- Nov. 2004: Western Carolina University, Dept of Biology. "Resources, beetles, and mosquitoes: effects of resources and processing chains on mosquitoes in treeholes."
- Mar. 2004: 101<sup>st</sup> Meeting of the North Carolina Academy of Sciences, Salisbury, NC, "Bottom-up effects on processing chains in treehole communities," with JQ Burkhardt\*, lead presenter.
- Mar. 2004: 101<sup>st</sup> Meeting of the NC Academy of Sciences, Salisbury, NC, "Relationship between resource use and environmental studies curricula at southeast US colleges," w/ C Hartridge\*
- Sep. 2003: 5<sup>th</sup> Southern Appalachian Conference on Arthropod Biology, Boone, NC, "Relationships among habitat size, dissolved oxygen, and aquatic insects in treeholes," with \*NP Harlan
- Aug. 2003: 88<sup>th</sup> Annual Meeting of Ecological Society of America, Savannah, GA, "Relationships among habitat size, dissolved oxygen, insects, and microbes in treehole communities," with co-author \*NP Harlan.
- Nov. 2001: Annual Meeting of Sigma Xi, Raleigh, NC, "Effects of land use on insects in streams north of Charlotte, NC," with M Gage\*
- Aug. 2001: 86<sup>th</sup> Annual Meeting of Ecological Society of America, Madison, WI, "A laboratory exercise using a standardized soil ecotoxicological test"
- Apr. 2000: 2000 Meeting of the PA Academy of Sciences, Reading, PA, "Bioassessment of Bowman Creek using benthic macroinvertebrates," with \*J Tenbus and \*Y Szacki

#### **FUNDING:**

- May 2006-Aug 2006: FS&R Grant, "Institutional matching funds for NSF-RUI grant" \$3,200.
- May 2005-Aug 2005: FS&R Grant, "Institutional matching funds for NSF-RUI grant" \$3,200.
- Mar 2005: ACS, Env't'l Program, CLS, "Earth Month at Davidson College" \$1,200.
- Aug 2003-Aug 2006: NSF-RUI (DEB #0315208), "Processing chain interactions in detritus-based communities," \$200,000.
- May 2003-Dec 2003: FS&R Grant, "Microbial diversity in treehole communities," \$1,661.
- May 2002-Aug 2002: FS&R Grant, "Effects of habitat size on treehole communities" \$3,000.
- May 2001-Aug 2001: FS&R Grant, Davidson College, "Effects of stream type on aquatic insects in the Catawba River Basin," \$2,994.

#### **COLLEGE SERVICE:**

- Aug. 2004 to May 2006: ACS Environmental Faculty Fellow, Davidson College
- Aug. 2004 to May 2006: Faculty Rep for the Morris K. Udall Foundation Scholarship
- Aug. 2004 to present: Grant Travel Award Committee, Biology Department, Davidson College
- Oct. 2003 to Aug. 2004: Joint Committee on Information Technology, Davidson College
- Aug. 2002 to May 2005: Library Committee, Davidson College
- Aug. 2001 to present: Institutional Animal Care and Use Committee, Davidson College

#### **SOCIETY MEMBERSHIP:**

- Jan. 2002 to present: Member, Association of Southeastern Biologists
- May 2001 to present: Member, North Carolina Academy of Sciences
- 2001 to present: Member, North American Benthological Society
- 1994-present: Member, Ecological Society of America

## PATRICIA A. PERONI

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### EDUCATION

**Ph.D. in Botany** - Duke University - December 1991.

**M.S. in Biology** - Bucknell University - August, 1983.

**M.L.S.** - SUNY at Albany - May 1979.

**B.A. in Biology, *summa cum laude*** - SUNY College at Plattsburgh - May, 1978.

### POSITIONS HELD

**Associate Professor of Biology** - Davidson College. August 1998- present (Assistant Professor August 1992-July 1998). Teaching responsibilities: Biostatistics and Experimental Design\*, Introductory Biology, Environmental Issues Seminar\*, Ecology, Senior Colloquium on Topics in Evolutionary Biology\*, Plant Conservation Biology Seminar\*, Dendrology (\* indicates writing intensive).

**Coordinator - Research Experiences for Undergraduates Program**- Mountain Lake Biological Station, University of Virginia. Summers, 1993 - 1995.

**Postdoctoral Teaching Fellow and Adjunct Assistant Professor of Biology** - UNC Greensboro. August, 1991 - July, 1992. Teaching responsibilities: Principles of Biology I & II (2 semester introductory biology sequence for majors), Freshman Seminars on environmental issues (writing intensive).

**Reference Librarian** - Bucknell University. July, 1979 - July, 1985.

### GRANTS AND AWARDS

**Recipient NSF Research Opportunity Award Supplement to DEB-9610496** - David McCauley, Vanderbilt University, PI, Summers 1998 & 1999.

**Teaching Improvement Grant** - Davidson College, Summer 1998.

**Sigma Xi-Charlotte Chapter** - Recognized for fostering outstanding undergraduate research. 1996, 1998, 2000

**NSF-ILI Grant No. DUE-9452361** - Computer Facility for Laboratory-Based Introductory Biology Course. \$29,593. August 1994 - July 1996. Verna Case, co-PI.

**Summer Research Grants** - Davidson College. Summer, 1993 - 1997, 1999, 2000, 2005.

**Pratt Postdoctoral Fellowship** - Mountain Lake Biological Station, University of Virginia. Summer 1992.

**Writing Across the Curriculum Fellowship** - National Endowment for the Humanities. Summer 1981.

### SELECTED SEMINARS AND PRESENTATIONS (within last 5 academic years)

**Presentations at Professional Meetings** (\* indicates undergraduate coauthor)

Budischak\*, S.A., P.A. Peroni, and J.G. Ripperton\*. The effects of seed age on viability, germination, and seedling performance in white campion (*Silene latifolia*). North Carolina Academy of Science, 2004; Association of Southeastern Biologists, Spring 2005; Ecological Society of America and International Congress of Ecology, Montreal, Quebec, August, 2005

- Ripperton\*\*, J.G., P.A. Peroni, and S.A. Budischak. Effects of burial on seed germination and seedling performance in white campion (*Silene latifolia*). North Carolina Academy of Science. Salisbury, NC, March, 2004.
- Francis, S.\* and P.A. Peroni. Correlates of poison ivy (*Rhus radicans*) distribution in a mixed pine hardwood forest in North Carolina. Association of Southeastern Biologists. Boone, NC, April, 2002; North Carolina Academy of Science. Chapel Hill, NC, March 2002.
- White, J.W.\* and P.A. Peroni.. Effect of inbreeding on seed germination in white campion (*Silene latifolia*). Botanical Society of America. Portland, OR, August 2000; North Carolina Academy of Science. Raleigh, NC, April 2000

### **Invited Seminars and Workshops**

- Demography and Ecological Genetics of a White Campion (*Silene latifolia*) Buried Seed Bank./ Coastal Carolina University. November, 1998; Union College (Schenectady, NY). February, 1998; The Harvard Forest. May, 1997
- Demystifying Hardy Weinberg: population genetics of the Lap locus in white campion (*Silene latifolia*) populations. Workshop presented at the 1998 Conference of the Association for Biology Lab Education (ABLE).

### **SELECTED PUBLICATIONS** (within last 10 years; \* indicates undergraduate coauthor)

- Ripperton\*\*, J.G., P.A. Peroni, and S.A. Budischak\*. 2006. Effects of burial on seed germination and seedling performance in white campion (*Silene latifolia*). Journal of the North Carolina Academy of Science 122:29-38.
- Peroni, P.A. And R. T. Armstrong\*. 2001. Density, dispersion and population genetics of a *Silene latifolia* seed bank from southwestern Virginia. Journal of the Torrey Botanical Society 128:400-406.
- Peroni, P.A. And D. McCauley. 1999. Demystifying Hardy-Weinberg: population genetics of the Lap locus in white campion (*Silene latifolia*) populations. *In: Proceedings of the 1998 Conference of the Association for Biology Lab Education (ABLE).*
- J. Steven\*, P.A. Peroni, and E. Rowell\*. 1999. The effects of pollen addition on fruit set and gender expression in the andromonoecious herb horsenettle (*Solanum carolinense*). American Midland Naturalist 141:247-252.
- McCauley, D., J. Stevens\*, P.A. Peroni, and J.A. Raveill. 1996. The spatial distribution of chloroplast DNA and allozyme polymorphisms within a population of *Silene alba*. American Journal of Botany 83:727-731.

### **PUBLICATIONS IN PREP** (\* indicates undergraduate coauthor)

- Budischak\*, S.A., P.A. Peroni, and J.G. Ripperton\*. In prep. The effects of seed age on viability, germination, and seedling performance in white campion (*Silene latifolia*). Anticipate submission to *Journal of the Torrey Botanical Society* in May, 2005.
- Peroni, P.A. In prep. Demography of an artificial white campion (*Silene latifolia*) buried seed bank. In prep. for submission to *American Journal of Botany*.