List of Suggested Reviewers or Reviewers Not To Include (optional)

SUGGESTED REVIEWERS:
Not Listed

REVIEWERS NOT TO INCLUDE:
Not Listed
**Title of Proposed Project**: Environmental Scholars: An Interdisciplinary Scholarship Program

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CHECK APPROPRIATE BOX(ES) IF THIS PROPOSAL INCLUDES ANY OF THE ITEMS LISTED BELOW

- [ ] BEGINNING INVESTIGATOR (GPG I.G.2)
- [ ] PROPRIETARY & PRIVILEGED INFORMATION (GPG II.C.1.d)
- [ ] HISTORIC PLACES (GPG II.C.2.j)
- [ ] EAGER* (GPG II.D.2)  [ ] RAPID** (GPG II.D.1)
- [ ] VERTEBRATE ANIMALS (GPG II.D.6) IACUC App. Date
- [ ] Animal Welfare Assurance Number
- [ ] HUMAN SUBJECTS (GPG II.D.7) Human Subjects Assurance Number
- [ ] Exemption Subsection or IRB App. Date 08/29/12
- [ ] INTERNATIONAL COOPERATIVE ACTIVITIES: COUNTRY/COUNTRIES INVOLVED
- [ ] PHS Animal Welfare Assurance Number
- [ ] HIGH RESOLUTION GRAPHICS/OTHER GRAPHICS WHERE EXACT COLOR REPRESENTATION IS REQUIRED FOR PROPER INTERPRETATION (GPG I.G.1)

**PI/PD Department**: Chemistry

**PI/PD Postal Address**: Jahn Laboratory
1 Forestry Drive
Syracuse, NY 13210
United States

**PI/PD Fax Number**: 315-470-6856

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<td>Kelley J Donaghy</td>
<td>PhD</td>
<td>1996</td>
<td>315-470-6826</td>
<td><a href="mailto:kdonaghy@esf.edu">kdonaghy@esf.edu</a></td>
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<tr>
<td>Robert C French</td>
<td>PhD</td>
<td>2001</td>
<td>315-470-6606</td>
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<td>John Turbeville</td>
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<td>2004</td>
<td>315-470-6500</td>
<td><a href="mailto:jturbev@esf.edu">jturbev@esf.edu</a></td>
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Conflict of Interest Certification

In addition, if the applicant institution employs more than fifty persons, by electronically signing the NSF Proposal Cover Sheet, the Authorized Organizational Representative of the applicant institution is certifying that the institution has implemented a written and enforced conflict of interest policy that is consistent with the provisions of the NSF Proposal & Award Policies & Procedures Guide, Part II, Award & Administration Guide (AAG) Chapter IV.A; that to the best of his/her knowledge, all financial disclosures required by that conflict of interest policy have been made; and that all identified conflicts of interest will have been satisfactorily managed, reduced or eliminated prior to the institution’s expenditure of any funds under the award, in accordance with the institution’s conflict of interest policy. Conflicts which cannot be satisfactorily managed, reduced or eliminated must be disclosed to NSF.

Drug Free Work Place Certification

By electronically signing the NSF Proposal Cover Sheet, the Authorized Organizational Representative or Individual Applicant is providing the Drug Free Work Place Certification contained in Exhibit II-3 of the Grant Proposal Guide.

Debarment and Suspension Certification

(If answer “yes”, please provide explanation.)

By electronically signing the NSF Proposal Cover Sheet, the Authorized Organizational Representative or Individual Applicant is providing the Debarment and Suspension Certification contained in Exhibit II-4 of the Grant Proposal Guide.

Certification Regarding Lobbying

The following certification is required for an award of a Federal contract, grant, or cooperative agreement exceeding $100,000 and for an award of a Federal loan or a commitment providing for the United States to insure or guarantee a loan exceeding $150,000.

Certification for Contracts, Grants, Loans and Cooperative Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with any Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, “Disclosure of Lobbying Activities,” in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

Certification Regarding Nondiscrimination

By electronically signing the NSF Proposal Cover Sheet, the Authorized Organizational Representative is providing the Certification Regarding Nondiscrimination contained in Exhibit II-6 of the Grant Proposal Guide.

Certification Regarding Flood Hazard Insurance

Two sections of the National Flood Insurance Act of 1968 (42 USC §4012a and §4106) bar Federal agencies from giving financial assistance for acquisition or construction purposes in any area identified by the Federal Emergency Management Agency (FEMA) as having special flood hazards unless the:

(1) community in which that area is located participates in the national flood insurance program; and

(2) building (and any related equipment) is covered by adequate flood insurance.

By electronically signing the NSF Proposal Cover Sheet, the Authorized Organizational Representative or Individual Applicant located in FEMA-designated special flood hazard areas is certifying that adequate flood insurance has been or will be obtained in the following situations:

(1) for NSF grants for the construction of a building or facility, regardless of the dollar amount of the grant; and

(2) for other NSF Grants when more than $25,000 has been budgeted in the proposal for repair, alteration or improvement (construction) of a building or facility.

Certification Regarding Responsible Conduct of Research (RCR)

(This certification is not applicable to proposals for conferences, symposia, and workshops.)

By electronically signing the NSF Proposal Cover Sheet, the Authorized Organizational Representative of the applicant institution is certifying that, in accordance with the NSF Proposal & Award Policies & Procedures Guide, Part II, Award & Administration Guide (AAG) Chapter IV.B, the institution has a plan in place to provide appropriate training and oversight in the responsible and ethical conduct of research to undergraduates, graduate students and postdoctoral researchers who will be supported by NSF to conduct research. The undersigned shall require that the language of this certification be included in any award documents for all subawards at all tiers.

Authorized Organizational Representative

William J Nicholson

Signature: Electronic Signature

Date: Aug 15 2012 8:54AM

Telephone Number: 315-470-6606

E-mail Address: wjnicol@esf.edu

Fax Number: 315-470-6779

* EAGER - Early-concept Grants for Exploratory Research

** RAPID - Grants for Rapid Response Research
NATIONAL SCIENCE FOUNDATION
Division of Undergraduate Education

NSF FORM 1295: PROJECT DATA FORM

The instructions and codes to be used in completing this form are provided in Appendix II.

1. Program-track to which the Proposal is submitted: S-STEM:SCHLR SCI TECH ENG&MATH

2. Name of Principal Investigator/Project Director (as shown on the Cover Sheet):
   Donaghy, Kelley

3. Name of submitting Institution (as shown on Cover Sheet):
   SUNY College of Environmental Science and Forestry

4. Other Institutions involved in the project’s operation:

   ____________________________________________
   ____________________________________________
   ____________________________________________
   ____________________________________________
   ____________________________________________
   ____________________________________________
   ____________________________________________

Project Data:
A. Major Discipline Code: 99
B. Academic Focus Level of Project: BO
C. Highest Degree Code: D
D. Category Code: --
E. Business/Industry Participation Code: NA
F. Audience Code: W
G. Institution Code: PUBL
H. Strategic Area Code: EN
I. Project Features: 2

Estimated number in each of the following categories to be directly affected by the activities of the project during its operation:
J. Undergraduate Students: 30
K. Pre-college Students: 0
L. College Faculty: 5
M. Pre-college Teachers: 0
N. Graduate Students: 0

NSF Form 1295 (10/98)
PROJECT SUMMARY

The State University of New York College of Environmental Science and Forestry (ESF) will award thirty 4-year scholarships in Chemistry, Environmental Forest Biology, Environmental Resources Engineering and Environmental Science over 5 years in the amount of $4750 each. Ten awards will be made to financially needed and scientifically talented freshmen in three different cohorts, these students will be supported for four years through this program. The Management Team will actively recruit students from underrepresented groups in order to create a diverse cohort of students with respect to gender, ethnicity, race, state residency and academic major. Recruiting efforts will be enhanced by developing partnerships with groups interested in fostering diversity in the STEM workforce such as the Nature Conservancy. Students receiving these scholarships, the Environmental Scholars, will participate in cohort building activities such as a three-day opening retreat and then a seminar series designed to engage them in discussions and debates about global environmental issues such as global climate change. These seminars have as their goal to allow students to connect and persist in STEM fields by engaging them in cross-disciplinary discussions and helping them focus on their career goals at a time when their course work can become overwhelmingly theoretical. As part of the second year seminar series students will engage in a cross-disciplinary service-learning project to develop and build an interactive display about an environmental issue to be used at local libraries or the Museum of Science and Technology during Earth Week. They will also be encouraged to engage in career related volunteer work in the community, to help them focus their career goals. During their third year, students will participate in a career seminar series designed to help them build their professional document portfolio (i.e. resumes, cover letters, networking sites, graduate applications) and to practice interviewing and etiquette skills. In their fourth and final year, students will engage in major specific capstone activities. Students will be encouraged to take part in research or other competence building activities through $500 incentive grants.

Intellectual Merit:
This program builds upon ESF’s, NSF Environmental Scholars Program 2009-2013, USDA’s Minority Scholars Program, and CSTEP, successful programs designed to attract, retain and graduate underrepresented groups in STEM disciplines. New activities will be developed to better understand retention of STEM students through the first few theoretical years and a unifying theme will be employed to generate a more global view of environmental issues. Further, new initiatives to partner with industry groups for recruiting underrepresented groups will be investigated and their impact on graduation rates and employment will shed new light on the old problem of recruitment and retention of women and underrepresented minorities in the STEM disciplines.

Broader Impacts
The primary impact of this program is to provide opportunities for scientifically talented students who may not be able to attend college due to financial constraints and to graduate well-educated professionals in the STEM fields of chemistry, biology, engineering and environmental science. Students in this program will also be encouraged to participate in service-learning projects thereby reaching out to the community sharing their education with others and providing younger students with role models. Most importantly, this program will focus on developing a well-rounded experience for a diverse cohort of students that strengthens and empowers them, thus providing an example for others about how to reach more deeply into America’s most precious resource – PEOPLE.
# TABLE OF CONTENTS

For font size and page formatting specifications, see PAPPG section II.B.2.

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*Proposers may select any numbering mechanism for the proposal. The entire proposal however, must be paginated. Complete both columns only if the proposal is numbered consecutively.
A snapshot of the headlines for the first half of 2012 would include record temperatures, widespread heat waves, drought, record wildfires, serious flooding and unusual earthquake activity. All of which lead the news media to interview scientists about the impacts of these weather related phenomenon and without fail, the discussions lead to global climate change not realizing that weather and climate change have distinctly different definitions. Global climate change has been called “the most important puzzle humankind has attempted to solve”. The National Science Foundation’s Climate Change Report clearly indicates that to successfully understand this puzzle it is going to take talented scientists, mathematicians and engineers from around the world in what is an excellent example of interdisciplinary research efforts. To do this college students need to be encouraged to pursue STEM majors and be afforded the necessary support and guidance to graduate with a STEM degree. A New York Times article published in 2011 indicates one aspect of retaining our STEM graduates is to provide them, early in their academic careers, with a reason for staying in STEM, something out of the ordinary that helps them understand why the theory they are learning in their first years is important and how it will be applied to real-life. Without a strong pipeline of diverse STEM students at the undergraduate level, who will help finish the greatest puzzle of our time? We need to find programs that are committed to developing this pipeline and tap into America’s greatest resource: People.

It is with these issues in mind that we seek funding to provide scholarships to students in chemistry, biology, engineering and environmental science who have shown scientific talent and for whom the financial burden of attending college may be a deterrent to their pursuit of a baccalaureate degree. Specifically, the goals of this project are (1) create opportunities for a diverse cohort of financially needy but scientifically talented scholars, (2) create an environment for interdisciplinary discourse through using global climate change as a primary focus and (3) graduate students with the skills and education necessary to join the STEM workforce and/or pursue post-baccalaureate degrees in STEM disciplines.

To attain these goals careful attention must be paid to cohort building and the cohort experience both much foster an atmosphere of encouragement and a vision of the future as a STEM graduate. These goals therefore will be met through the following objectives:

1. Provide a minimum of $4750 in scholarships to a minimum of thirty financially needy scientifically talented students per academic year (in three freshmen cohorts of 10 over three years)
2. Recruit diverse cohorts with respect to major, ethnicity and gender through partnerships with outside groups interested in fostering diversity in the STEM workforce and an atmosphere of inclusive excellence
3. Create an interdisciplinary collaborative learning environment through a service learning project to aid students in learning how to work in interdisciplinary teams and so that they can serve as role models to others in the community
4. Use a unifying theme to focus students on what their future holds past the theoretical studies of their first and second year
5. Encourage undergraduate research as early as the second semester of their freshmen year and provide incentive grants to be used for these activities
6. Provide students with a clear vision of the roles they will have if they persevere in a STEM discipline

Therefore a cohesive four year program, built upon the foundation of the previous Environmental Scholars Program (2009-2013), will be developed to support, encourage and prepare students for a successful career in their chosen STEM discipline.
A. RESULTS FROM PRIOR SUPPORT

**NSF Award #: 0850163; Amount: $600,000; Period of Support: 3/2009 – 3/2013.**

**Title:** Environmental Scholars: A Scholarship Program in Environmental Chemistry, Biology and Engineering

### i. Student progress

The Environmental Scholars program at ESF has been successful in recruiting high quality students to the fields of chemistry, biology, engineering and environmental science. The Environmental Scholars Program is entering its fourth year of a four-year grant. The program began in March of 2009, with the first cohort of sixteen students arriving on campus in August 2009, a second cohort of ten transfer student arrived in August 2010 and a third cohort of nine transfer students joined the group in August of 2011. A total of thirty-five students have participated in the Scholars program since 2009 with an 86% retention rate, markedly better than the accepted US National Average where only 40% of students who enter college in STEM fields graduate with a STEM degree.\(^4\) ESF’s six year graduation rate for all majors (STEM and non-STEM) in 2009 was 67% and for the State University of New York in 2009 it was ~44% for all majors.\(^5\) There will be four new freshmen joining the group this fall. This will bring the total number of awards given to thirty-nine including the five scholars we lost at the end of the second year.

Student demographics are illustrated in **Table 1.** The Scholars were chosen to have a diverse background with respect to their majors, gender and ethnicity and a balance of majority and minority students to focus on inclusive excellence. The distribution of majors in the Scholars is very close to the distribution of majors at ESF. With respect to women scientists however, 50% of our environmental engineering majors are women and all of our Environmental Science majors are women.

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*Ethnicity Key: WC = white caucasian, AA = African American, LA = Latin American, NA = Native American, AP = Asian American or Pacific Islander, UR = Not Reported

**Anticipated

**Includes new scholars arriving in fall 2012

We have found that to recruit students who see this as a scholarship program and not just as a financial boon, we have had to modify our recruitment strategies. The most recent cohort of students were selected based on their admissions profile, their major, and then invited to self-select into the program via an online application. In the past, after reviewing admissions materials and online applications candidates were offered the scholarship. For the most recent cohort, looking to ensure a good fit for the program, telephone interviews were conducted. The successful candidates were chosen based upon their eagerness to have a group to identify with, their interests in the program beyond the financial aspects and their ability to work within a diverse group setting. The new transfer students have fit into the
established group well, and in some cases, where the transfers were non-traditional students, have provided good role models for the traditional students. To date we have 100% retention of this last cohort.

The current Environmental Scholars supported by this grant have cumulative GPA of 3.27, which is excellent for ESF (ESF’s Upper Division Honors Program admits students with 3.00 GPAs if they are actively engaged in research). Majors in engineering and chemistry have slightly higher GPAs at 3.72 and 3.46. GPA by gender was fairly consistent with only a two-one-hundredths of a point separation.

Table 2, highlights student academic progress by GPA. Several of our Scholars have struggled to reach the cumulative GPA standard of 2.75. When this has happened these students have been sent to the Academic Support Center for tutoring and time management help. In addition they are required to meet with the PI monthly, submit a mid-semester grade report signed by their professors and to provide evidence of how they have changed their approach to their classes to reach the GPA goal. To date, all but two students have successfully recovered and achieved the 2.75 GPA through this process. As of the third year of the Program, only one Scholar has been replaced due to GPA issues, while the another is on probation this coming fall.

### Table 2. End of the Third Year GPA by Major and Gender

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### ii. Activities.

The Environmental Scholars took part in many campus activities such as the First Year Learning Community, peer tutoring, workshops, College sponsored community service and study skills workshops. All of which can be attributed to the success of our scholarship program and reinforcement of those who believe in the importance of providing students with programs for student support, encouragement and preparation. Two activities that were specifically developed for the program and which the students felt were invaluable were the Opening Retreat and the freshmen, sophomore and career seminars. They are described here.

#### Opening Retreat.

Each year the Scholars, PI and several orientation leaders attended an opening retreat in the Huntington Wildlife Forest at the Adirondack Ecological Center. The retreat consists of travel to ESF’s remote field station the Adirondack Ecological Center (AEC) in the Huntington Forest where students participate in group building activities such as bushwhacking by compass, hiking, canoeing and whitewater rafting. At the AEC there is no cell phone service and students are not allowed to use the wireless internet or computer labs. This “no-tech” retreat immerses the students in their bonding experience as well as the history of the Adirondacks through visits to the Adirondack Museum and the Wild Center in neighboring towns. New students find this an excellent time to become oriented to campus prior to the rest of the students arrivals and returning students find it a good time to get back into “school mode”. Students have also credited this experience as extremely formative in their ability to succeed in their first year. For some, this is their first real Adirondack experience. This retreat model is being used in other majors as well to build cohort synergy.

#### Seminar and Career Courses.

In order to ensure that there was sufficient planned activities and to be able to closely monitor our Scholars, three new seminar courses were developed to provide a needed structure to the program. The first year was highly orientation in nature and was intended to provide students with
a chance to bond and form study groups and provide support for each other. Meetings were largely open discussions and as part of the course requirements students were asked to journal using Blackboard. The second year was the year of service. The retreat kicked off the year with service to the AEC as a bonding experience followed by a seminar course with a built in service learning component. One semester students worked together on an interdisciplinary stream rehabilitation project and in the second semester students were encouraged to find 40 hours of career related community service for the semester. As a result of these career related service hours, several students found research positions that have continued and resulted in presentations and publications on their research. The third year seminar was geared toward finding a summer internship and career preparation. The two-semester course was geared toward developing the students’ professional portfolio of resumes, personal statements and other job search materials. In addition co-PI John Turbeville provided information on GRE’s, MCAT’s and LSAT’s and graduate school applications generally. Once again students were encourage volunteering, this time with research faculty on research projects. It is well known that a significant research experience at the undergraduate level is a contributor to graduate school attendance and success.7

iii. Assessment

Assessment of the Environmental Scholars program was conducted through survey and individual interviews. Records of the student retention were kept as outlined above in student progress and with an 86% retention rate, an average GPA of 3.27 and several students publishing or presenting research before their senior year (below), the program is succeeding. Each year the program activities are assessed through end of year surveys (most recent report for AY 2011-2012 is part of the supplemental documents). These surveys indicate that in the first year, the cohort experiences helped the students find a group of study partners. The Opening Retreats were influential in developing strong friendships and many students chose to become roommates with other Scholars. At the end of the second year 90% of the students indicated that the opening retreats helped them transition successful to college.

In the second year the program focused on major-specific service learning with the goal to that the students begin to become engaged with their majors through volunteering in the community. Service learning encourages students to see the real-life aspects of their work and illustrate how their major will eventually effect the community. In the year-end survey 69% of the students reported that participating in the service aspect of the program influenced their decision to remain in their chosen majors and in an individual interviews two students admitted that the service aspect of the program helped them understand that they needed to change their majors, both are significantly happier and doing much better academically having made the switch from one STEM major to another.

The third year of the scholars program focused on career preparation and job search essentials. The fall seminar course helped students prepare for their written materials for summer job searches and internships and even for post graduation searches. Since this course was new, we were interested in understanding what worked and what didn’t as well as where the Scholars felt we should spend more time. Our assessment this year focused on the career-focused volunteerism, the benefits of having them prepare professional portfolios and where they are in the “what will we do after getting a BS” conundrum. The survey at the end of this report year indicates that more than 73% of the Scholars participated in at least the minimum of 20 hours of career focused volunteerism, while 45% clearly enjoyed their work and did substantially more. In addition, 94% of the Scholars see career focused research and volunteerism as a way to build up their professional portfolio and find suitable references and 74% of the Scholars report being more confident in their search for a summer internship because of the career course.

The Environmental Scholars Program continues to be influential on the student’s academic careers and is having an influence on the future plans of our students. We’ve provided training on how to apply for summer internships and prepare for graduate school. An informal poll indicated that two-thirds of our Scholars plan to attend graduate school within two years of finishing their Bachelors and that another group plan to attend Professional School (Medical/Dental/Law/Veterinary). Generally, our engineers are
hoping to land a position with an engineering firm for several years before deciding if they want to pursue a higher degree: they are primarily concerned with licensing and finding apprenticeships at this point.

In our 2008 proposal we argued that financial pressures has significant influence over the success rate of students in the STEM disciplines particularly for underrepresented groups (URG) including women. In three years we have only lost two Scholars from URG’s.

iv. Publications and presentations (Environmental Scholars authors underlined)


* Donaghy, Kelley J. and Saxton, Kathleen J. “Environmental Scholars: An interdisciplinaty, NSF funded, Scholarship Program”, Northeast Regional Meeting of the American Chemical Society, October 2, 2012. (Accepted/Invited Presentation)


* Krembs, Lydia; Rapant, Djbrilla; “Fringe wetland research in Xalapa Mexico”, ESF’s Spotlight on Research 2012.

* Yamamoto, Aya; Kimmerer, Robin; and Manno, Jack. “Abundances of northeastern Native American culturally important plants in contemporary Adirondack landscapes”, ESF’s Spotlight on Research, 2012.


B. PROJECT OBJECTIVES AND PLANS

We seek funding for students who have shown significant scientific talent and for whom the financial burden of a college education may be a deterrent to the pursuit of a baccalaureate degree in the disciplines of chemistry, biology, engineering and environmental science.

The specific goals of this project are (1) create opportunities for a diverse cohort of financially needy but scientifically talented scholars, (2) create an environment for interdisciplinary discourse through using global climate change as a focus and (3) graduate students with the skills and education necessary to join the STEM workforce and/or pursue post-baccalaureate degrees in STEM disciplines.

To attain these goals the following objectives will be met:

**Objective 1:** Provide a minimum of $4750 in funding to a minimum of thirty financially needy, scientifically talented students per academic year. To maximize our ability to attract and retain students in underrepresented groups, we will recruit three new cohorts of freshmen for the first three years of the grant period. Scholarships of $4750 will be given in the first year based upon financial need. In subsequent years as financial need changes, co-PI French and his staff in Financial Aid will work to keep students funding levels as consistent as possible.
Objective 2: Recruit diverse cohorts with respect to major, ethnicity and gender. In our previous program we were successful in recruiting and retaining a diverse cohort. Our plans for this project are to continue to strive toward Inclusive Excellence and to do this we plan to develop partnerships with industry groups who are likewise committed to a diverse workforce. One such example is the Nature Conservancy. The Nature Conservancy through a planning grant from the Doris Duke Charitable Foundation is creating a Conservation Career Program Pipeline where they plan to identify, Nominating Partners (high schools) in New York City and Atlanta that will identify potential students for the program, then the Conservancy will identify Academic Partners (colleges and universities) with a strong history in environmental degree programs, such as ESF. Academic Partners agree to accept cohorts of 8-10 students, provide them with scholarships and support systems and in return, the Nature Conservancy through their Conservation Career Partners (leading environmental, state, federal and non-profit organizations) will provide the students with paid internships and preferred consideration of program graduates when hiring for appropriate positions within their organization. ESF has been asked to be one of the five premier environmental colleges selected to partner with the Nature Conservancy in this program. (Copies of the agreement drafts can be found as supplemental documents section of this proposal.) Students in the Environmental Scholars program are ideally suited for these kinds of opportunites.

Objective 3: Use global climate change as a unifying theme for students to understand how to work in interdisciplinary groups. Illustrating to students that scientists in different disciplines approach and solve problems differently is a significant task. At the freshmen and sophomore level students have largely taken the same classes with other majors and have yet to understand that they are attracted to different majors because of the way the approach problems. This Scholarship program will seek to use global climate change as a discussion topic to promote the importance of thinking globally and being able to work as a team. In the second year an interdisciplinary project will be undertaken to prepare a suitable public exhibit on global climate change that represents aspects of the different majors involved. The PI is a close collaborator with the Museum of Science and Technology in Syracuse and would be able to arrange a display of the exhibits as part of their Earth Week celebrations in April. Working well as a team and communicating effectively are two of the most sought after skills that future employers seek.

Objective 4: Develop a seminar courses designed to probe the Global Climate Change Puzzle and develop leadership and communication skills. The first two years will be used to foster an appreciation for the complexities of global climate change and to understand issues that are specific to each of the disciplines involved in the Environmental Scholars. Seminar classes will be developed to look at the project first historically, then students will be asked to generate research questions and propose solutions to key aspects of global climate change. As a group we will consider the scientific, social and political landscape of global climate change through the lens of an interdisciplinary team. Students will write position papers, present the current literature to their peers and in the second semester of the first year, engage in a mock debate. Being able to take and defend a position is essential for success as future scientists and given the many nuances of global climate change, this is an ideal topic to refine these skills.

Objective 5: Encourage undergraduate research. As noted earlier, participating in undergraduate research has a significant influence on student success rates in graduate school. Therefore students will again be encouraged to participate in volunteer opportunities in research laboratories across campus. Faculty at ESF, stand ready to provide this mentorship, and experience has shown that students have little to no problem finding a place to volunteer and eventually direct their own research projects. To do this effectively a research incentive grant is available for students who attain a 3.2 GPA by the end of their fourth semester in the program. These grants (minimum $500) can be used for travel to a conference, materials and supplies for a project, or other research related expenses.
Objective 6: Provide students with a clear vision of the roles they can play if they persevere in STEM career. One theory that is gaining momentum among those who study the attrition of STEM students at the college level, suggests that the heavy theory-based classes of the first two years of college study turn off otherwise motivated students. To combat this, students will be encouraged to volunteer within their major and to talk about it at our weekly seminar classes, this has two benefits, first it keeps the students engaged in the fun of science and the second provides students opportunities to make important connections that often lead to future research and/or internship opportunities.

C. SIGNIFICANCE OF PROJECT AND RATIONALE

Students come to ESF because they care about their environment and want to make the world a better place; they are hardworking and dedicated. Because of their strong background in environmental issues and their excellent preparation in their chosen fields, ESF graduates find their services in high demand. ESF’s reputation for high quality student preparation and excellent job placement is an ideal marketing tool in today’s increasingly environmentally conscious society.

The Undergraduate Admissions Office and ESF faculty conduct a variety of recruitment activities aimed at enrolling a diverse and academically qualified student body. Outreach activities and advertising through direct mail, web and television outlets have increased ESF’s market visibility dramatically in recent years, and undergraduate admissions applications have increased by 11.5% between fall 2008 and fall 2012 (2,191 to 2,442). Selectivity has remained constant, with the College admitting 46% of its applicants in 2008 and 2012, but the entering class has grown by 10% (498 to 550) and freshman SAT scores (CR+M) have improved by 40 points (1160 to 1200). ESF has demonstrated a growing ability to attract highly qualified applicants from women and underrepresented minority groups who are interested in STEM programs with an environmental focus. Our entering freshman class included 131 women (42%) and 28 underrepresented students (6%) in 2008. The freshman class entering fall 2012 will include 159 women (49%) and 39 underrepresented students (7%). We believe that the Environmental Scholars Program has had a major impact on ESF’s ability to enroll and retain these students. A 2010 ranking by Forbes magazine ranked ESF the #3 college in the nation for women enrolled in STEM programs (based on the percentage of women enrolled in STEM).

Further, because ESF is a state school, many of our students are New York State natives. One of the major contributors to this is the difference between in-state and out-of-state cost of attendance. For an out of state student the $4750 in scholarship money can make a huge difference in their ability to attend. The first and second years are often the most expensive due to higher costs associated with living on campus. Table 3 outlines the cost of attendance for students living on and off campus as well as in-state versus out-of-state tuition.

<table>
<thead>
<tr>
<th>Table 3. Average Cost of Attendance</th>
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<tbody>
<tr>
<td><strong>On-Campus</strong></td>
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<tr>
<td>New York State Resident</td>
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<td>Tuition</td>
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<td>Fees</td>
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<td>Books and Supplies</td>
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<td>Room and Board</td>
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<td>Transportation</td>
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<tr>
<td>Personal</td>
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<tr>
<td>Cost of Attendance</td>
</tr>
<tr>
<td><strong>Off Campus</strong></td>
</tr>
<tr>
<td>New York State Resident</td>
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<tr>
<td>Tuition</td>
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<tr>
<td>Fees</td>
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<tr>
<td>Books and Supplies</td>
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<td>Room and Board</td>
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<tr>
<td>Transportation</td>
</tr>
<tr>
<td>Personal</td>
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<tr>
<td>Cost of Attendance</td>
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</tbody>
</table>
The Environmental Scholars grant from 2008-2013 has been a significant component of the improvements between 2008 and 2012. Its 85% retention rate has contributed significantly to diversity efforts on campus as well as the overall quality of the undergraduate students and we expect our graduation rate to be excellent in May of 2013.

We continue to believe that much of this difference in the enrollment rates of minority and majority applicants is related to the greater need for financial assistance typical of underrepresented populations, and the increased competition among colleges and universities to enroll these students. The additional scholarship assistance that would be provided to our neediest students through this Environmental Scholars Program has encouraged, and will continue to encourage, a greater number of our accepted applicants from underrepresented groups to pursue a STEM degree program here.

D. ACTIVITIES ON WHICH THE CURRENT PROJECT BUILDS

Environmental Scholars 2009-2013 created the foundation of a successful scholarship program at ESF. With the inclusion of partnerships such as the Nature Conservancy as described above we aim to increase the number of underrepresented groups, including women, and our out-of-state student population in the Environmental Scholars program by 5-10% over the five year grant period.

The retreats, seminar classes and career planning workshops will continue and a new curriculum using global climate change as a unifying theme will be developed. The College has as one of its five year strategic planning goals, to become a state leader on sustainability. The Environmental Scholars 2013-2018 will endeavor to look at this sustainability focus through the lens of global climate change and help to build a better understanding of sustainability and how it is linked to climate change.

Additionally many of our current Scholars participate in the Honors program both at the upper-level and the lower-level. Little overlap has occurred between the two programs to date. As a member of the Honors Council the PI is ideally situated to find the overlaps between the programs and to allow the successful aspects of the Environmental Scholars program to influence the honors program and vice versa. Additional activities and support services both existing and being created are outlined below in section G. S-STEM Student Support Services and Programs.

E. S-STEM PROJECT MANAGEMENT PLAN

i. Qualifications of the Management Team

The management team for the Environmental Scholars 2013-2018 Program will consist of PI Donaghy, co-PI French, co-PI Turbeville and a newly organized Board of Directors. The qualifications and specific roles of the management team members are found below. Dr. Donaghy, Dr. French and Mr. Turbeville are returning participants from the first successful Environmental Scholars Program along with Dr. Hassett who will serve as a member of the Board. The Board of Directors consists of faculty members from the four represented disciplines, chemistry (Hassett), biology (Fierke), engineering (Kroll) and environmental science (Briggs).

a. Qualifications of the Principal Investigator.
 Principal Investigator Donaghy has a Ph.D. from the University of Pennsylvania in Inorganic Chemistry and has an active, internally and externally funded, research program in boron hydride cluster chemistry. She has been teaching chemistry at the college level for more than fifteen years and her current teaching duties include the General Chemistry lecture and Inorganic Chemistry lecture. As the general chemistry instructor it is highly likely that she will have her Scholars in her freshmen class where she can keep a very close eye on their progress through their most formative year. Further, she is the current PI on the presently funded Environmental Scholars Grant (2008-2013) and has shown that her organization and execution of a cohesive four-year program has been successful at recruiting and retaining talented students in the STEM fields. She has worked closely with Co-PI French who served as the
Admissions/Financial Aid liaison for the previous grant and with Co-PI Turbeville who taught the career seminars last academic year as part of the previous grant. She is comfortable leading the reorganized team forward on this project and is looking forward to working with a new group of Environmental Scholars.

b. Qualifications of the co-Principal Investigators

Co-Principal Investigator French has a Ph.D. from SUNY Buffalo in Higher Education Administration, and has thirty-four years of experience in enrollment, financial aid and admissions, the last six as Vice President for Enrollment Management and Marketing at ESF. He reads more than 75% of the accepted freshmen portfolios each year personally, and has a keen eye for what high school qualifications will lead to a successful transition to a college environment. He is committed to increasing ESF’s diversity and has been primarily responsible for many of the significant improvements in the College’s gender, ethnic and state diversity since his arrive six years ago. Further he is spearheading the Nature Conservancy Conservation Career Pipeline Program and will continue to work with ESF’s Director of Financial Aid, Mr. John View, to provide Environmental Scholars with stable financial aid packages.

Co-Principal Investigator Turbeville has a masters degree in Higher Education from Syracuse University and is ABD (all but dissertation) in their Social Sciences Ph.D. program. Most recently he has served as Acting Dean of Student Affairs and is currently the Assistant Dean of Student Affairs and Director of Career Services. Among his many achievements is the organization and expansion of ESF’s career fairs where he has successfully brought more than 85 companies to campus to recruit ESF students. He credits the quality of our students and their education for his ability to attract so many participants. As part of the previous Environmental Scholars Program 2009-2013 Mr. Turbeville created the career seminars and arranged for the etiquette events and mock interviews. Students praised his professionalism and experience in career matters specifically in the end of the year assessments.

c. Board of Directors

In the present Environmental Scholars 2009-2013 grant, we had several faculty from each discipline serve as co-PI’s and a very large mentor pool. Operationally this was turned out to be somewhat ineffective. The co-PI’s were not as involved as we would have liked and the mentor pool served only to limit students research interests not increase it. Therefore we have chosen to elect a Board of Directors with representatives from each of the academic fields represented in the current grant. Each of the Board members are highly qualified having either served as department chairs, presently serving as a Division Chair or a vital part of the first year community. Their commitment to undergraduate education spans several decades. The Board’s primary responsibility will be to aid in assessment activities, but they will also be modestly involved in the selection process as well as aiding students to find research opportunities in their respective departments.

Dr. John Hassett returns from chemistry, he was a co-PI on the previous grant, he brings years of experience as the chemistry department chair and as the chair of the governance committee on curriculum. Dr. Briggs replaces Dr. James Hassett who retired from ESF in 2009, as the Division Director for Environmental Sciences. Dr. Briggs is strong advocate for undergraduate research and all environmental science majors are now required to participate in a capstone research experience. Dr. Kroll replaces Dr. James Hassett who served as both Environmental Science and Engineering on the previous grant. Dr. Kroll was department chair for the Environmental Resources Engineering department from 2008-2011. Dr. Kroll organized the review board process for his department and is familiar with program assessment. Dr. Fierke represents the Environmental Forest Biology Department and replaces Dr. Donald Leopold. Dr. Fierke teaches general biology to freshmen, which, like chemistry, are large enrollment classes. She is the PI’s biology counterpart in the First Year Experience. She is committed to undergraduate education
and as a First Year Professor, she is uniquely poised to help the PI keep a close eye on the Scholars in their first year.

**ii. Responsibilities of the Management Team**

The management Team for this program will include the PI, co-PI’s and the Board of Directors. Together they will make decisions about Scholar Selection and replacement Scholars when necessary. The Board will serve as a sounding board for the PI and co-PI’s and will have as their primary role, assessment of the project and the programs developed for the students. Further, since they represent their respective departments, they will be responsible for helping students find suitable research and/or internships for the student’s major dependent capstone experience. Details of the responsibilities of the Management Team by team member are outline in Table 4.

<table>
<thead>
<tr>
<th>Table 4. Management Team Responsibilities</th>
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<tbody>
<tr>
<td><strong>Team Member</strong></td>
</tr>
<tr>
<td>PI Donahgy</td>
</tr>
<tr>
<td>Co-PI French</td>
</tr>
<tr>
<td>Co-PI Turbeville</td>
</tr>
<tr>
<td>Board of Directors</td>
</tr>
</tbody>
</table>

**F. STUDENT SELECTION PROCESS AND CRITERIA**

**a. Selection Process**

The Environmental Scholars program will be advertised on the ESF website under the financial aid and scholarships section of the admissions website (www.esf.edu/financialaid). Students will be made aware of the opportunity and the specific requirements of financial need as well as academic merit that must be met. Applicants for the Environmental Scholars Program will need to be formally accepted by the College first and have a FAFSA on file with the Office of Financial Aid by February 15th to receive full consideration for program eligibility. Eligibility will be determined by a financial need of $4,750.00 and minimum high school GPA of 3.00 (85). It is expected that at approximately half of our accepted students into chemistry, biology, engineering and environmental science programs will fall into this category, approximately 275 students.

After eligibility has been determined and the pool of candidates created, the second phase of the selection process will begin according to the timeline outlined in Table 5. The second phase of the selection process will involve a brief on-line application that details for the students (and for family members) the essential elements of the program, the support systems that will be provided, the
community expectations and the opportunities available to participants to gain invaluable professional experience. This on-line application will be used to solicit information about applicant’s interest in service learning and undergraduate research, further information about relevant experience related to their majors (i.e. internships, environmental engagement) and ultimately what the applicant sees as the importance and impact of this scholarship on their intended career goals. There will be an additional brief essay required that addresses the importance and impact that receiving the Environmental Scholarship will have on the students career aspirations. This extra step will help the Management Team identify students with a commitment to their chosen major and for whom the scholarship will have maximum impact.

Once the first applications have been reviewed and ranked, the PI and another member of the Management Team will telephone interview the candidates. These calls are intended to ensure that students know that this is a scholarship program that has specific community expectations. Experience has indicated that for a cohesive program such as Environmental Scholars to work effectively, students need to regard it as a community and be willing to contribute to the program and to others. Introducing telephone interviews for the third cohort of students in the previous Environmental Scholars Program (2009-2013) cut back significantly on the number of unengaged, and ultimately unsuccessful, Scholars. The third cohort currently has a 100% retention rate with only one student on probation.

Final decisions will be made by the first of April to ensure that students have adequate time to consider their decision and for the Management Team to offer scholarships to other eligible students should the first offers be rejected before the National College Acceptance Deadline of May 1. The Selection Process is outlined in **Table 5**.

<table>
<thead>
<tr>
<th>Date</th>
<th>Process</th>
</tr>
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<tbody>
<tr>
<td>February/March</td>
<td>Co-PI French and the Office of Admissions provides Management team with a list of eligible students who have been directed to complete the on-line application</td>
</tr>
<tr>
<td>March 15th</td>
<td>On-Line applications close, Management Team meets to discuss and rank the applicants</td>
</tr>
<tr>
<td>March 31st</td>
<td>Phone interviews are completed and within three business days, letters to all successful candidates will be sent</td>
</tr>
<tr>
<td>April 15th</td>
<td>Deadline for acceptance (replacement offers will be made when initial offers rejected until cohort is filled)</td>
</tr>
</tbody>
</table>

**b. Replacement of Scholars**

Ideally the programs and support systems provided to the Environmental Scholars should keep attrition to a minimum but realistically; there will be some Scholars who do not persist due to a variety of reasons.

Environmental scholars will be expected to remain in good standing with respect to current college standards (minimum GPA of 2.00) and will be subject to all sanctions and disciplinary actions of the College should they fall below minimum College expectations. However, in order for Environmental Scholars to retain their scholarship, they will need to engage with the program and will be expected to maintain a cumulative GPA of 2.75 at the end of their second semester on campus. Falling below the GPA requirement will not be immediate grounds for dismissal from the program, but it will be noted by the PI and appropriate action taken as outlined below.

Seeking to keep students in the program and to foster academic excellence, Environmental Scholars that do not maintain a minimum GPA of 2.75 will enter into a probationary period. This
probationary period will be used by the Management Team to formulate plans with these at-risk students so that they may remain in the Environmental Scholars program and at ESF.

It is expected that the engaged student (attending class, meeting with their mentors, participating in outside class activities, attending study skills sessions and taking part in tutoring services and other activities) is more likely to be successful, therefore, the Management Team will endeavor to ensure that all students feel connected to the campus and their learning communities. However, even with these goals, some student may fail to excel, therefore it is essential that further help be offered and available. Examples of actions that may be taken to help the “engaged student” might include a meeting with the Coordinator of the Academic Success Center to assess the student’s specific issues and to create a more personal plan. Suggestions for better time management, finding remedial courses to strengthen math and reading skills or a schedule adjustment to ensure that the student is taking courses at their best time of day are a few of the possible remedies.

The importance of a fully engaged cohort cannot be underscored in order for the group to work effectively to help each other and to learn from each other’s distinctive viewpoints. Therefore, students who are not engaged (not attending class, not taking part in outside class activities, not showing any signs of wanting to be a part of the cohort) and who cannot maintain a 2.75 GPA, will experience a slightly stronger motivational approach, starting with a letter of warning reminding them of the contract they signed when they accepted the scholarship informing them of their commitment to be an active member of the group.

This approach to student progress has proven successful for the 2009-2013 grant program. Only one student was excluded from the program based upon GPA and in that case, the GPA was lower than ESF’s standards.

Recognizing that not all students will persist through all scholarship years for academic reasons, changes in major, changes in financial status or by choosing to leave ESF, the Management Team will look to replace the departing student with a currently enrolled student who has the same class standing, major, and financial need as the departing student. For example if a student with 18 earned credit hours towards a major in chemistry leaves the program, a talented student majoring in chemistry and with approximately 18 earned credit hours will be offered the scholarship. Alternatively, transfer students will be offered the open scholarships. The Management Team will make these decisions.

c. Dissemination of Awards

Three cohorts of freshmen students will be recruited with an emphasis on underrepresented groups (including women and Asian Americans who are a minority at ESF) as well as out-of-state students. These freshmen will receive $4750 for the first year and a minimum of $4750 each year thereafter for four years, not to exceed $10,000 in any given academic year. We found that financial need changes sometimes dramatically as students’ progress through their college career (a surprise to PI not to the Director of Financial Aid). ESF is committed to supporting these students and keeping their financial aid packages consistent for four years. Students enrolled in the program whose financial need drops below $4750 will be consider for other kinds of non-need based financial aid and the balance of NSF funds will be spread out amongst the other Scholars. In other words, we are committed to supporting these Scholars with a consistent financial aid package as long as they remain in good standing and are actively engage in the program. The Dissemination schedule is outlined below in the budget justification.

G. S-STEM STUDENT SUPPORT SERVICES AND PROGRAMS

As a predominately STEM school, ESF has significant support services already in place for our students. The First Year Experience mirrors a learning community with faculty who are dedicated to the success and progress of our freshmen students. Faculty members across the big three freshmen classes, Biology, Chemistry and Writing, meet with representatives from Student Affairs and Resident Life to discuss the progress and needs of their students. The College Counselor also meets with the First Year
Learning Team to identify any students who may need a helping hand emotionally. Course overlaps are planned and supporting cohort activities seek to build bridges between students, faculty and staff so that students feel connected to the campus and their professors despite large class sizes and heavy theoretical classes. The First Year Experience hosts a full-day retreat one week into the semester where students engage in team building exercises and meet other faculty members in a field setting to foster a feeling of community amongst the freshmen. In addition to this supportive team, the Academic Success center offers study skills workshop, group tutoring and workshops. **Table 6** highlights the Cohort Experience we provide for our students generally, underlined are Environmental Scholars only programs. Some of the programs have existed for many years, others were developed for the first set of Environmental Scholars (*) and others will be developed as needed.

<table>
<thead>
<tr>
<th>Year</th>
<th>Programs Currently Available that this program will build upon</th>
<th>Programs that will be developed specifically for this program</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>Pre-orientation Retreat Weekend*, First Year Experience, Peer Tutoring, Peer-led workshops, Freshmen Day of Service, Insomniacs, study skills workshops.</td>
<td>Environmental Scholars Learning Community</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Environmental Scholars Seminar Series with communication skills, leadership skills and Global Climate Change as its theme</td>
</tr>
<tr>
<td>Second</td>
<td>Opportunities to serve as workshop leaders, tutors, laboratory teaching assistants, mentors and orientation leaders</td>
<td>First Cohort will mentor subsequent cohorts</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Interdisciplinary service-learning course with major specific experience and Global Climate Change as its theme</td>
</tr>
<tr>
<td>Third</td>
<td>Career Seminars* Financial Incentives for GPA of 3.2 or higher* Mentoring and Faculty Sponsored Research and internships</td>
<td>Cultivate internship programs with Federal, State and Local Agencies, and non-profit groups</td>
</tr>
<tr>
<td>Fourth</td>
<td>Major dependent experiential learning (Chemistry - undergraduate research; Biology - Experiential capstone; Engineering - Internships; Environmental Science - Internships)</td>
<td>Program Poster Session as part of the College-wide Spotlight on Research mini-conference (April)</td>
</tr>
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</table>

*Programs developed by the Environmental Scholars Program 2009-2013

The biggest changes in the cohort experience from the first grant to this one will be the Global Climate Change theme and staggered class levels. The previous grant was designed to continue to add all at the same class level (freshmen first, second year sophomore transfers and third year junior transfers) so that all of our Scholars would ideally graduate together. This proposal would have staggered classes, with each cohort graduating one year apart. The leadership and mentorship possibilities of this design will be exploited in the seminar courses. We believe this will focus the student’s efforts constructively and place more effort on the academic aspects of the program.
H. QUALITY EDUCATIONAL PROGRAMS

The State University of New York – College of Environmental Science and Forestry (ESF) is a unique college. One of 13 doctoral granting institutions in the 64-campus SUNY system, ESF has a specialized mission of education, research and public service related to developing and managing renewable natural resources, understanding the structure and function of the world's ecosystems, and maintaining and enhancing environmental quality. Research and service programs are directed at creating new knowledge that has a positive and influential impact upon the quality of life for all people. As the only higher education institution in the United States solely dedicated to the study of natural resources and the environment, ESF has a strong history and record in training environmental professionals, specifically those enrolled in STEM programs. We are a Middle States Accredited institution and our Engineering Department is also Accreditation Board for Engineering and Technology (ABET) accredited. The chemistry department is seeking American Chemical Society (ACS) accreditation and our environmental forest biology department and environmental sciences division are recognized across the country as leaders in environmental education.

The College began as a professional school of forestry in 1911, as the need for environmental professionalism grew, so did the college. ESF answered the call for a broadly educated and well-trained environmental STEM workforce and expanded through the years to include environmental science, environmental chemistry, engineering, life sciences and natural resource management. Today, ESF serves over 2,300 students (2/3 undergraduate), has more than 25,000 acres of forest property throughout Central New York and is a leader in environmental education.

The faculty at ESF have very active research programs and have roughly $61,700,000 ($61.7M) of external research funding. With an undergraduate student to faculty ratio of approximately 12:1, undergraduate students benefit from outstanding opportunities to participate and work side-by-side with faculty members on valuable environmentally related research projects. A recent report indicated that more than 80% of the undergraduate student body reports being engaged in a research project with a faculty member and to date, 100% of our Scholars from the previous grant have engaged in a research or research based internship at some point. ESF has been ranked among the nation’s top colleges and universities for scholarly work.

The small size and close nature of ESF is not limiting. Syracuse University is located, literally, next door; both campuses sharing a common private drive. Syracuse University is a major private university with a student population of more than 19,000; a top-notch sports program and over 300 clubs and organizations. ESF students are considered students at both institutions and therefore have access to all of the clubs, sports and more importantly, libraries, health services and counseling services. ESF students are truly lucky to have the best of both worlds, the intimate, intellectual atmosphere of a small focused college and the exciting diverse atmosphere of one of the nation’s largest universities.

The environmental programs, strong faculty commitment to excellent research and teaching and a small school atmosphere with big school benefits makes ESF a unique, nurturing and special place to be an Environmental Scholar.

I. ASSESSMENT AND EVALUATION

The assessment and evaluation of the project will be undertaken by the PI and the Board of Directors (past Co-PI’s of the initial Environmental Scholars). The primary responsibility of the Board will be to aid the PI in the preparation of the assessment materials and to carry-out an annual review of the programs activities, recruitment and retention data.

The Primary goal of this proposal is to award scholarships to financially needy but talented students and to make sure that they have the support and encouragement to persist and graduate. To ensure that we are achieving this goal we will be closely monitoring our Environmental Scholar’s academic achievement and progress toward degree completion. The Management Team will do this at the end of each semester to ensure that students are getting the help they need and to adjust and refine the
program as appropriate. Each year, in May, in an informal setting we will host a feedback session where students can tell us what is working and what isn’t. This will give us the summer to plan and refine the program and allow it to be something that continuously evolves to meet student needs. Further we will enlist the use of on-line anonymous survey tools such as the Student Assessment of Learning Gains (SALG survey) or use the survey function in Blackboard to assess the program or program elements more frequently so that we can make adjustments as necessary in a more timely fashion. The Board of Directors will help develop these surveys and analyze the reports. In addition, each year they will seek an outside evaluator for the program.

Benchmarks such as 85% retention of our students and at least a 50% representation of students from underrepresented groups including women and Asian Americans will be used to assess our recruitment and retention success. Further, 4-year graduation rates of at least, 80%, will also indicate program success.

**J. DISSEMINATION**

Best practices papers will be written and presented about how to encourage STEM majors and to foster interdisciplinary crossover. Presentations will be made at local, national and international conferences on STEM education such as NERM (Northeast Regional Meeting of the American Chemical Society), AAAS (American Association for the Advancement of Science) and the International STEM in Education Conference. In particular papers written and presented about this project will focus on the use of Global Climate Change as a theme, the enhancement of leadership and mentorship aspects of bringing in three separate cohorts of freshmen and the importance of strong cohort building activities throughout the program.

**K. INTELLECTUAL MERIT**

This program builds upon ESF’s, NSF Environmental Scholars Program 2009-2013, USDA’s Minority Scholars Program, and CSTEP, successful programs designed to attract, retain and graduate underrepresented groups in STEM disciplines. New activities will be developed to better understand retention of STEM students through the first few theoretical years and a unifying theme will be employed to generate a more global view of environmental issues. Further, new initiatives to partner with industry groups for recruiting underrepresented groups will be investigated and their impact on graduation rates and employment prospects of our graduates will shed new light on the old problem of recruitment and retention of women and underrepresented minorities in the STEM disciplines.

**L. BROADER IMPACTS**

The primary impact of this program is to provide opportunities for scientifically talented students who may not be able to attend college due to financial constraints and to graduate well-educated professionals in the STEM fields of chemistry, biology, engineering and environmental science. Students in this program will also be encouraged to participate in service-learning projects thereby reaching out to the community sharing their education with others and providing younger students with role models. Most importantly, this program will focus on developing a well-rounded experience for a diverse cohort of students that strengthens and empowers them, thus providing an example for others about how to reach more deeply into America’s most precious resource – **PEOPLE**.
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KELLEY J. DONAGHY

Chemistry Department
State University of New York - Environmental Science and Forestry
1 Forestry Dr.
Syracuse, NY 13210
Phone: (315) 470-6826
FAX: (315) 470-6856
kdonaghy@esf.edu

A. PROFESSIONAL PREPARATION:

University of Pennsylvania Inorganic Chemistry Ph.D. 1996
Syracuse University Chemistry B. S. 1989

B. APPOINTMENTS

Associate Professor, Chemistry Department, SUNY-ESF 2012- Present
Assistant Professor, Chemistry Department, SUNY-ESF 2006-2012
Adjunct Assistant Professor, LaSalle University 2006
Assistant Professor, Chemistry Department, American University 1998-2005
Visiting Assistant Professor, University of Maine at Machias 1997-1998

C. PUBLICATIONS

Relevant Publications

Other Publications
Miller, Robert W., Donaghy, Kelley J. and Spencer, James T., Small heteroborane cluster systems. 2. Preparation of phosphaborane systems from the reaction of small borane cages with low-coordinate phosphorus compounds: reaction chemistry of phosphaalkynes with pentaborane (9). Organometallics, 1991, 10, 1161-72.

**D. SYNERGISTIC ACTIVITIES**

1. Member of the Inorganic Chemistry POGIL Initiative known as IP-Five – funded through the SPUR grants from the lead POGIL NSF grant.
2. Director of the NSF funded S-STEM Scholarship program for undergraduates, Environmental Scholars.
3. Serving as Executive Chair of Faculty Governance and Chair of the Education Committee of the Local Syracuse American Chemical Society Section.
4. Received a grant from the Local American Chemical Society Section for a series of workshops for local area chemistry teachers to bring technology into the classroom.
5. Annotator for Project Chemlab, an online, searchable, annotated database of laboratories published in the *Journal of Chemical Education*.

**E. COLLABORATORS AND OTHER AFFILIATIONS**

**Graduate Advisor:**  
Larry G. Sneddon  
University of Pennsylvania  
Department of Chemistry  
231 34th Street  
Philadelphia, Pennsylvania 19104-6323

**Undergraduate Advisor:**  
James T. Spencer  
Syracuse University  
Department of Chemistry  
Syracuse, New York 13210

**Current Collaborators:**  
Donald J. Leopold, Ivan Gitsov, John P. Hassett, James Hassett, John Turbeville  
SUNY College of Environmental Science and Forestry  
1 Forestry Drive  
Syracuse, NY 13210  
Susan Jackalls  
Seattle University, 901 12th Avenue, Seattle, Washington 98122

**Graduate Students**

<table>
<thead>
<tr>
<th>Name</th>
<th>Degree/Date of Degree</th>
<th>Present Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kathleen J. Dugan</td>
<td>MS expected 10/2012</td>
<td>SUNY-ESF</td>
</tr>
<tr>
<td>Elizabeth Elliott</td>
<td>MS American University 2006</td>
<td>Univ. of Missouri</td>
</tr>
<tr>
<td>Melissa Marino,</td>
<td>MS American University 2006</td>
<td>District Attorney, Boston</td>
</tr>
</tbody>
</table>
SUMMARY OF QUALIFICATIONS:

More than 30 years of progressively responsible higher education experience in the areas of college admissions, financial aid, marketing and communications with a documented record of success at every level. Strong communication, management, leadership and analytical skills and a record of achievement in working with diverse constituencies to reach agreed-upon goals. Significant strategic planning experience and an earned doctorate (Ph.D.) in Higher Education Administration have contributed to a broad understanding of institutional issues, strong potential to lead organizational change, and the ability to contribute to a successful leadership team at a premier college or university.

A. PROFESSIONAL PREPARATION:

1993 - 2001  
State University of New York at Buffalo, Buffalo, New York  
Doctor of Philosophy (Ph.D.) in Higher Education Administration  
Doctoral dissertation: Encouraging Faculty Participation in College and University Distance Education Programs (UMI Microform 2001)

1979 - 1980  
Rochester Institute of Technology, Rochester, New York  
Undergraduate Certificate in Management

1976 - 1977  
Syracuse University, Syracuse, New York  
Master of Science in Educational Administration

1972 - 1976  
Eisenhower College, Seneca Falls, New York

B. PROFESSIONAL APPOINTMENTS:

2006 - Present  
Vice President for Enrollment Management and Marketing  
State University of New York  
College of Environmental Science and Forestry

1998 - 2006  
Assistant Vice President, Enrollment Management and Career Services Division,  
Rochester Institute of Technology

1987 - 1998  
Assistant to the Vice President for Enrollment Services,  
Rochester Institute of Technology

1990 - 1991  
Acting Director of Financial Aid,  
Rochester Institute of Technology

1989 - 1990  
Acting Director of Admissions,  
Rochester Institute of Technology

1987 – 1989  
Director of Enrollment Management Support  
Rochester Institute of Technology

1983 - 1987  
Director of Admissions,  
Elmira College

1982 - 1983  
Assistant Director of Admissions  
Cornell University – New York State College of Human Ecology

1978 - 1982  
Assistant Director/Coordinator of Admissions  
Rochester Institute of Technology

D. SYNERGISTIC ACTIVITIES

1. PROFESSIONAL DEVELOPMENT:

Evaluator, Middle States Evaluation Team for Monmouth University Accreditation, 3/06  
Judge, CASE District II Accolades Awards Competition, 10/05  
Presenter, National Association of College Admissions Counselors Annual Meeting, 10/93  
NYSFAA Financial Aid Counselor Training Program, 6/91
Presenter, North Carolina Association of Institutional Researchers Annual Meeting, 4/90
Presenter, College Board Enrollment Planning Service Workshop, 6/88
Faculty Member, Admissions Counselor Training Program, The Ingersoll Group, Inc., 8/87
Associate Member, Middle States Evaluation Team for Gwynedd-Mercy College Accreditation, 3/86
Cornell University Middle Management Program, 5/83

2. PROFESSIONAL ASSOCIATIONS:

Member, College Board Recruitment and Admission Client Advisory Group, 2005 – present
Council for the Advancement and Support of Education (CASE)
National Association of College Admissions Counselors
New York State Association of College Admissions Counselors

3. PROFESSIONAL AWARDS:

Gold Medal Winner for Web Sites, District II 2005 Accolades Awards Program, Council for Advancement and Support of Education (CASE)
Bronze Medal Winner for Web Sites, 2005 Admissions Marketing Report Magazine Awards Program
Gold Medal Winner for Student Marketing Improvement, 1987 National Awards Program, Council for Advancement and Support of Education (CASE)
Third Place Award for Television Advertising, 1987 Admissions Marketing Report Magazine Awards Program

4. UNIVERSITY SERVICE:

SUNY-ESF Middle States Accreditation Committee, 2007 and 2010
Co-Chair, RIT Career Focus Task Force (Strategic Planning), 2004
RIT Middle States Accreditation Self Study Teams, 1997 and 2002
RIT Agenda for Action Committee (Strategic Planning), 1994-1998
Chairman, RIT Administrative Program Review Committee, 1995-96
RIT President's Award for Outstanding Service, 1994
RIT Staff Council Executive Committee (University Governance), 1993-94

5. COMMUNITY INVOLVEMENT:

Chili Youth Lacrosse Coach, 1998-2000
Board of Directors, Elmira Alive (Downtown Development Group), 1985
Chairman, Seneca County Community Services Board, 1982
JOHN E. TURBEVILLE

Student Affairs
State University of New York - Environmental Science and Forestry
1 Forestry Drive, 110 Bray Hall
Syracuse, NY 13210
Phone: (315) 470-6660
FAX: (315) 470-4728
jturbev@esf.edu

A. PROFESSIONAL PREPARATION:

Syracuse University          Social Science          Ph.D. 2014
Syracuse University          Higher Education         M.S. 2004
State University of New York – Oswego Math & Education B.S. 2002

B. APPOINTMENTS

Assistant Dean of Student Affairs and Director of Career Services 2012-present
Director of Career Services, Student Life, SUNY-ESF 2008-2011
Assistant Director of Experiential Learning, Student Life, SUNY-ESF 2004-2007
Student Life Associate, Student Life, SUNY-ESF 2002-2004

C. PUBLICATIONS (Relevant and Other)

Turbeville, J.E., Call, S., & Tillapaugh, T. (July 26, 2012). The true colors of career counseling. ESCAPE Conference, Cornell University, Ithica N.Y.

Turbeville, J.E. & Tillapaugh, T. (July 24, 2012). The true colors: Personal success seminar for career counselors. Career Services Network Retreat, Syracuse University, Syracuse, N.Y.

Turbeville, J.E. & Budman, G.V. (June 27, 2006). A tale of two quads: Two diverse campuses linked by one unique learning community. Association of College and University Housing Officers-International (ACUHO-I), Washington, D.C.


**D. RELEVANT AWARDS**

- 2010  President’s Award for Dedication and Service, SUNY CDO
- 2008  State University of New York Chancellor’s Award for Excellence Professional Service
- 2007  Ahern & Murphy Leadership Program, Program Graduate
- 2004  Undergraduate Student Association Special Recognition Award

**E. SYNERGISTIC ACTIVITIES**

1. Board Member, 40 Below – Young Professionals Group
2. Member, SUNY-ESF Retention Team
3. Assisted On Point for College in their efforts to aid inner-city youth in enrolling and succeeding in college
4. Facilitated the Learning Community Management Team meetings
5. Co-Chair, Quality of Work Life Committee

**F. COLLABORATORS AND OTHER AFFILIATIONS**

- Learning Community Assessment Steering Committee, Syracuse University (Active Member: 2002 - Present)
- Learning Community Management Team, SUNY College of Environmental Science and Forestry (Facilitator: 2002 - Present)
- National Association of Colleges and Employers (Member)
- SUNY Career Development Organization (Member)
  - Conference Co-Chair, 2012-2013
  - President, 2010-2011 (youngest president in organization history)
  - President-Elect, 2009-2010
- National Association of Student Personnel Administrators (Member)
- American College Personnel Association (Member)
- College Student Personnel Association of New York State (Member)
### SUNY College of Environmental Science and Forestry

#### Proposed Budget

**Principal Investigator / Project Director**

**Kelley Donaghy**

**A. Senior Personnel: PI/PD, Co-PI’s, Faculty and Other Senior Associates**

<table>
<thead>
<tr>
<th>Name</th>
<th>Title/Function</th>
<th>CAL</th>
<th>ACAD</th>
<th>SUMR</th>
<th>Funds Requested by Proposer</th>
<th>Funds Granted by NSF</th>
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</thead>
<tbody>
<tr>
<td>Robert C French</td>
<td>VP for Enrollment, Mkt</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>John Turbeville</td>
<td>Asst Dean-Std Affairs</td>
<td>0.00</td>
<td>0.00</td>
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</tbody>
</table>

**Total Senior Personnel (1-6):**

| Total Senior Personnel | 0.40 | 3,002 |

**B. Other Personnel (Show Numbers in Brackets)**

<table>
<thead>
<tr>
<th>Category</th>
<th>CAL</th>
<th>ACAD</th>
<th>SUMR</th>
<th>Funds Requested by Proposer</th>
<th>Funds Granted by NSF</th>
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</thead>
<tbody>
<tr>
<td>Post Doctoral Scholars</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Other Professionals (Technician, Programmer, etc.)</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Graduate Students</td>
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<td></td>
</tr>
<tr>
<td>Undergraduate Students</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Secretarial - Clerical (if charged directly)</td>
<td></td>
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<tr>
<td>Other</td>
<td></td>
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</tr>
</tbody>
</table>

**Total Salaries and Wages (A+B):**

| Total Salaries and Wages (A+B) | 3,002 |

**C. Fringe Benefits (If charged as direct costs):**

| Total Fringe Benefits (A + B + C) | 510  |

**Total Salaries, Wages and Fringe Benefits: (A + B + C):**

| Total Salaries, Wages and Fringe Benefits | 3,512 |

**D. Equipment (List Item and Dollar Amount for Each Item Exceeding $5,000):**

| Total Equipment | 0 |

**E. Travel**

| Travel Cost | 0 |

**F. Participant Support Costs**

| Participant Support Costs | 47,500 |

**Total Participant Costs:**

| Total Participant Costs | 57,950 |

**G. Other Direct Costs**

| Other Direct Costs | 0 |

**Total Other Direct Costs:**

| Total Other Direct Costs | 0 |

**H. Total Direct Costs (A through G):**

| Total Direct Costs | 61,462 |

**I. Indirect Costs (F&A) (Specify Rate and Base)**

| Indirect Costs (F&A) | 1,756 |

**Total Indirect Costs (F&A):**

| Total Indirect Costs (F&A) | 63,218 |

**K. Residual Funds:**

| Residual Funds | 0 |

**L. Amount of This Request (J) or (J Minus K):**

| Amount of This Request (J) or (J Minus K) | 63,218 |

**M. Cost Sharing Proposed Level $ | 0**

**Agreed Level if Different $**

**PI/PD Name**

**Kelley Donaghy**

**Org. Rep. Name**

**William Nicholson**

**FOR NSF USE ONLY**

<table>
<thead>
<tr>
<th>Org. Rep. Initials - ORG</th>
<th>Date Checked</th>
<th>Date Of Rate Sheet</th>
<th>Initials - ORG</th>
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<tbody>
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</table>

*(ELECTRONIC SIGNATURES REQUIRED FOR REVISED BUDGET)*
## SUMMARY PROPOSAL BUDGET

<table>
<thead>
<tr>
<th>ORGANIZATION</th>
<th>SUNY College of Environmental Science and Forestry</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRINCIPAL INVESTIGATOR / PROJECT DIRECTOR</td>
<td>Kelley Donaghy</td>
</tr>
</tbody>
</table>

### A. SENIOR PERSONNEL: PI/PD, Co-PI's, Faculty and Other Senior Associates

<table>
<thead>
<tr>
<th>Name</th>
<th>Funds Requested by proposer</th>
<th>Funds granted by NSF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kelley J Donaghy - Assistant Prof-Chemistry</td>
<td>0.00 0.00 0.40</td>
<td>3,137</td>
</tr>
<tr>
<td>Robert C French - VP for Enrolmnt, Mkt</td>
<td>0.00 0.00 0.00</td>
<td>0</td>
</tr>
<tr>
<td>John Turbeville - Asst Dean-Stdt Affairs</td>
<td>0.00 0.00 0.00</td>
<td>0</td>
</tr>
<tr>
<td>Total Senior Personnel (1-6)</td>
<td>0.00 0.00 0.40</td>
<td>3,137</td>
</tr>
</tbody>
</table>

### B. OTHER PERSONNEL (SHOW NUMBERS IN BRACKETS)

<table>
<thead>
<tr>
<th>Category</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post Doctoral Scholars</td>
<td>0.00</td>
</tr>
<tr>
<td>Other Professionals (Technician, Programmer, Etc.)</td>
<td>0.00</td>
</tr>
<tr>
<td>Graduate Students</td>
<td>0.00</td>
</tr>
<tr>
<td>Undergraduate Students</td>
<td>0.00</td>
</tr>
<tr>
<td>Secretarial - Clerical (If Charged Directly)</td>
<td>0.00</td>
</tr>
<tr>
<td>Other</td>
<td>0.00</td>
</tr>
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</table>

### C. FRINGE BENEFITS (IF CHARGED AS DIRECT COSTS)

<table>
<thead>
<tr>
<th>Category</th>
<th>Amount</th>
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<tbody>
<tr>
<td>Domestic</td>
<td>0.00</td>
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<tr>
<td>International</td>
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</table>

### D. EQUIPMENT (LIST ITEM AND DOLLAR AMOUNT FOR EACH ITEM EXCEEDING $5,000.)

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Amount</th>
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### E. TRAVEL

<table>
<thead>
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<th>Category</th>
<th>Amount</th>
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<tbody>
<tr>
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<tr>
<td>International</td>
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### F. PARTICIPANT SUPPORT COSTS

<table>
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<th>Category</th>
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<tbody>
<tr>
<td>Stipends</td>
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<tr>
<td>Travel</td>
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<tr>
<td>Subsistence</td>
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<tr>
<td>Other</td>
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### G. OTHER DIRECT COSTS

<table>
<thead>
<tr>
<th>Category</th>
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<tbody>
<tr>
<td>Materials and Supplies</td>
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<tr>
<td>Publication Costs/Documentation/Dissemination</td>
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<tr>
<td>Consultant Services</td>
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<td>Computer Services</td>
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<td>Subawards</td>
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<tr>
<td>Other</td>
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</table>

### H. TOTAL DIRECT COSTS (A THROUGH G)

| Amount | 109,120 |

### I. INDIRECT COSTS (F&A)(SPECIFY RATE AND BASE)

<table>
<thead>
<tr>
<th>a,b,c,e,g (Rate: 50.0000, Base: 3670)</th>
<th>Amount</th>
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</thead>
<tbody>
<tr>
<td>Total Indirect Costs (F&amp;A)</td>
<td>1,835</td>
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</tbody>
</table>

### J. TOTAL DIRECT AND INDIRECT COSTS (H + I)

| Amount | 110,955 |

### K. RESIDUAL FUNDS

| Amount | 0.00 |

### L. AMOUNT OF THIS REQUEST (J) OR (J MINUS K)

| Amount | 110,955 |

### M. COST SHARING PROPOSED LEVEL

| Amount | 0.00 |

### FOR NSF USE ONLY

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
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<tbody>
<tr>
<td>PI/PD NAME</td>
<td>Kelley Donaghy</td>
</tr>
<tr>
<td>INDIRECT COST RATE VERIFICATION</td>
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</tr>
<tr>
<td>ORG. REP. NAME*</td>
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<tr>
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<td>Initials - ORG</td>
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2 *ELECTRONIC SIGNATURES REQUIRED FOR REVISED BUDGET
<table>
<thead>
<tr>
<th>бюджетная статья</th>
<th>CAL</th>
<th>ACAD</th>
<th>SUMR</th>
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</thead>
<tbody>
<tr>
<td><strong>A. SENIOR PERSONNEL: PI/PD, Co-PI’s, Faculty and Other Senior Associates</strong> (List each separately with title, A.7. show number in brackets)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. <strong>Kelley Donaghy - Assistant Prof-Chemistry</strong></td>
<td>0.00</td>
<td>0.00</td>
<td>0.40</td>
</tr>
<tr>
<td>2. Robert C French - VP for Enrolmnt, Mkt</td>
<td>0.00</td>
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</tr>
<tr>
<td>3. John Turbeville - Asst Dean-Stdt Affairs</td>
<td>0.00</td>
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<tr>
<td>4.</td>
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<tr>
<td>5.</td>
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<tr>
<td>6. (0) OTHERS (LIST INDIVIDUALLY ON BUDGET JUSTIFICATION PAGE)</td>
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<tr>
<td>7. (3) TOTAL SENIOR PERSONNEL (1 - 6)</td>
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<tr>
<td><strong>B. OTHER PERSONNEL</strong> (SHOW NUMBERS IN BRACKETS)</td>
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<td></td>
</tr>
<tr>
<td>1. (0) POST DOCTORAL SCHOLARS</td>
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<tr>
<td>2. (0) OTHER PROFESSIONALS (TECHNICIAN, PROGRAMMER, ETC.)</td>
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<tr>
<td>3. (0) GRADUATE STUDENTS</td>
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<tr>
<td>4. (0) UNDERGRADUATE STUDENTS</td>
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<td>5. (0) SECRETARIAL - CLERICAL (IF CHARGED DIRECTLY)</td>
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<tr>
<td>6. (0) OTHER</td>
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<tr>
<td>TOTAL SALARIES AND WAGES (A + B)</td>
<td>3,278</td>
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<td><strong>C. FRINGE BENEFITS (IF CHARGED AS DIRECT COSTS)</strong></td>
<td>558</td>
<td></td>
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</tr>
<tr>
<td>TOTAL SALARIES, WAGES AND FRINGE BENEFITS (A + B + C)</td>
<td>3,836</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>D. EQUIPMENT</strong> (LIST ITEM AND DOLLAR AMOUNT FOR EACH ITEM EXCEEDING $5,000.)</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>TOTAL EQUIPMENT</td>
<td>0.00</td>
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<td>0.00</td>
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<tr>
<td><strong>E. TRAVEL</strong></td>
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<tr>
<td>1. DOMESTIC (INCL. CANADA, MEXICO AND U.S. POSSESSIONS)</td>
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<td>2. INTERNATIONAL</td>
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<tr>
<td><strong>F. PARTICIPANT SUPPORT COSTS</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>1. STIPENDS</td>
<td>$142,500</td>
<td></td>
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</tr>
<tr>
<td>2. TRAVEL</td>
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<td><strong>J. TOTAL DIRECT AND INDIRECT COSTS</strong> (H + I)</td>
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**FOR NSF USE ONLY**

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<thead>
<tr>
<th>PI/PD NAME</th>
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<tr>
<td><strong>Kelley Donaghy</strong></td>
<td>INDIRECT COST RATE VERIFICATION</td>
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<td><strong>WILLIAM NICHOLSON</strong></td>
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3 *ELECTRONIC SIGNATURES REQUIRED FOR REVISED BUDGET*
<table>
<thead>
<tr>
<th>A. SENIOR PERSONNEL: PI/PD, Co-PI's, Faculty and Other Senior Associates (List each separately with title, A.7. show number in brackets)</th>
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</thead>
<tbody>
<tr>
<td>1. <strong>Kelley Donaghy - Assistant Prof-Chemistry</strong></td>
</tr>
<tr>
<td>2. <strong>Robert C French - VP for Enrolmnt, Mkt</strong></td>
</tr>
<tr>
<td>3. <strong>Joh Turbeville - Asst Dean-Stdt Affairs</strong></td>
</tr>
<tr>
<td>4.</td>
</tr>
<tr>
<td>5.</td>
</tr>
<tr>
<td>6. (0) OTHERS (LIST INDIVIDUALLY ON BUDGET JUSTIFICATION PAGE)</td>
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<tr>
<td>7. (3) TOTAL SENIOR PERSONNEL (1 - 6)</td>
</tr>
<tr>
<td>B. OTHER PERSONNEL (SHOW NUMBERS IN BRACKETS)</td>
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<tr>
<td>1. (0) POST DOCTORAL SCHOLARS</td>
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<td>2. (0) OTHER PROFESSIONALS (TECHNICIAN, PROGRAMMER, ETC.)</td>
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<td>3. ( ) GRADUATE STUDENTS</td>
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<tr>
<td>4. (0) UNDERGRADUATE STUDENTS</td>
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<tr>
<td>5. (0) SECRETARIAL - CLERICAL (IF CHARGED DIRECTLY)</td>
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<tr>
<td>6. ( ) OTHER</td>
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<tr>
<td>TOTAL SALARIES AND WAGES (A + B)</td>
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<td>C. FRINGE BENEFITS (IF CHARGED AS DIRECT COSTS)</td>
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<tr>
<td>TOTAL SALARIES, WAGES AND FRINGE BENEFITS (A + B + C)</td>
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<td>2. INTERNATIONAL</td>
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<tr>
<td>F. PARTICIPANT SUPPORT COSTS</td>
</tr>
<tr>
<td>1. STIPENDS</td>
</tr>
<tr>
<td>2. TRAVEL</td>
</tr>
<tr>
<td>3. SUBSISTENCE</td>
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<tr>
<td>4. OTHER</td>
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<tr>
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<td>1. MATERIALS AND SUPPLIES</td>
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<tr>
<td>2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION</td>
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<td>3. CONSULTANT SERVICES</td>
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<td>H. TOTAL DIRECT COSTS (A THROUGH G)</td>
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<tr>
<td>M. COST SHARING PROPOSED LEVEL $</td>
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<td>AGREED LEVEL IF DIFFERENT $</td>
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**FOR NSF USE ONLY**

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<thead>
<tr>
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<td>Kelley Donaghy</td>
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**FOR NSF USE ONLY**

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<th>Initials - ORG</th>
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<td>William nicholson</td>
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<tr>
<td>ORGANIZATION</td>
<td>SUNY College of Environmental Science and Forestry</td>
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<tr>
<td>3. John Turbeville - Asst Dean-Stdt Affairs</td>
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<td>6. (0) OTHER</td>
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<td>E. TRAVEL</td>
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<td>4. COMPUTER SERVICES</td>
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<td>6. OTHER</td>
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PI/PD NAME | Kelley Donaghy |
| ORG. REP. NAME* | William Nicholson |

FOR NSF USE ONLY | INDIRECT COST RATE VERIFICATION |

Date Checked | Date Of Rate Sheet | Initials - ORG

5 *ELECTRONIC SIGNATURES REQUIRED FOR REVISED BUDGET
### SUMMARY PROPOSAL BUDGET

<table>
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<th>ORGANIZATION</th>
<th>SUNY College of Environmental Science and Forestry</th>
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<td>PRINCIPAL INVESTIGATOR / PROJECT DIRECTOR</td>
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<tr>
<td>PROPOSAL NO.</td>
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<td>DURATION (months)</td>
<td>Proposed</td>
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<td>FUNDS REQUESTED BY PROPOSER</td>
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<td>FUNDS GRANTED BY NSF (if different)</td>
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#### A. SENIOR PERSONNEL: PI/PD, Co-PI's, Faculty and Other Senior Associates

<table>
<thead>
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<th>Name</th>
<th>Title</th>
<th>PI/PD, Co-PI's, Faculty and Other Senior Associates</th>
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<tbody>
<tr>
<td>Kelley Donaghy</td>
<td>Assistant Prof-Chemistry</td>
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</tr>
<tr>
<td>Robert C French</td>
<td>VP for Enrollment, Mkt</td>
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</tr>
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<td>John Turbeville</td>
<td>Asst Dean-Stdt Affairs</td>
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#### B. OTHER PERSONNEL (SHOW NUMBERS IN BRACKETS)

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<td>Graduate Students</td>
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<tr>
<td>Undergraduate Students</td>
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<td>Other</td>
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#### C. FRINGE BENEFITS (IF CHARGED AS DIRECT COSTS)

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<td>Total Salaries and Wages (A + B)</td>
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#### D. EQUIPMENT (LIST ITEM AND DOLLAR AMOUNT FOR EACH ITEM EXCEEDING $5,000.)

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#### F. PARTICIPANT SUPPORT COSTS

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#### G. OTHER DIRECT COSTS

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<tr>
<td>Consultant Services</td>
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<td>Computer Services</td>
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<tr>
<td>Subawards</td>
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<tr>
<td>Other</td>
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#### H. TOTAL DIRECT COSTS (A THROUGH G)

| Total | 600,000 |

#### I. INDIRECT COSTS (F&A) (SPECIFY RATE AND BASE)

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<th>Total</th>
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#### L. AMOUNT OF THIS REQUEST (J) OR (J MINUS K)

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**FOR NSF USE ONLY**

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<tr>
<td>ORG. REP. NAME*</td>
<td>William Nicholson</td>
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**C \*ELECTRONIC SIGNATURES REQUIRED FOR REVISED BUDGET**
BUDGET JUSTIFICATION

SALARIES

A small stipend of $12,843 for eight days each grant year is requested for the Principal Investigator for time spent recording student data, organizing retreats, preparing course materials, collecting assessment data, and preparing and submitting final reports.

A graduate assistant’s hourly stipend will be provided by ESF to assist with recording data and organizing student success activities such as tutoring and group study sessions.

SCHOLARSHIPS

We anticipate providing, $522,500 in scholarships to thirty students over five years. The scholarships will be disseminated according to the following schedule.

<table>
<thead>
<tr>
<th>Freshmen</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
<th>Amount up to per year</th>
<th># of students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cohort A</td>
<td>$47,500</td>
<td>$47,500</td>
<td>$47,500</td>
<td>$47,500</td>
<td>$4,750</td>
<td>$4,750</td>
<td>10</td>
</tr>
<tr>
<td>Cohort B</td>
<td>$47,500</td>
<td>$47,500</td>
<td>$47,500</td>
<td>$47,500</td>
<td>$4,750</td>
<td>$4,750</td>
<td>10</td>
</tr>
<tr>
<td>Cohort C</td>
<td>$47,500</td>
<td>$47,500</td>
<td>$47,500</td>
<td>$47,500</td>
<td>$4,750</td>
<td>$4,750</td>
<td>10</td>
</tr>
<tr>
<td>All Cohorts</td>
<td>$47,500</td>
<td>$95,000</td>
<td>$142,500</td>
<td>$142,500</td>
<td>$95,000</td>
<td>$95,000</td>
<td></td>
</tr>
</tbody>
</table>

The fourth year of Cohort C will be funded through ESF scholarship funds to ensure that students entering the program in the third year of the grant period have consistent funding throughout their first four undergraduate college years.

Cost of attendance at ESF as a freshmen and sophomore is generally highest because students choose to live on campus after their second year. The table below outlines the average costs of attending ESF.

<table>
<thead>
<tr>
<th>Average Cost of Attendance</th>
<th>On-Campus</th>
<th>Off Campus</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>New York State Resident</td>
<td>Non-New York State Resident</td>
</tr>
<tr>
<td>Tuition</td>
<td>$5,750</td>
<td>$14,820</td>
</tr>
<tr>
<td>Fees</td>
<td>$1,023</td>
<td>$1,023</td>
</tr>
<tr>
<td>Books and Supplies</td>
<td>$1,200</td>
<td>$1,200</td>
</tr>
<tr>
<td>Room and Board</td>
<td>$14,600</td>
<td>$14,600</td>
</tr>
<tr>
<td>Transportation</td>
<td>$600</td>
<td>$600</td>
</tr>
<tr>
<td>Personal</td>
<td>$450</td>
<td>$450</td>
</tr>
<tr>
<td>Cost of Attendance</td>
<td>$23,623</td>
<td>$32,693</td>
</tr>
</tbody>
</table>

STUDENT SUPPORT

Opening Retreats. Funds are requested for the annual opening year retreat. This retreat costs approximately $225/student and has been found to be essential in creating cohesive cohorts and for creating cohesion between cohorts. The retreat consists of travel to ESF’s remote field station
the Adirondack Ecological Center (AEC) in the Huntington Forest where students participate in group building activities such as bushwacking, canoeing and whitewater rafting. At the AEC there is no cell phone service and students are not allowed to use the wireless internet or computer labs. This no-tech retreat immerses the students in their bonding experience as well as the history of the Adirondacks through visits to the Adirondack Museum and the Wild Center in neighboring towns. New students find this an excellent time to become oriented to campus prior to the rest of the students arrivals and returning students find it a good time to get back into “school mode”.

**Etiquette Dinner.** In addition to the opening retreat, the students will be invited to attend an Etiquette Dinner. This event focuses on how to survive the interview meal. Even those who have had some etiquette training will learn about how to be a good table host and the history behind certain aspects of etiquette.

**Research.** Students who by the end of their second year have achieved a cumulative GPA of 3.2 will qualify for a modest research incentive grant. These grants of $500 minimum will be award based upon a brief research proposal and submitted budget. Students will be expected to work with a professor on ESF’s campus or at SU or Upstate Medical (both associated with ESF through University Hill Collaborations) to develop a research project and to submit a budget outlining how their research incentive will be used. Any student who does not reach the 3.2 GPA upon the end of their second year in the program will forfeit their research incentive and the funds will be dispersed to other students.

**Textbooks.** These funds may also be used as a textbook fund. Students at ESF take General Biology, General Chemistry, Writing and Calculus in their first year, the textbook costs for these courses can often exceed $200 per course, adding $800 to the cost of college. In cases of extreme need, students will be provided textbooks that they cannot purchase themselves through this line item.

**TRAVEL**

Travel funds for the PI are requested to promote NSF’s commitment to quality undergraduate education programs. The focus will be on interdisciplinary scholarship programs and their benefits to the students, college and community. Further recruiting trips to communities from which we hope to recruit URM will also be funded.

**MATERIALS AND SUPPLIES**

A modest budget for materials and supplies is requested for years 3, 4 and 5 so that all students who do research can prepare and present posters in ESF’s Spotlight on Research. Spotlight is a College wide research symposium co-sponsored by College Governance’s Committee on Research and the Committee on Public Service and Outreach. The two-day symposium includes student research poster sessions and presentations to faculty and students. Originally a one-day symposium, it has grown significantly requiring the two day format. Students who are award a research incentive grant will be required to present their work at the Spotlight on Research upon completion of their projects.
### Current and Pending Support

(See GPG Section II.D.8 for guidance on information to include on this form.)

The following information should be provided for each investigator and other senior personnel. Failure to provide this information may delay consideration of this proposal.

<table>
<thead>
<tr>
<th>Support</th>
<th>Current</th>
<th>Pending</th>
<th>Submission Planned in Near Future</th>
<th>*Transfer of Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investigator: Kelley Donaghy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Environmental Scholars: A Scholarship Program in Environmental Chemistry, Biology and Engineering

| Source of Support: National Science Foundation |
| Total Award Amount: $600,000 |
| Total Award Period Covered: 3/15/09 - 2/28/13 |
| Location of Project: SUNY College of Environmental Science and Forestry, Syracuse, New York |
| Person-Months Per Year Committed to the Project: Cal: | Acad: .09 | Sumr: |

#### Graduate Assistantships in Areas of National Needs at SUNY ESF

| Source of Support: US Department of Education |
| Total Award Amount: $791,550 |
| Total Award Period Covered: 9/1/12 - 8/31/15 |
| Location of Project: SUNY College of Environmental Science and Forestry, Syracuse, New York |
| Person-Months Per Year Committed to the Project: Cal: | Acad: .45 | Sumr: 1 month |

#### Development and Implementation of a Studio Course in Inorganic Chemistry

| Source of Support: National Science Foundation |
| Total Award Amount: $199,397 |
| Total Award Period Covered: 6/1/13 - 5/31/16 |
| Location of Project: SUNY College of Environmental Science and Forestry, Syracuse, New York |
| Person-Months Per Year Committed to the Project: Cal: | Acad: .45 | Sumr: 1 month |

#### This Proposal: Environmental Scholars: An Interdisciplinary Scholarship Program

| Source of Support: National Science Foundation |
| Total Award Amount: $612,625 |
| Total Award Period Covered: 1/1/13 - 12/31/17 |
| Location of Project: SUNY College of Environmental Science and Forestry, Syracuse, New York |
| Person-Months Per Year Committed to the Project: Cal: | Acad: .45 | Sumr: 8 days |

*If this project has previously been funded by another agency, please list and furnish information for immediately preceding funding period.*
Current and Pending Support
(See GPG Section II.D.8 for guidance on information to include on this form.)

The following information should be provided for each investigator and other senior personnel. Failure to provide this information may delay consideration of this proposal.

<table>
<thead>
<tr>
<th>Investigator: Robert French</th>
<th>Other agencies (including NSF) to which this proposal has been/will be submitted.</th>
</tr>
</thead>
</table>

**Support:**
- Current
- Pending
- Submission Planned in Near Future
- *Transfer of Support

**Project/Proposal Title:**
This Proposal: Environmental Scholars: An Interdisciplinary Scholarship Program

**Source of Support:** National Science Foundation

**Total Award Amount:** $612,625

**Total Award Period Covered:** 1/1/13 - 13/31/17

**Location of Project:** SUNY College of Environmental Science and Forestry, Syracuse, New York

**Person-Months Per Year Committed to the Project.**
- Cal: .12
- Acad:  
- Sumr:  

**Support:**
- Current
- Pending
- Submission Planned in Near Future
- *Transfer of Support

**Project/Proposal Title:**

Source of Support:

**Total Award Amount:** $  
**Total Award Period Covered:**

**Location of Project:** SUNY College of Environmental Science and Forestry, Syracuse, New York

**Person-Months Per Year Committed to the Project.**
- Cal:  
- Acad:  
- Sumr:  

**Support:**
- Current
- Pending
- Submission Planned in Near Future
- *Transfer of Support

**Project/Proposal Title:**

Source of Support:

**Total Award Amount:** $  
**Total Award Period Covered:**

**Location of Project:** SUNY College of Environmental Science and Forestry, Syracuse, New York

**Person-Months Per Year Committed to the Project.**
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- Acad:  
- Sumr:  

**Support:**
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- Submission Planned in Near Future
- *Transfer of Support

**Project/Proposal Title:**

Source of Support:

**Total Award Amount:** $  
**Total Award Period Covered:**

**Location of Project:** SUNY College of Environmental Science and Forestry, Syracuse, New York

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**Support:**
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- Submission Planned in Near Future
- *Transfer of Support

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**Total Award Period Covered:**

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- Sumr:  

**Support:**
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- Pending
- Submission Planned in Near Future
- *Transfer of Support

**Project/Proposal Title:**

*If this project has previously been funded by another agency, please list and furnish information for immediately preceding funding period.*

NSF Form 1239 (10/99)

USE ADDITIONAL SHEETS AS NECESSARY
**Current and Pending Support**

(See GPG Section II.D.8 for guidance on information to include on this form.)

The following information should be provided for each investigator and other senior personnel. Failure to provide this information may delay consideration of this proposal.

<table>
<thead>
<tr>
<th>Investigator: John Turberville</th>
<th>Other agencies (including NSF) to which this proposal has been/will be submitted.</th>
</tr>
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</table>

**Support:**  
- Current
- Pending
- Submission Planned in Near Future
- *Transfer of Support

**Project/Proposal Title:**
Environmental Scholars: A Scholarship Program in Environmental Chemistry, Biology and Engineering

<table>
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<tr>
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**Support:**  
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- Submission Planned in Near Future
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**Project/Proposal Title:**
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**Support:**  
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- Pending
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- *Transfer of Support

**Project/Proposal Title:**

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**Project/Proposal Title:**

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<tr>
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</table>

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**Support:**  
- Current
- Pending
- Submission Planned in Near Future
- *Transfer of Support

**Project/Proposal Title:**

*If this project has previously been funded by another agency, please list and furnish information for immediately preceding funding period.*

---

**USE ADDITIONAL SHEETS AS NECESSARY**
FACILITIES, EQUIPMENT, OTHER

SUNY-ESF is a multiple campus institution that includes approximately 1 million square feet of facilities in 186 buildings on 25,000 acres of land. Environmental Scholars will spend the majority of their educational time at the Syracuse Campus which lies on 12 acres and is home to seven academic buildings: Baker Laboratory, Jahn Laboratory, Walters, Bray, Marshall and Illick Hall and Moon Library. In the Fall of 2012 our new administrative and showcase building, the Gateway Building will open. The Gateway building is designed to highlight the College’s academic mission and commitment to sustainability. It will be LEED certified and will generate more energy than it needs through a combined heat and power system run on biomass that will provide steam and electricity to four other campus buildings in addition to itself. The building is specifically designed as an inspiration to our students, faculty and community.

Housing
In the fall of 2011 the first on campus dormitory, Centennial Hall, was opened which houses primarily freshmen and sophomores. Students in the Environmental Scholars Program will be housed together to create the Environmental Scholars learning community. After the first year, students will be allowed to choose their own housing arrangements.

Chemistry
The chemistry department is housed in the new 75,000 square foot Jahn Laboratory. Among its many attributes, the building has a 40-station organic teaching lab, a 20-station general chemistry teaching lab, a 20-station analytical/biochemistry teaching laboratory, a computational chemistry lab, a polymer processing lab, a variety of research laboratories, culture rooms, a laser spectroscopy lab and a rooftop atmospheric sampling station.

Biology
The biology department is housed in the 140,000 square foot Illick Hall. Illick Hall is home to the Department of Environmental and Forest Biology (EFB) and features the College’s beautiful greenhouses located on the roof of the building. It also houses the Roosevelt Wild Life Collection (named for Theodore Roosevelt, the 26th president of the U.S. and a dedicated conservationist). EFB is the College’s largest academic department, and Illick Hall contains faculty offices, laboratories and classrooms, along with a small lecture hall. Further, many faculty members carry-out their research at one or more of the College’s remote regional campuses.

Environmental Resources Engineering
Forest Engineering is housed in the recently renovated Baker Laboratory. During the demolition and reconstruction phases much attention has been paid to recycling materials, and the College has used the latest green construction practices. There is extensive use of electronic lighting controls and occupancy sensors in the rooms and a sophisticated energy management system. This digital control system regulates the building’s air handling and exhaust systems. The building also features an innovative photovoltaic system, with solar panels providing window shading to the south side of the building.

Paper Science and Bioprocess Engineering
The 85,000 square foot Walters hall is the home of Paper and Bioprocess Engineering is devoted to teaching and research in bioproducts, bioenergy, paper science, paper engineering, and allied fields. The building contains a semi-commercial paper mill for educational use. A number of alternative energy technologies are being used in Walters Hall. A “green” roof and photovoltaic panels are both
located on the lower roof of this building. The green roof is a vegetated cover that aids in controlling storm water run-off and mitigating urban heat-island effects. It conserves building energy, reduces sound transmission, and creates a pleasant, aesthetic environment that can even provide wildlife habitat. The 15.48 Kilowatt photovoltaic (PV) array mounted on the roof of Walters Hall produces approximately 1.5% of the electric power used by the College each year.

Library
ESF’s F. Franklin Moon Library contains more than 135,000 cataloged items and receives approximately 800 print journals and hundreds more electronically. The collection constitutes a special information source for the academic programs of the College, it has concentrations in such areas as botany, plant pathology, biochemistry, chemical ecology, forest chemistry, polymer chemistry, economics entomology, environmental studies, environmental design, paper science, silviculture, soil science, water resources, wildlife biology, wood products engineering and zoology. The SU Library and the SUNY-Upstate Medical Library are also available to our students, they may be searched by using an online public access catalog through the world wide web. The library is a wireless environment where students may use their own laptops for work and a few laptops are available for loan from the reserve desk.

Computing Services
Four public computing labs are maintained by ESF Computing and Network Services for general campus use. All labs are open seven days a week during most of the academic year and contain PC’s, printers and software commonly used by ESF academic programs. In addition to these ESF campus computing resources, SU’s Information Technology Services manages public computer labs where ESF students can access required resources for both class work and research. Several of these labs are open 24 hours a day, seven days a week.

Analytical and Technical Services
Analytical and Technical Services provides an array of centralized analytical services including nuclear magnetic resonance spectrometry (NMR), gas chromatography-mass spectrometry (GC/MS), liquid chromatography-mass spectrometry (LC/MS) and inductively coupled plasma-optical emissions spectrometry (ICP-OES). The unit also provides services including operation of a chemical and laboratory apparatus stockroom, microcomputer repair, instrument and equipment repair and fabrication, micromechanical repair, experimental apparatus fabrication, and coordination of scientific glassblowing repair.

Specialized Facilities
Specialized facilities on the Syracuse campus include electron microscopes; plant growth chambers; air-conditioned greenhouses’ a bio-acoustical laboratory; radioisotope laboratory; and computing center. Paper science and engineering laboratory features semi-commercial paper mill with accessory equipment. Greenhouses and forest insectary are used to produce plant and insect material for instruction. Extensive collections are available for study, including wood samples from all over the world, botanical materials, insects, birds, mammals and fish. Geographical information systems are collections of capabilities for acquiring, storing, managing, manipulating, analyzing, displaying and reporting data or information which has locational or spatial attributes. Extensive research and advanced instruction facilities are located in the College’s mapping science laboratory and these facilities continue to expand.
For consultation by the Project Director and Co-PI’s as well as support for our students:

Office of Multicultural Affairs
www.esf.edu/students/multicultural
ESF Multicultural Affairs exists to support underrepresented students and to foster a campus community where cultural diversity is appreciated. The office seeks to be a center of cultural learning which prepares all members of the ESF community to effectively interact with others in an increasingly diverse and global society.

Center for Native Peoples and the Environment
www.esf.edu/nativepeoples
Our region is home to two great intellectual traditions regarding stewardship of the earth: traditional ecological knowledge of indigenous people and scientific ecological knowledge. The mission of the SUNY-ESF Center for Native Peoples and the Environment is to create programs that draw on the wisdom of both indigenous and scientific knowledge in support of our shared goals of environmental sustainability.
In addition to serving as a bridge between traditional ecological knowledge and western scientific approaches, the Center will incorporate indigenous perspectives and knowledge for the benefit of native students and work to educate mainstream students in a cross-cultural context.
<table>
<thead>
<tr>
<th>Data and Products</th>
<th>Storage</th>
<th>Public Access/Sharing</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Student Demographics (Gender/Race/Ethnicity)</strong></td>
<td>In Excel spreadsheets in the PI's and Co-PI's office computer, then backed up on secured external hard drives and stored for at least 8 years (5 during grant period and 3 post grant period). Additional files maintained by ESF Admissions</td>
<td>Yes, upon acceptance for publication in a peer reviewed journal, as part of ESF’s undergraduate assessment plans and as part of the final reports for the program.</td>
</tr>
<tr>
<td><strong>Specific Student Demographics</strong></td>
<td>In Excel spreadsheets on the PI's and Co-PI's computer, then backed up on secured external hard drives and stored for at least 8 years (5 during grant period and 3 post grant period). Additional files maintained by ESF Admissions</td>
<td>No, specific information dealing with students by name is a Privacy Matter so data will be collected and submitted to the secured S-STEM reporting system but all data used publically will be redacted.</td>
</tr>
<tr>
<td><strong>Results of Specific Student Activities</strong></td>
<td>In the PI's and Co-PI's office computer, this will include any surveys conducted electronically, all hardcopy surveys will be scanned and retained and minutes of all focus groups and individual interviews will be transcribed into digital format.</td>
<td>Yes, upon acceptance for publication in a peer reviewed journal, as part of ESF’s undergraduate assessment plans and as part of the final reports for the program.</td>
</tr>
<tr>
<td><strong>Student Progress Toward Degree Completion</strong></td>
<td>In the PI's and the Co-PI's office computers, since this is GPA information, it will also be collected and stored by the University and each of the students individual faculty advisors.</td>
<td>Yes in redacted format as part of peer reviewed journal articles, the undergraduate assessment plan and the final reports for the program.</td>
</tr>
<tr>
<td><strong>Seminar Schedule and Colloquium Topics on Leadership and Professional Development</strong></td>
<td>In the PI's and Co-PI's office computer and the departments' websites.</td>
<td>Yes, they will be stored as part of the College's website, specifically on the program page as well as each department webpage. It will be available as a Free download.</td>
</tr>
<tr>
<td><strong>Results of Student Research</strong></td>
<td>Presentations presented at meetings for which this grant serves as primary funding will be stored on the PI's and Co-PI's office computers and backed up periodically to a secure external hard drive. These poster and/or powerpoint presentations will also be stored on the student's computers as well as their advisor's computers.</td>
<td>Yes, after the meeting posters and/or powerpoint presentations will be available as free downloads on ESF webpages.</td>
</tr>
<tr>
<td><strong>Peer-reviewed publications and presentations</strong></td>
<td>The Management Team will process data immediately, significant conclusions about programmatic success will be published as data permits.</td>
<td>Yes, posted on the PI's official website and the Program’s website with citation information for five years after the conclusion of the project.</td>
</tr>
</tbody>
</table>
Not Applicable.
This file contains statements from the Co-PI’s as well as the Board of Directors acknowledging their role in the proposal entitled “Environmental Scholars: An Interdisciplinary Scholarship Program” submitted to ESF August 14, 2013.

It also contains two-page Biographical Sketches for the members of the Environmental Scholars Board of Directors, Briggs, Fierke, Hassett and Kroll.
To: NSF S-STEM Program Officer

From: ROBERT C. FRENCH

I acknowledge that I am the listed as a collaborator on this proposal entitled, “Environmental Scholars: An Interdisciplinary Scholarship Program”, with Kelley J. Donaghy as Principal Investigator. I agree to undertake the tasks assigned to me as described in the project description of the proposal as an uncompensated participant.
Acknowledging that I am listed as a collaborator on this proposal entitled, “Environmental Scholars: An Interdisciplinary Scholarship Program”, with Kelley J. Donaghy as Principal Investigator. I agree to undertake the tasks assigned to me as described in the project description of the proposal as an uncompensated participant.

John E. Turbeville
Assistant Dean of Student Affairs & Director of Career Services
1 Forestry Drive, 110 Bray Hall
Syracuse, NY 13210

Before printing this e-mail think if it is necessary
I acknowledge that I am the listed as a collaborator on this proposal entitled, "Environmental Scholars: An Interdisciplinary Scholarship Program", with Kelley J. Donaghy as Principal Investigator. I agree to undertake the tasks assigned to me as described in the project description of the proposal as an uncompensated participant.

Russell Briggs  
Director of the Division of Environmental Science  
Professor of Forest Soils  
358 Illick Hall  
SUNY ESF  
One Forestry Drive  
Syracuse, NY 13210

voice (315)470-6989  
fax (315)470-6535
Russell Briggs

Biographical Sketch

PROFESSIONAL PREPARATION
SUNY ESF  Forest Technology  A.A.S. 1975
SUNY ESF  Forest Biology  B.S. 1979
SUNY ESF  Forest Resource Management  M.S. 1982
SUNY ESF  Forest Resource Management  Ph.D. 1985

APPOINTMENTS
2009 – present  Director, Division of Environmental Science, SUNY ESF, Syracuse, NY
2005-present  Professor, Department of Forest and Natural Resources Management, SUNY ESF, Syracuse, NY
1995 - 2003  Associate Professor, Department of Forest and Natural Resources Management, SUNY ESF, Syracuse, NY.
1995 – present  Director, Forest Soils Analytical Laboratory, SUNY ESF.
1993 - 1995  Associate Research Professor, Cooperative Forestry Research Unit, Univ. of ME, Orono, ME.
1989 -1995  Assistant Research Professor, Cooperative Forestry Research Unit, Univ. of ME, Orono, ME.
1985 - 1989  Post-doctoral Research Associate, SUNY ESF, Syracuse, NY.
1979 - 1982  Teaching/Research Assistant, Faculty of Forestry, SUNY ESF.

RECENT PUBLICATIONS


PROFESSIONAL SOCIETY MEMBERSHIP
Soil Science Society of America
American Association for the Advancement of Science
Society of American Foresters
Maine Association of Professional Soil Scientists

PROFESSIONAL ACTIVITIES
Associate Editor, Journal of Forestry, 2005-2011
Associate Editor, North. J. Appl. For. 2005 - present
Associate Editor, Journal of Environmental Quality, 1998-2005
To: NSF S-STEM Program Officer
From: Melissa K. Fierke

I acknowledge that I am the listed as a collaborator on this proposal entitled, “Environmental Scholars: An Interdisciplinary Scholarship Program“, with Kelley J. Donaghy as Principal Investigator. I agree to undertake the tasks assigned to me as described in the project description of the proposal as an uncompensated participant.

Melissa K. Fierke, Ph.D.
Assistant Professor, Forest Entomology
Department of Environmental & Forest Biology
SUNY College of Environmental Science and Forestry
146 Illick Hall, 1 Forestry Drive
Syracuse, NY 13210

Email: mkfierke@esf.edu
Phone: (315) 470-6809

"Education is a progressive discovery of our own ignorance." - Will Durant
A. PROFESSIONAL PREPARATION

University of Arkansas  2002 - 2006  PhD, Entomology, Minor, Biology
Oregon State University  1999 - 2002  MS, Fisheries & Wildlife
                    MS, Environmental Science: Water Resources
Arkansas Tech University  1996 - 1998  BS, Environmental Chemistry
                  BS, Environmental Biology

B. APPOINTMENTS

Assistant Professor  SUNY-Environmental Science and Forestry,  2007-present
Environmental and Forest Biology
Post Doctoral Associate  Entomology Department, University of Arkansas  2006-2007

C. PUBLICATIONS (relevant and other)


D. SYNERGISTIC ACTIVITIES

Synergistic Activities

1) Teaching/Outreach: I teach the large freshman Organismal Biology & Ecology course, incorporating in-class technologies to facilitate learning, web-based assignments and assessment methods. I also teach lab-based Systematic Entomology and field-based Forest Health Monitoring, integrating research with laboratory and field activities, providing teaching opportunities to graduate and undergraduate students conducting research. I also teach a week long, summer field course in the biodiversity of insects, primarily for freshman.
I facilitate the Environmental and Forest Biology Adaptive Peaks graduate student seminar series as well as the Core Course for incoming graduate students.

As first author, I contributed a chapter on forest health monitoring to a new (2011) undergraduate textbook in Forest Health (Cambridge University Press).

In the last 6 years, I trained ~30 undergrads, graduate students, colleagues, and research assistants in forest entomological methods and techniques.

I was recruited to “teach the teachers” about entomology in the summer of 2010 through SUNY-ESF’s Outreach office.

2) **Program Assessment:** Member of departmental curriculum committee. Contributed heavily to assessment plan for the Forest Health major and assisted with other majors. Implement outcome based assessment in courses taught and assist in department wide assessment evaluation.


4) **Service to Outside Organizations:** Organized symposia at the following annual conferences:

- Eastern Branch Meeting of the Entomological Society of America. 2011

I organized half-day workshops for state employees on invasion biology/ecology/management of current aquatic, plant and insect invasive species of concern.

**F. COLLABORATORS AND OTHER AFFILIATIONS**

**Graduate Advisors**
- Fred Stephen, University of Arkansas, Dept. of Entomology, Fayetteville, AR
- J. Boone Kauffman, Oregon State University, Corvallis, OR

**Current Collaborators**
- SUNY-ESF: Doug Allen, Dylan Parry, Christopher Whipps, Sadie Ryan, Stephen Teale, Colin Beier, James Gibbs, Myron Mitchell, Martin Dovciak
- Lawrence Hanks, University of Illinois, Urbana-Champaign
- Jocelyn Millar, University of California, Riverside, CA
- Mark Whitmore, Cornell University, Ithaca, NY
- John Vandenberg, USDA-ARS, Ithaca, NY
- Jerry Carlson, NY Department of Environmental Conservation, Albany, NY

**Graduate Students**

**Finished**
- Patrick Eager, MS 2010
- Peter Rockermann MS 2011
- Warren Hellman, MS 2011
- Christopher Standley, MS 2012
- Dominick Skebaekis, MS 2012

**Current**
- Christopher Foelker, PhD
- Michael Parisio, MS
- Kalie Garenser, MS
- Joelle Chille, MS
- Giovan Battista Girardi, MS
- Gregory Russo, MPS
To: NSF S-STEM Program Officer
From: John P. Hassett

I acknowledge that I am listed as a collaborator on this proposal entitled, "Environmental Scholars: An Interdisciplinary Scholarship Program", with Kelley J. Donaghy as Principal Investigator. I agree to undertake the tasks assigned to me as described in the project description of the proposal as an uncompensated participant.
JOHN P. HASSETT

Chemistry Department
College of Environmental Science and Forestry
State University of New York, Syracuse, NY 13210
Phone: (315) 470-6827; FAX: (315) 470-6951
Email: jphasset@syr.edu
Website: http://www.esf.edu/chemistry/faculty/hassett.htm

Professional Preparation:
University of Maryland-College Park. Biochemistry, B.S., 1971
University of Wisconsin-Madison. Water Chemistry, M.S., 1974
Drexel University, Postdoctoral Fellow, Environmental Chemistry, 1978-1979
University of Florida, Postdoctoral Fellow, Environmental Chemistry, 1980

Appointments:
1995-present Professor, Chemistry Department, SUNY College of Environmental Science and Forestry (SUNY-ESF)
1997-2007 Chair, Chemistry Department, SUNY-ESF
1987-1995 Associate Professor, Chemistry Department, SUNY-ESF
1980-1987 Research Associate, Chemistry Department, SUNY-ESF

Research Interests: Environmental chemistry of organic compounds, including sources, physical partitioning (air, water, particles, natural organic matter) and photochemistry. In-situ systems for sensing organic compounds in natural aquatic systems. Currently developing a buoy system to extract and monitor hydrophobic organic compounds in real-time.


Selected Publications:


*undergraduate researcher, graduate students in **bold**

**Synergistic Activities:**

Worked with a local school district and not-for-profit organization on a successful EPA EMPACT proposal to develop teaching materials about environmental systems and post real-time data from Onondaga Lake via a Web site ([www.ourlake.org](http://www.ourlake.org)).

Collaborated with a citizens group and public agencies to implement monitoring of a NY lake for gasoline contamination using our sampling and analytical technology.

Mentored two high school student researchers who won awards at regional and national science fairs.

Member of Committee on Access to Pesticide Registry and Pesticide Application Information of the Health Research Science Board, NYS Department of Health.

Member of New York State Task Force on Flame Retardant Safety.

**Graduate Students total 19 MS; 16 PhD**
To: NSF S-STEM Program Officer

From: Charles Kroll

I acknowledge that I am the listed as a collaborator on this proposal entitled, “Environmental Scholars: An Interdisciplinary Scholarship Program”, with Kelley J. Donaghy as Principal Investigator. I agree to undertake the tasks assigned to me as described in the project description of the proposal as an uncompensated participant.
CHARLES N. KROLL

Professor
Faculty of Environmental Resource Engineering
SUNY College of Environmental Science and Forestry
Syracuse, NY 13210, USA
Office: (315) 470-6699; FAX: (315) 470-6958
Email: cnkroll@esf.edu
Home Page: http://www.esf.edu/erfeg/kroll

Professional Preparation
Cornell University, Ph.D., Civil and Environmental Engineering, 1996
Tufts University, M.S., Civil and Environmental Engineering, 1987
Tufts University, B.S., Mechanical Engineering, 1983

Appointments
SUNY College of Environmental Science and Forestry, Faculty of Environmental Resource Engineering, Syracuse, NY
Professor, 2009 - present
Chair, 2008 - 2011
Associate Professor, 2002-2009
Assistant Professor, 1996-2002
Cornell University, Civil and Environmental Engineering, Ithaca, NY
Lecturer, 1995-1996
Teaching Assistant, 1991-1995
GZA GeoEnvironmental Inc., Norwood, MA 02062
Staff Hydrologist and Staff Engineer, 1989-1991
Tufts University, Department of Civil and Environmental Engineering
Research Assistant, 1987-1989

Publications

**Synergistic Activities**
Chair of Environmental Resources and Forest Engineering, SUNY ESF, 2008 - 2011
Associate Editor of *Water Resources Research*, 2003 - 2005
Member of the Hydrologic Information Systems Subgroup for the Consortium of Universities to Advance Hydrologic Science, Inc. (CUAHSI)
Certified Professional Engineer, New York State, License Number 082971, 2005
Coordinator of International Association of Hydrological Sciences (IAHS) working group on Low Streamflow Prediction at Ungauged Basins (PUBs), 2006 – 2008

**Collaborators & Other Affiliations**
Collaborators and Co-Editors
Dr. Ken Eng, USGS, Reston, VA
Dr. Jeff McDonnell, Oregon State University
Dr. Doug Burns, USGS, Troy, NY
Ellen Douglas, UMass, Boston
David Nowak, USDA Forest Service, NY
Gregor Laaha,

Graduate and Postdoctoral Advisors
Dr. Jery Stedinger, Cornell University
Dr. Richard Vogel, Tufts University

**Thesis Advisor**
Graduated
Peter Song, MS, 2011, Consulting Engineer, Anchor QEA, Syracuse, NY
Eben Pendleton, MS, 2009, Consulting Engineer, Anchor QEA, Montvale, NJ
Osman Ahmed, MS, 2009, Community Development Officer, Northern Water Service Board, Kenya
Adão Matonse, MS, 2003, PhD, 2009, Postdoctoral Researcher, CUNY/NYC DEP
Satoshi Hirabayashi, MS, 2005, PhD, 2009, Postdoctoral Researcher, USDA Forest Service, Syracuse, NY
Doreen Bwalya, MS, 2007, Senior Engineer, Lusaka Water and Sewerage Company Ltd., Zambia
Andrew Korik, MPS, 2007, GIS Specialist, ARCADIS, Syracuse, NY
Zhenxing Zhang, PhD, 2005, Research Scientist, Susquehanna Basin River Commission, PA
Joana G. Luz, PhD, 2004, Assistant Professor, Bahia Federal University, Salvador, Brazil
Maryann Ashworth, MS, 2003, Consulting Engineer, Albany, NY
Thomas Bradley Allen, MS, 2002, Consulting Engineer, EcoScience Corporation, Raleigh, NC
Christine Reilly, MS, 2002, PhD student in Computer Science, University of Wisconsin
John Camp, MS, 2001, Consulting Engineering, C & S Engineers, Syracuse, NY
Suzanne Wesclehr, PhD, 2000, Associate Professor, UC Longbeach, CA
Daniel Welsch, MS, 1999, Assistant Professor, Frostburg State University
Chia-Tsen Ko, MS, 1998, Consulting Engineer, Atlanta, GA
Conservation Career Program
DRAFT - November 2011 [Brigitte Griswold, Meg Connerton, Brian Day]

The Nature Conservancy’s Commitment to Diversity
The Nature Conservancy is the largest conservation organization working globally to protect ecologically important lands and waters for nature and people. The Conservancy’s commitment to diversity is explicitly stated in The Conservancy’s core values, but the conservation workforce has yet to reflect the increasing diversity of the U.S. population. In part, the challenge is a shortage of diverse students pursuing college-level environmental degree programs, and the lack of a structured pipeline support system for interested students to pursue a conservation career track.

Framework for a Conservation Career Program
A planning grant from the Doris Duke Charitable Foundation has allowed The Conservancy to investigate the feasibility of a proposed Conservation Career Program (CCP) to support the next generation of diverse conservation practitioners from high school, through college and into a conservation career—by providing multi-year internships, professional development training and job placement services. The development of a comprehensive Conservation Career Program will be critical to advancing diversity in the broader conservation field.

Components of the Conservation Career Program Pipeline
The CCP will begin as a pilot program with a total of 20 high school students from two cities where The Nature Conservancy and conservation partners have a strong presence: New York City and Atlanta. The program will increase by 20 students a year and spans at least 5 years, beginning during the senior year of high school and culminating with graduation with either an undergraduate or graduate degree in a conservation field. This pipeline could generate as many as 80 participants in 5 years, and will include job placement services at leading conservation organizations upon successful completion of a degree program.

As with all successful programs within The Conservancy, the Conservation Career Program will work closely with key partners to ensure goals are met - for both The Nature Conservancy and the conservation community at large. Potential partnerships are:

- **Nominating Partners**
  These “feeder” programs are creating a bridge between high school youth and careers in conservation fields. These organizations have high school science/environmental programs in place and will identify high potential students for the Conservation Career Program based on a set of competitive criteria, including demonstrated interest in pursuing an environmental career.

- **Academic Partners**
  These Colleges and Universities have been identified by top environmental leaders for boasting some of the strongest environmental degree programs in the nation. University partners commit to accepting CCP candidates in cohorts of 8-10 and providing scholarships and financial aid to participants, as well as specialized existing support systems such as career services.
- **Conservation Career Partners**
  Conservation Career Partners include leading environmental state, federal, and non-profit organizations committed to increasing diversity within their organizations. Conservation Partners commit to providing aid internships and preferred consideration of program graduates when hiring for appropriate positions within their organization.

The CCP will aim to foster future conservationists through three primary methods: 1) connecting and engaging youth with multiple seasonal paid internships at leading conservation organizations, 2) guiding students through conservation-focused academia and degree focus, and 3) assisting graduates in identifying and securing jobs in related fields. Each year of the pipeline will have a specific goal and method for achievement. A brief description of each year follows:

**Year 1**
**High School, Senior Year: Identifying Future Conservation Leaders**
**Goal: Identify and prepare students for conservation academia.**
Candidates will be identified and invited to apply for inclusion in the Conservation Career Program during their senior year in high school. Students and their families will be exposed to a broad set of conservation career opportunities. Student recommendations will be requested from nominating Partners as well as Conservancy staff. Decisions will be made by committee and offers to participate will be extended. Students who accept will be given guidance on the college application and financial aid process. Once students are accepted into a Partner University, they will begin receiving various communications regarding potential career fields and commit to attending leadership trainings and program related events during winter and summer breaks. Partner Universities are requested to accept students in cohorts of 8-10 students, and provide full scholarship assistance for students in need.

**Year 2**
**Freshman Year, College: Supporting & Fostering Trust**
**Goal: Support, foster trust and create a personal connection to the conservation community.**
Students of color constitute only 11% of college graduates in natural resource/agricultural fields. Often this is due to lack of support during the initial years of college so the goal is to decrease withdrawal rates by offering individual support services. During the Freshman Year, the CCP’s role will be to create a personal connection, between program staff and the students. Staff will be specialized in positive youth development and offer guidance on courses and internships, include students in both web-based and in-person communications and events, and strive to connect the students to The Nature Conservancy and the conservation community as a whole through offering a summer internship at The Nature Conservancy or another conservation related state, federal, or non-profit organization.

**Year 3**
**Sophomore Year, College: Developing Future Conservation Leaders**
**Goal: Offer tools and knowledge to guide and develop future conservationists.**
Once students reach their sophomore year of college, the Conservation Career Program will begin to focus on developing their conservation career path. Staff will tailor their support and work with each student specifically. During this year, sophomores will be introduced to various conservation careers by way of diverse role models and speakers, heightened communications involving conservation projects and programs, networking opportunities, and additional summer internship opportunities at The Conservancy or another partner organization.
Year 4  
**Junior Year, College: Immersing Future Conservation Leaders**

*Goal: Provide exposure to hands-on conservation work and immersion in the conservation field*

CCP students entering their Junior Year, having declared a conservation-related major, will be immersed in conservation by way of increased exposure and applied experience within the conservation field. Students will be given tools to assist them in honing in on a specific career path and the steps needed to achieve it, such as specialized internships and an independent research experience. Students will be given opportunities to connect with professionals in their defined career path and will develop their skills in an applied internship. Juniors will also be required to act as CCP Mentors to incoming CCP Freshman, thus creating a cycle of support for incoming students.

Year 5  
**Senior Year, College: Placing Future Conservation Leaders**

*Goal: Securing a conservation career path for future conservation leaders.*

Upon entry to their senior year, CCP students will be groomed for either a CCP work fellowship or given the tools to apply to a graduate degree program. Should students be on the path to graduate school, CCP staff will assist them in the application process and provide referrals to schools on their behalf. Should students choose to enter the workforce, they will be placed in a CCP Fellowship within The Nature Conservancy or a Conservation Career Partner organization. Program staff will work with hiring managers at the Conservancy and partner organizations to ensure successful graduates are highly considered for entry level job openings for a period of two years following the fellowship.

Year 6-7+  
**Graduate School: Expanding the Base of Conservationist**

*Goal: Supporting the advancement of future conservation leaders into a specialized conservation career.*

Those students who wish to advance to graduate school for a specialized course of study will still be supported by the CCP though communication tailored to their needs and interests. Graduate students will be paired up with conservation practitioners within their discipline from The Conservancy or conservation partner organizations. They will be asked to focus their dissertation and independent research on a project or initiative of The Nature Conservancy or conservation partner organization. Upon graduation, they will be placed in a CCP Fellowship within The Nature Conservancy or a Conservation Career Partner organization. Program staff will work with hiring managers at the Conservancy and partner organizations to ensure successful graduates are highly considered for entry level job openings for a period of two years following the fellowship.

**CCP Fellowships**

The Conservation Career Program will ensure a conservation Fellowship upon graduation by way of opportunities within The Nature Conservancy as well as Conservation Career Partner organizations. The CCP will commit to paying 100% of the Fellowship. Following the successful completion of the Fellowship, program staff will work with hiring managers at the Conservancy and partner organizations to ensure successful graduates are highly considered for job openings for a period of two years following completion of the program.

**Staffing**
A CCP staffing plan is currently underway. At least 3-5 new employees will need to be hired to initiate the Program including youth development staff, operations support and administrative support. Additional staff will be required as the Program expands.

**Budget**
An initial, comprehensive budget is currently under development.

**Timeline**
The Nature Conservancy has committed to presenting a Conservation Careers Program business plan to The Doris Duke Charitable Foundation by January 1, 2012. Implementation of the program is hoped to be in the fall of 2013.
(DRAFT)
MEMORANDUM OF UNDERSTANDING
Between The Natural Conservancy and SUNY College of Environmental Science and Forestry
for a Conservation Career Program

• SUNY-ESF will provide full-tuition scholarships for two or more entering Conservation Career Program (CCP) students each year. The students must be NY State residents qualified for in-state tuition rates and must attend SUNY-ESF on a full-time basis. Any undergraduate major is acceptable and students may be admitted at the freshman or transfer level. The total number of CCP students enrolled in any academic year will be limited to no more than eight students.

• Prospective CCP applicants may be identified by SUNY-ESF or by the Nature Conservancy’s Nominating Partners. Applicants who have received the endorsement of a Nominating Partner organization will be given special consideration in the selection process, but the College will select applicants who present the strongest academic and personal qualifications for the Program each year.

• SUNY-ESF will seek external grant funding to support the required scholarship budget. The College is already receiving funding from the National Science Foundation for a program aimed at supporting underrepresented students in STEM majors. The College may expand the targeted number of CCP participants if additional external grant support can be identified.

• CCP students will receive scholarship funding for up to nine (9) semesters of full-time undergraduate study. CCP students completing an undergraduate degree at SUNY-ESF, or at other CCP Academic Partner institutions, will be given strong consideration for scholarships or assistantships offered to support graduate study at SUNY-ESF.

• Undergraduate CCP students will be required to maintain a cumulative grade point average of 2.50 or higher to renew their annual scholarship support. The GPA requirement will be reviewed each spring semester to determine scholarship eligibility for the next academic year. Students falling below the required GPA may have their CCP scholarship support reinstated at the discretion of the SUNY-ESF Director of Financial Aid and Scholarships if their GPA returns to the required minimum and if funding is available.

• Students with exceptional academic potential may receive scholarship support to cover required fees in addition to the in-state tuition amount. These students will normally be selected from participants in the National Hispanic Recognition Program, the College Board’s National Achievement Program, or the Intel Science Talent Search.
• SUNY-ESF will provide appropriate mentoring, advising and support services for CCP students to complement those provided by CCP staff. These services will be provided through existing student support programs, such as the New York State Collegiate Science and Technology Entry Program (C-STEP) or the State University’s Educational Opportunity Program (EOP), based on the financial need and academic qualifications of each participating student.

• The Nature Conservancy will fulfill all obligations for CCP student counseling, support, and placement once an agreement is finalized with SUNY-ESF. It is assumed that the final agreement between The Nature Conservancy and SUNY-ESF will include the essential components outlined by The Conservancy in its November 2011 draft agreement, and that the final agreement will be officially endorsed by both organizations prior to implementation.

• The College would like to encourage The Nature Conservancy to develop the proposed research and internship experiences for junior level students as quickly as possible, and to consider identifying currently enrolled college juniors from the partner institutions for immediate placement into these experiential learning options. SUNY-ESF has a number of underrepresented students enrolled in conservation-related majors who have already completed their freshman and sophomore years of college successfully, and who are now prepared to take the next step towards identifying conservation-related career opportunities. Accelerated development of this component of the proposed CCP program could result in partner organizations achieving their hiring goals sooner.
Survey Results for Report Period  
March 1, 2011 - February 29, 2012  
Survey was carried out using Blackboard, all responses are included, as is, no corrections.

<table>
<thead>
<tr>
<th>Question</th>
<th>Response Options</th>
<th>Percentage</th>
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</thead>
</table>
| To what extent does this scholarship affect your ability to attend SUNY-ESF? **Note:** if you are not currently supported by this grant, please choose Not Applicable. | Would not be able to attend: 19.35%  
Attendance would be unlikely: 16.13%  
Might be able to attend: 35.48%  
Would attend no matter what: 25.81%  
Not Applicable: 3.23% |            |
| Would you have still chosen to attend SUNY-ESF if you had not received this scholarship? | Strongly Yes: 19.35%  
Yes: 38.71%  
Did not effect my decision: 12.90%  
No: 25.81%  
Strongly No: 3.23% |            |
| Do the academic resources provided to you by this program meet your needs? (For Example: mentors, peer mentors, networking, information interactions with the program director, graduate assistant and campus career officer.) | Strongly Agree: 29.03%  
Agree: 61.29%  
Neither Agree nor Disagree: 6.45%  
Strongly Disagree: 3.23%  
Not Applicable: 0.00% |            |
| To what extent did the opening retreat at the AEC help your transition into college? | Significantly: 64.52%  
Slightly: 16.13%  
Neither helped nor hurt: 9.68%  
Not much: 3.23%  
Not Applicable: 6.45% |            |
| To what extent did the interdisciplinary service project from the spring of 2010 help you understand the differences and similarities between people in different majors? **Note:** if you did not join the program until 2011, please choose not-applicable. | Significantly: 9.68%  
Somewhat: 38.71%  
No effect: 9.68%  
No influence: 6.45%  
Not Applicable: 35.48% |            |
| How many career focused hours did you complete in the fall semester of 2011? (Please count paid, volunteer, credit bearing research experiences, anything related to your future career.) | >40: 25.81%  
30-39: 19.35%  
20-29: 29.03%  
10-19: 22.58%  
0-9: 3.23% |            |
| In the fall of 2011, the course was intended to encourage you to apply for internships and summer positions and to help you develop a professional portfolio. To what extent did the course meet these goals? | Significantly: 41.94%  
Slightly: 48.39%  
Neither: 6.45%  
Not at all: 3.23%  
Not Applicable: 0.00% |            |
| Do you agree or disagree with the following statement: The review of the professional portfolios increased your confidence in applying for summer internships and summer undergraduate research experiences? | Strongly Agree: 16.13%  
Agree: 32.26%  
Neither Agree nor Disagree: 25.81%  
Disagree: 3.23%  
Strongly Disagree: 22.58% |            |
| Do you agree or disagree with the following statement: The focus on volunteerism has helped you create a network of people, of whom, you feel comfortable asking for references. | Strongly Agree: 16.13%  
Agree: 64.52%  
Neither Agree nor Disagree: 12.90%  
Disagree: 6.45%  
Not Applicable: 0.00% |            |
| Do you agree or disagree with the following statement: The service hours and volunteer hours that have been required as part of the seminar courses associated with the program have helped increase my ability to apply for summer internships and helped focus my future career goals. | Strongly Agree: 16.13%  
Agree: 58.06%  
Neither Agree nor Disagree: 12.90%  
Disagree: 9.68%  
Not Applicable: 3.23% |            |
The last parts of the career seminar are still somewhat open for discussion. Is there a career topic you would like us to discuss that we have not yet touched upon?

I am considering a teaching career. I would be interested in talking about that career topic, but I could just ask my questions individually, and not have them addressed to the whole class.

N/A

Some more focus on applying to Graduate School

The past career series seminar was about what employers think about during the hiring process. I would like more details and different perspectives on that.

Nope

Not that I can think of

Nothing that immediately comes to mind.

Interviewing strategies, how to address the person who is intervieweing you (by name, hand shake), how to calm nerves so we are not stumbling in the meeting

Choosing a graduate program/finding the "right" research adviser.

I would like to learn more about job stability. Is your first job typically your last job or should I intend to move around a lot?

I'm not sure if this is career related, but perhaps reviewing the requirements for graduation? I'm concerned that I will not graduate on time

I'm not sure if this is career related, but perhaps reviewing the requirements for graduation? I'm concerned that I will not graduate on time

Hopfully graduateing next spring, I am still confused as to how I should aproach finding a job. Internships are nice but a full time job is what I am aiming for. I would like to learn more about field jobs rather that buisiness type jobs as my major implies a career as a biologist.

International jobs and the application process associated with them.

We touched a great deal upon steps after college, but we did not address those concerns facing those interested in veterinary medicine.

can't think of anything

I think that all important topics have been discussed

<Unanswered>

Options for an education after a masters degree i.e.) post-doc or PhD.

How to do well on an interview how to start interview process

Most of the topics I wanted to discuss about were already covered

<Unanswered>

N/A
How to write a proposal

None that I can think of.

No.

Mock interviews

We have covered all important information or will cover in the near future.

Working with non-governmental organizations and activism

Career first or Grad school first. How do we choose and when do we choose. Do we just take a break from all of it and then go to grad school or is an internship like americorps a better fit. How do we choose what best fits our needs at the time of graduation?

Please Comment on what you feel is the most valuable part of being a part of the Environmental Scholars Program

The most valuable part of being a Environmental Scholar is the guidance toward our future career goals, and having the opportunity to share my questions and worries with my peers as well as our superiors. It is given me a greater confidence for my future.

Student Support

The scholarship money

This career focused year has been extremely helpful. I have found this past year to definitely be the most helpful year yet. The volunteering was also good, but I would never had spent so much time on perfecting my resume and have the confidence to apply to internships as I do now being in Scholars. I feel like our group has made us all stronger individuals.

Learning about writing necessary paper work for internships, jobs, and college.

I love the people I’ve met through scholars and I really appreciate the professional portfolio help that we’ve received through scholars.

Excellent reference material. It also forces me to accomplish constructive work that I would probably have been too lazy to do myself otherwise. <br />

Scholarship money to pay for college, professional portfolio, volunteerism requirement, having a group of friends in the same years as you

Networking opportunities

It gets me working on things (e.g. resume, career building) that I normally would put off until the last minute

Being a part of a small group that works together

Well the money definately is due to the fact that my parents are unable to put me through college and financial aid lacks to see that. But I really enjoy the required field volunteerism. I now have yet another
source to fall back on for letters of recommendations and advice in my line of study. Being able to put together my resume was also a great thing to have done.

Being able to put the name on my resume.

The Environmental Scholars Program has made me more confident in my capabilities and qualifications. I feel more prepared to graduate and find a job. It was also great for meeting people at ESF and succeeding with peers. The scholarship money was extremely helpful and it made it a lot easier for me to live here.

Before when we had fewer scholars and met more often, I felt that we were able to bond better. I feel that that was the most important part. Also, it has been helpful to meet new people through volunteering, etc. and establish new connections

the scholarship and meeting the other people in the program

The grant money that allows for independent research and travel to conferences. Also being able to put it on my resume

Having a group of peers.

<Unanswered>

Building experiences to be prepared for the future and meeting other fellow peers

I feel that as a transfer student making friends before the semester started was one of the most valuable things. ESF is a tight knit community and it is definitely important to make a network of friends to get feedback on courses so I can better decide which ones fit me best. Probably from a curriculum standpoint the career-focused volunteerism is most valuable. In a world with a competitive job-market having a great education AND valuable experience gives me an advantage over other applicants. This volunteerism also helps me hone in on where I want to go with my degree and the types of careers I would like to pursue.

Networking with people in my field and preparing for my transition to the professional world.

Networking, relationships, career advice.

The networking with different people

I feel like I have been pushed to develop myself as a professional and think about different aspects of getting a job. I've realized that getting a good job or the job you really want is directly related to the amount of time and effort you put into your resume and cover letters, getting to know the organization you are applying to, speaking to someone in that organization and/or knowing someone in the field

The research aspect

Meeting new people and being part of an elite academic group. It is a confidence booster.

This is difficult to answer since I believe all parts of the program to be valuable.

I feel the ES program was most valuable to me when entering college as a freshman because it gave me a core group of people who I know I could openly ask questions to. The scholarship it also provides me to cover the majority of tuition is an extremely valuable part of the program as well.
Getting motivated to go out and do things—to strive

The connections that you make with the scholars. You always feel like you have a friend which is valuable. The career focused things like seminars and such, i feel are very important. These sorts of things give us a leg up on other students in our class.

**Please Comment on what you think is the least valuable part of being a part of the Environmental Scholars program.**

I cannot think of the least valuable part.

N/A

At times there is some busy work that interferes with my school work

To me personally, the volunteering was great, but in the long run, did not really influence me in any major way.

The Journal entries.

I feel like we often waste time in class. I do appreciate the meetings though. I always enjoy seeing everyone.

Some of the specific assignments, like writing a resume for a job outside of my major, seem to be of questionable value.

I thought we would be going to more conferences for professional or major-related fields to gain better networking

I know that everything we do is intended to help us in the future, but a lot of it just feels like busy work.

Writing journals

The only down fall was having things due for next class. They were beneficial; however, it took up alot of time that was needed for studying or other school work.

The way it is run. There is no consistent grading, the professor is condescending to students, and the graduate student isn't qualified to be giving advice on our portfolios. Most of the “feedback” given is simply opinion with nothing constructive offered. John Turbeville is the only one who provides honest insightful feedback and behaves in a professional manor.

The journals serve no purpose for me. I do not feel comfortable telling anybody about my most personable experiences.

Learning about other majors that probably will not help me in the future.

the journal entries

N/A

<Unanswered>
I think there needs to be more e-mails sent out by the instructors about upcoming events. I realize that the dates/times are said during class, but by bombarding our e-mails every week, I find it helpful in reminding us about these upcoming events.

nothing.

I feel there is not anything that is less valuable of being a part of the program. Looking at the past curriculum certain aspects were less valuable to my educational and career development. The stream restoration project was probably the least valuable for me because in my particular major, Conservation Biology, many courses that I take have similar projects. I have had the opportunity to make many management/restoration plans but I think it did help to strengthen connections within the group and for students that did not have experience with these types of the things probably gained a lot of insight. The project was still valuable to me and I did learn from it but if I had to pick anything that was the least valuable it would be the project.

Journal entries

N/A

The time we spend on an ambiguous project that caused some quarrels with in the group members

I don't really see a point in writing journals. I can never really think of anything good to write!

Not sure.

None

The whole program is valuable!

<Unanswered>

Either the meetings or the lack of reason for being there. The seminars are great but the meetings are sometimes unnessecary. I would much rather have to go to a seminar that is scheduled during class time instead of using anothe block of time to go to a seminar and then class.

Next year there is no formal seminar planned, do you have any suggestions for activities you would like us to have to keep the group together and to celebrate each other's successes?

We should still be required to do career based volunteerism, and maybe once in a while we get together and make food and have a nice discussion about what we have been doing. Also we should list all the places we are looking to apply.

Pot lucks or dinners every couple of months and a big celebration near graduation. Also, related to graduation we could pick out special cords or some other type of accessory to the graduation gown to differentiate that we are an environmental scholar.

I think monthly optional events would be great and maybe make another journal section that is public so we can all keep up with each other.

Rib bbq

We can make fudge again! That was fun. :)

No worthwhile suggestions from my end. I'm bad at suggesting these kinds of things.
We could have a meeting once and month to see how everyone is doing with grad school, graduation, capstones, or job applications

Group dinners

Some group organized activities and retreats would be great. A low work load would be great as well. It's hard to balance 19 credits

Having a retreat. I really enjoyed the summer trip to the adirandacks and hiking. Possible overnight camping trips?

Nothing specific, but people in the same major will better understand the significance of accomplishments. I think next semester's goals will be best achieved by sharing current work, goals and accomplishments within majors.

I would really like to do the high ropes course still. Bar-B-Ques, Bowling, Water Aerobics, Salsa dancing

An end of the year gathering where we make food and talk about what has helped us the most throughout the semester. It would also be nice to have a retreat before school starts and sometime during the middle of the semester

not career stuff; food and music would make the meetings better

Potlucks!

<Unanswered>

I think activities with the whole group are definitely important to keep those connections and to strengthen the ones with the new transfers. I enjoyed every activity at the different ESF regional campuses. As ESF students I think it is good for us to experience the different campuses so we know what opportunities we have and what might hold our interest. Since we have visted the AEC and Heiberg we might be able to make a day trip to Wanakena campus or possibly the Thousand Islands Biological Station. I do not know much about either so I don't know how feasible that would be. No matter where the activity is if it is in nature I think we will all benefit from the experience. As far as celebrating each other's successes we might have a couple informal meetings and discuss where everyone is at and how their internships went or if they are being accepted for an internship

Techno Raves

I will not be a part of the activities as I am graduating this May.

Maybe meet once a month to go out hiking, picnic or take a walk in nature, doing some sort of outdoor activities together to have a time of sharing.

We should have a dinner or something once a month so that we can have a chance to get together and discuss what we are doing

A potluck dinner might be nice.<br />

Casual get togethers to catch up on our semesters and where we are in terms of our career paths.

We could have a BBQ and/ or try the high ropes course.
We could have pot-lucks hosted at people's houses and perhaps share things in an online forum with the group in addition to journaling. Our grade could be based partially on our involvement in planning the group events and sharing on the forum.

BBQ's are always fun, pot lucks maybe proffesional mixers on campus. Like for us and the professors that have been involved in the program.