

COVER SHEET FOR PROPOSAL TO THE NATIONAL SCIENCE FOUNDATION

PROGRAM ANNOUNCEMENT/SOLICITATION NO./CLOSING DATE/if not in response to a program announcement/solicitation enter NSF 14-1					FOR NSF USE ONLY	
FOR CONSIDERATION BY NSF ORGANIZATION UNIT(S) (Indicate the most specific unit known, i.e. program, division, etc.)					NSF PROPOSAL NUMBER	
DEB - Ecosystem Studies					1442540	
DATE RECEIVED	NUMBER OF COPIES	DIVISION ASSIGNED	FUND CODE	DUNS# (Data Universal Numbering System)	FILE LOCATION	
04/07/2014	1	08010000 DEB	1181	152606125	04/07/2014 3:58pm	
EMPLOYER IDENTIFICATION NUMBER (EIN) OR TAXPAYER IDENTIFICATION NUMBER (TIN)		SHOW PREVIOUS AWARD NO. IF THIS IS <input type="checkbox"/> A RENEWAL <input type="checkbox"/> AN ACCOMPLISHMENT-BASED RENEWAL		IS THIS PROPOSAL BEING SUBMITTED TO ANOTHER FEDERAL AGENCY? YES <input type="checkbox"/> NO <input type="checkbox"/> IF YES, LIST ACRONYM(S)		
		0949324				
NAME OF ORGANIZATION TO WHICH AWARD SHOULD BE MADE SUNY College of Environmental Science and Forestry			ADDRESS OF AWARDEE ORGANIZATION, INCLUDING 9 DIGIT ZIP CODE SUNY College of Environmental Science and Forestry PO Box 9 Albany, NY. 122010009			
AWARDEE ORGANIZATION CODE (IF KNOWN) 0028514000						
NAME OF PRIMARY PLACE OF PERF			ADDRESS OF PRIMARY PLACE OF PERF, INCLUDING 9 DIGIT ZIP CODE			
IS AWARDEE ORGANIZATION (Check All That Apply) (See GPG II.C For Definitions)		<input type="checkbox"/> SMALL BUSINESS <input type="checkbox"/> FOR-PROFIT ORGANIZATION		<input type="checkbox"/> MINORITY BUSINESS <input type="checkbox"/> WOMAN-OWNED BUSINESS		<input type="checkbox"/> IF THIS IS A PRELIMINARY PROPOSAL THEN CHECK HERE
TITLE OF PROPOSED PROJECT Collaborative Research: Nutrient co-limitation in young and mature northern hardwood forests						
REQUESTED AMOUNT \$ 6,000	PROPOSED DURATION (1-60 MONTHS) 0 months	REQUESTED STARTING DATE	SHOW RELATED PRELIMINARY PROPOSAL NO. IF APPLICABLE			
THIS PROPOSAL INCLUDES ANY OF THE ITEMS LISTED BELOW						
<input type="checkbox"/> BEGINNING INVESTIGATOR (GPG I.G.2)			<input type="checkbox"/> HUMAN SUBJECTS (GPG II.D.7) Human Subjects Assurance Number _____ Exemption Subsection _____ or IRB App. Date _____			
<input type="checkbox"/> DISCLOSURE OF LOBBYING ACTIVITIES (GPG II.C.1.e)			<input type="checkbox"/> INTERNATIONAL ACTIVITIES: COUNTRY/COUNTRIES INVOLVED (GPG II.C.2.j)			
<input type="checkbox"/> PROPRIETARY & PRIVILEGED INFORMATION (GPG I.D, II.C.1.d)						
<input type="checkbox"/> HISTORIC PLACES (GPG II.C.2.j)						
<input type="checkbox"/> VERTEBRATE ANIMALS (GPG II.D.6) IACUC App. Date _____ PHS Animal Welfare Assurance Number _____			<input type="checkbox"/> COLLABORATIVE STATUS			
<input type="checkbox"/> FUNDING MECHANISM _____						
PI/PD DEPARTMENT Forest and Natural Resources Management		PI/PD POSTAL ADDRESS 1 Forestry Drive 210 Marshall Hall Syracuse, NY 13210 United States				
PI/PD FAX NUMBER 315-470-6954						
NAMES (TYPED)	High Degree	Yr of Degree	Telephone Number	Email Address		
PI/PD NAME Ruth D Yanai	PhD	1990	315-470-6955	rdyanai@syr.edu		
CO-PI/PD						
CO-PI/PD						
CO-PI/PD						
CO-PI/PD						

SUMMARY OF PROPOSED WORK

This is a request for an RAHSS supplement to support research experience for a high school student.

Justification for Supplement

This is a request for an RAHSS supplement to support research experience for a high school student, Mariam Bility, who is a refugee from Liberia and an American citizen. She is a current freshman with an interest in a career in science.

Clear description of the meaningful and challenging activities in which the student(s) will be involved and how the student(s) will be mentored:

We propose to involve Mariam in our research at Hubbard Brook, Bartlett, and Jeffers Brook, NH. The overall project is well suited to participation by high school students because of the variety of tasks required to support the many research efforts there. We hope that Mariam will develop a project of her own according to her interests. So far, she has learned to sort leaf litter by species, working in our lab as a volunteer on Saturday afternoons. Other opportunities for lab work include sorting soil invertebrates. Mentoring will be provided by the PI and the graduate students and the undergraduate students associated with the lab. Mariam will visit our field sites but not join our summer field crew because her family depends on her English skills (which are excellent; she came to the US at the age of 6).

Multiple Element Limitation in Northern Hardwood Ecosystems (MELNHE) is an NSF-funded collaboration between researchers at the State University of New York (SUNY ESF), Cornell University, Miami University, The University of Michigan, and The Marine Biological Laboratory. The MELNHE project seeks to examine the limits to forest productivity through the lens of resource optimization theory. This is being done through replicated, large-scale nutrient additions of nitrogen, phosphorus, and calcium in stands of different ages at three sites. Treatment results will be used to help develop the Multi-Element Limitation (MEL) model. More information on the project is available at <http://www.esf.edu/melnhe>, including a blog from the summer field crews.

Possible projects for Mariam include the response of tree species or soil invertebrate species to additions of nitrogen and phosphorus in our nutrient manipulation treatments. Mariam will learn to enter and manage data and conduct a literature review.

The broader impacts of this project include both the training of a future researcher from an underrepresented group and the broadened horizons of the members of overrepresented groups who interact with her, who have little knowledge of the refugee community in Syracuse.

A brief biographical sketch of candidate student(s):

Mariam Bility

I was born in West Africa in 1999 in the country of Liberia. I left war torn Liberia, and arrived in Syracuse, NY in 2005, with my mother and three brothers. I am currently a freshman at The Institute of Technology in the Syracuse City School District. I have an 88 average and I play three sports a year: volleyball, basketball, and Lacrosse.

My interests involve a broad spectrum of the life sciences, including biology, chemistry, forestry and agriculture. My interests in ecosystems, biodiversity and animals has led to a program at the Rosamond Gifford Zoo, in which I am being trained to conduct presentations to the visiting public, describing the various ecosystems and animals at the zoo. I am fascinated by nature and I like to search for answers to questions. In my volunteer work at SUNY ESF, sorting and categorizing different leaves, I have begun to learn about what questions the students and professors are attempting to answer. I have also learned that I enjoy working in the laboratory environment, and particularly the challenge of trying to solve how and why the trees are influenced by fertilizers.

My career goal is to study science in college and to return to Liberia to apply what I have learned to help alleviate the poverty and suffering in my country of origin.

A plan for encouraging the advancement of the RAHSS student(s) beyond participation in the research program

We will continue to communicate with the student beyond her participation in this research program. We will help her seek out future experiences; there are many NSF-funded projects at SUNY-ESF and Syracuse University that could enlist her participation as she further refines her interests during her high school career (she is only a freshman now).

A brief description of the PI's experience with involving high school students in research

I have had one previous RAHSS supplement to support a high school student in Syracuse who was Asian-American, female, and wheelchair bound. She was involved in laboratory activities in my lab and in others at ESF; she was interested in microscopy and worked in the ultrastructure lab in the wood science and engineering group. She went on to Yale University. Christina has not yet declared a major, but she's considering a medical or multiple directions. She has become active in the Yale Medical Professions Outreach (YMPO) undergraduate program, serves as a Student Representative on the Provost Advisory Committee on Resources for Students and Employees with Disabilities and is involved with the Korean American Students at Yale (KASY).

SUMMARY PROPOSAL BUDGET

YEAR 1

ORGANIZATION SUNY College of Environmental Science and Forestry				FOR NSF USE ONLY			
				PROPOSAL NO.	DURATION (months)		
PRINCIPAL INVESTIGATOR / PROJECT DIRECTOR Ruth Yanai				AWARD NO.			
A. SENIOR PERSONNEL: PI/PD, Co-PI's, Faculty and Other Senior Associates (List each separately with title, A.7. show number in brackets)				NSF Funded Person-months		Funds Requested By proposer	Funds granted by NSF (if different)
				CAL	ACAD	SUMR	
1.				0.00	0.00	0.00	
2.							
3.							
4.							
5.							
6. (0) OTHERS (LIST INDIVIDUALLY ON BUDGET JUSTIFICATION PAGE)				0.00	0.00	0.00	0
7. (1) TOTAL SENIOR PERSONNEL (1 - 6)				0.00	0.00	0.00	0
B. OTHER PERSONNEL (SHOW NUMBERS IN BRACKETS)							
1. (0) POST DOCTORAL SCHOLARS				0.00	0.00	0.00	0
2. (0) OTHER PROFESSIONALS (TECHNICIAN, PROGRAMMER, ETC.)				0.00	0.00	0.00	0
3. (0) GRADUATE STUDENTS							0
4. (0) UNDERGRADUATE STUDENTS							0
5. (0) SECRETARIAL - CLERICAL (IF CHARGED DIRECTLY)							0
6. (0) OTHER							0
TOTAL SALARIES AND WAGES (A + B)							0
C. FRINGE BENEFITS (IF CHARGED AS DIRECT COSTS)							0
TOTAL SALARIES, WAGES AND FRINGE BENEFITS (A + B + C)							0
D. EQUIPMENT (LIST ITEM AND DOLLAR AMOUNT FOR EACH ITEM EXCEEDING \$5,000.)							
TOTAL EQUIPMENT							0
E. TRAVEL							
1. DOMESTIC (INCL. CANADA, MEXICO AND U.S. POSSESSIONS)							0
2. FOREIGN							0
F. PARTICIPANT SUPPORT COSTS							
1. STIPENDS \$ <u>4,000</u>							
2. TRAVEL <u>2,000</u>							
3. SUBSISTENCE <u>0</u>							
4. OTHER <u>0</u>							
TOTAL NUMBER OF PARTICIPANTS (0)				TOTAL PARTICIPANT COSTS		6,000	
G. OTHER DIRECT COSTS							
1. MATERIALS AND SUPPLIES							0
2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION							0
3. CONSULTANT SERVICES							0
4. COMPUTER SERVICES							0
5. SUBAWARDS							0
6. OTHER							0
TOTAL OTHER DIRECT COSTS							0
H. TOTAL DIRECT COSTS (A THROUGH G)							6,000
I. INDIRECT COSTS (F&A)(SPECIFY RATE AND BASE) (Rate: , Base:)							
TOTAL INDIRECT COSTS (F&A)							0
J. TOTAL DIRECT AND INDIRECT COSTS (H + I)							6,000
K. RESIDUAL FUNDS							0
L. AMOUNT OF THIS REQUEST (J) OR (J MINUS K)							6,000
M. COST SHARING PROPOSED LEVEL \$ 0				AGREED LEVEL IF DIFFERENT \$			
PI/PD NAME Ruth Yanai				FOR NSF USE ONLY			
ORG. REP. NAME*				INDIRECT COST RATE VERIFICATION			
				Date Checked	Date Of Rate Sheet	Initials - ORG	

SUMMARY PROPOSAL BUDGET Cumulative

ORGANIZATION SUNY College of Environmental Science and Forestry				FOR NSF USE ONLY			
				PROPOSAL NO.	DURATION (months)		
PRINCIPAL INVESTIGATOR / PROJECT DIRECTOR Ruth Yanai				AWARD NO.			
A. SENIOR PERSONNEL: PI/PD, Co-PI's, Faculty and Other Senior Associates (List each separately with title, A.7. show number in brackets)				NSF Funded Person-months		Funds Requested By proposer	Funds granted by NSF (if different)
				CAL	ACAD	SUMR	
1.				0.00	0.00	0.00	
2.							
3.							
4.							
5.							
6. () OTHERS (LIST INDIVIDUALLY ON BUDGET JUSTIFICATION PAGE)				0.00	0.00	0.00	0
7. (0) TOTAL SENIOR PERSONNEL (1 - 6)				0.00	0.00	0.00	0
B. OTHER PERSONNEL (SHOW NUMBERS IN BRACKETS)							
1. (0) POST DOCTORAL SCHOLARS				0.00	0.00	0.00	0
2. (0) OTHER PROFESSIONALS (TECHNICIAN, PROGRAMMER, ETC.)				0.00	0.00	0.00	0
3. (0) GRADUATE STUDENTS							0
4. (0) UNDERGRADUATE STUDENTS							0
5. (0) SECRETARIAL - CLERICAL (IF CHARGED DIRECTLY)							0
6. (0) OTHER							0
TOTAL SALARIES AND WAGES (A + B)							0
C. FRINGE BENEFITS (IF CHARGED AS DIRECT COSTS)							0
TOTAL SALARIES, WAGES AND FRINGE BENEFITS (A + B + C)							0
D. EQUIPMENT (LIST ITEM AND DOLLAR AMOUNT FOR EACH ITEM EXCEEDING \$5,000.)							
TOTAL EQUIPMENT							0
E. TRAVEL 1. DOMESTIC (INCL. CANADA, MEXICO AND U.S. POSSESSIONS)							0
2. FOREIGN							0
F. PARTICIPANT SUPPORT COSTS							
1. STIPENDS \$ <u>4,000</u>							
2. TRAVEL <u>2,000</u>							
3. SUBSISTENCE <u>0</u>							
4. OTHER <u>0</u>							
TOTAL NUMBER OF PARTICIPANTS (0)				TOTAL PARTICIPANT COSTS		6,000	
G. OTHER DIRECT COSTS							
1. MATERIALS AND SUPPLIES							0
2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION							0
3. CONSULTANT SERVICES							0
4. COMPUTER SERVICES							0
5. SUBAWARDS							0
6. OTHER							0
TOTAL OTHER DIRECT COSTS							0
H. TOTAL DIRECT COSTS (A THROUGH G)							6,000
I. INDIRECT COSTS (F&A)(SPECIFY RATE AND BASE)							
TOTAL INDIRECT COSTS (F&A)							0
J. TOTAL DIRECT AND INDIRECT COSTS (H + I)							6,000
K. RESIDUAL FUNDS							0
L. AMOUNT OF THIS REQUEST (J) OR (J MINUS K)							6,000
M. COST SHARING PROPOSED LEVEL \$ 0				AGREED LEVEL IF DIFFERENT \$			
PI/PD NAME Ruth Yanai				FOR NSF USE ONLY			
ORG. REP. NAME*				INDIRECT COST RATE VERIFICATION			
				Date Checked	Date Of Rate Sheet	Initials - ORG	

C *ELECTRONIC SIGNATURES REQUIRED FOR REVISED BUDGET

Budget Justification Page

This budget will provide funding for research experience for a high school student, Mariam Bility, who is a refugee from Liberia and an American citizen. She is a current freshman with an interest in a career in science. The mentor who brought her to our attention has connections in the refugee community in Syracuse and knows other high-school students who may take advantage of this opportunity.

We budgeted a stipend of \$4000, based on a 10-week summer at 40 hours/week and \$10/hour. We may spread this over multiple students if we recruit others from the same demographic group. We estimated \$2000 for travel, including mileage and housing for the field site and attendance at scientific meetings.
