To: Beth Barnett, Provost  
    Eddie Saiff, TAS Dean  
From: Eric Karlin  
Date: 15 August 2011  
RE: Completion of 2011 SBR

I received an SBR for summer 2011 to work on a manuscript based on a genetic study of Hawaiian *Sphagnum palustre*, with the goal of submitting the manuscript for publication in a peer reviewed journal.

The manuscript has been completed and was submitted for review on 15 August 2011 (see attached pages). I am the lead author, with coauthors from Duke University, the University of Wisconsin-Madison, and the Norwegian University of Science and Technology. The title is:

"High genetic diversity in a remote island population system: sans sex"

I also presented a ‘Recent Topics” poster based on this research at the Botany 2011 conference held in St. Louis, MO on 9-13 July 2011. A link to the abstract for this poster is provided below.


As I have completed the goal for this SBR project, I am requesting payment of the remaining portion of the award.
SBR 2011 Summary Report

I was awarded a Summer 2011 SBR Grant/Stipend in the amount of $4,000 towards the completion of my research paper titled “Frontier Warriors as Cultural Mediators: Shifting Identities of Byzantine and Turkish March Literature as Elicited from Anatolian Frontier Literature,” I completed this project in late August, 2011. I have just accepted an invitation to present a version of my paper at the upcoming International Conference on Arts and Humanities, which will take place in Hawaii University on 8-10 January 2012.

I could not have completed this research project if it were not for the generous funding provided to me by the SBR Grant.

I thank the SBR All-College Committee and Ramapo College of New Jersey.

Sincerely,

Pinar Kayaalp, Ph.D.
Assistant Professor of Islamic and Middle Eastern History
School of American and International Studies
Ramapo College of New Jersey
505 Ramapo Valley Road
Mahwah NJ 07430-1680
201-684-6211
pkayaalp@ramapo.edu
Progress Report
Ramapo SBR Grant (2010-2011, summer 2011)

1. Principal Investigator
Seung-Sup Kim, Ph.D.
Assistant Professor of Chemistry and Biochemistry
School of Theoretical and Applied Science (TAS)
Ramapo College of NJ

2. Title of Research Project
Biochemical and Structural Studies of Bacterial Recombination & Repair Proteins

Study 1. Productions of recombination protein RecR and its N-terminal and/or C-terminal lacking mutants and biochemical Studies of oligomerization mechanisms of RecR

Study 2. Productions of recombination proteins (RecR, RecO, RecF, RecA and SSB) from formation of the proteins and biochemical studies of complexes

3. Research Summary
The long term goal of the proposed research project (study 1 and study 2) is to understand the functions of bacterial recombinant proteins and the mechanisms of bacterial recombination and repairing processes.

Study 1. Productions of recombination protein RecR and its N-terminal and/or C-terminal lacking mutants and biochemical Studies of oligomerization mechanisms of RecR

To obtain sufficient amounts of recombinant forms of RecR and its mutant proteins in high purity we used previously constructed expression clones for RecR (RecR_ecoli) and two different forms of its mutants (G39C and A172C). The HisSUMO tagged forms of the target proteins in high purity and in large quantity (milligram levels) were produced using a T7 bacterial expression system and the target non-tagged proteins were processed and purified successfully using various techniques including SUMOase digestion and Ni-NTA affinity column chromatography. The purity of each protein was analyzed and confirmed using protein gel electrophoresis including Native-PAGE and SDS-PAGE. The identity of each recombinant protein was characterized by MALDI-TOF mass spectroscopy. The oligomerization states of the purified proteins (native RecR, G39C and A172C) were analyzed and compared using native gel-shifting assay and gel band quantitation. The effect of the disulfide interlock for the dimerization of each
mutant (G39C or A172C) was confirmed by quantitative comparison between reduced and non-reduced states of each protein during the native gel-shifting assay.

**Study 2.** Productions of recombination proteins (RecR, RecO, RecF, RecA and SSB) from and biochemical studies of complexes formation of the proteins

To obtain sufficient amounts of recombinant forms of RecR and RecO in high purity we used previously constructed expression clones for the RecR (RecR_RD) and the RecO (RecO_RD). The HisSUMO tagged forms of the target proteins in high purity and in large quantity (milligram levels) were produced using a T7 bacterial expression system and the target non-tagged proteins were processed and purified successfully using various techniques including SUMOase digestion and Ni-NTA affinity column chromatography. The purity of each protein was analyzed and confirmed using protein gel electrophoresis including Native-PAGE and SDS-PAGE. The identity of each recombinant protein was characterized by MALDI-TOF mass spectroscopy. The complex formation between the purified proteins (RecR_DR and RecO_DR) was confirmed using native gel-shifting assay.

### 3. Data and Results

**Study 1.** Productions of recombination protein RecR and its N-terminal and/or C-terminal lacking mutants and biochemical Studies of oligomerization mechanisms of RecR

Three different recombinant proteins were produced using constructed expression clones and T7 bacterial expression system. One is native form of RecR and two others are mutated forms (G39C and A172C). The mutated form has one to two extra cysteine(s) at amino acid residue #39 (glycine for native form), #172 (alanine for native form) or #39 & #172 position(s), respectively. The extra cysteine residue is supposed to create an artificial interlocking disulfide bond(s) between two monomers of RecR and effects open-close function of RecR tetrameric ring at their N-terminal (G39C) or C-terminal (A172C) contacts. The number of artificial disulfide bond(s) introduced by the site-directed mutagenesis was two (at N-terminal region) or one (at C-terminal region) for G39C or A172C, respectively.

All forms of the RecR proteins (native and mutant forms) were over-expressed in the forms of HisSUMO tagged recombinant proteins using pET_HisSUMO_RecR_Ecoli, pET_HisSUMO_G39C, and pET_HisSUMO_A172C expression vectors (see Figure 1). Each expression vector was transformed separately into BL21(DE3) expression host cell containing T7 RNA polymerase gene and T7 expression system. Each expression cell was used for over-expression of each target recombinant protein by IPTG induction (see Figure 2). The expressed HisSUMO tagged proteins (native RecR, G39C and A172C) were purified using Ni-NTA affinity chromatography and the HisSUMO tag of each purified protein were cleaved using SUMOase.
digestion. The non-tagged forms of the proteins were purified further using 2nd round of Ni-NTA affinity chromatography (see Figure 3).

The purities of produced proteins were analyzed using Poly Acrylamide Gel Electrophoresis (Native-PAGE and SDS-PAGE) Analyses. The identity of each recombinant protein was characterized by MALDI-TOF mass spectroscopy (data not shown). The oligomerization states of the purified proteins (native RecR, G39C and A172C) were analyzed (see Figures 4 to 6). The oligomerization efficiency and concentration dependency of the oligomerization for each protein were compared using native gel-shifting assay and gel band quantitation (see figures 7 & 8). The effect of the artificial disulfide interlock for the oligomerization (most likely dimerization) of each mutant (G39C or A172C) was confirmed by quantitative comparison between reduced and non-reduced states of each protein during the native gel-shifting assay. The gel-shifting and quantitative analysis suggested that the extra disulfide bond(s) (at N- or C- terminus) increased the efficiency of RecR oligomerization and the impact was higher for G39C mutant form which has two artificial disulfide bonds at its N-terminal region than A172C mutant form which contains one artificial disulfide bond at its C-terminal region (see Figures 7 & 8).

Figure 1. Map of HisSUMO_RecR expression vector. The clone contains T7 promoter for T7 expression control by IPTG, HisSUMO tag coding region and the gene encoding target protein (native E. coli RecR or its mutant forms, G39C, A172 or G39C/A172C).

Figure 2. A picture of SDS-PAGE of over-expressed proteins
Figure 3. SDS-PAGE of the purification process of A172C protein
1. Protein Size Marker, 2. Sup of Sonication, 3. Pellet of Sonication, 4. 1st column F/T, 5. 1st Column Wash, 6 – 12. 1st Column Fractions 1 – 8, 13. SUMOase Cut, 14. 2nd Column F/T, 15. 2nd Column Wash. Blue arrow indicates protein band for over-expressed HisSUMO_A172 and red arrow indicates purified non-tagged A172C protein band.

Figure 4. Native PAGE of RecR_Ecoli protein.
1. Protein Size Marker; 2. Blank; 3 – 6. various native RecR concentrations (mg/mL) with β-Mercaptoethanol; 7. Blank; 8. Protein Size Marker; 9. Blank; 10 – 13. various native RecR concentrations (mg/mL) without β-Mercaptoethanol. Blue arrow indicates the position for monomer band of RecR_Ecoli and red arrow indicates the position for dimer band of RecR_Ecoli.

Figure 5. Native PAGE of G39C mutared protein
1. Protein Size Marker; 2 – 5. various G39C concentrations (mg/mL) with β-Mercaptoethanol; 6. Blank; 7. Size Marker; 8. Blank; 9 – 12. various G39C concentrations (mg/mL) without β-Mercaptoethanol. Blue arrow indicates the position for monomer band of G39C and red arrow indicates the position for dimer band of G39C.

Figure 6. Native PAGE of A172C mutared protein
1. Protein Size Marker; 2. Blank; 3 – 6. various A172C concentrations (mg/mL) with β-Mercaptoethanol; 7. Blank; 8. Size Marker; 9. Blank; 10 – 13. various A172C concentrations (mg/mL) without β-Mercaptoethanol. Blue arrow indicates the position for monomer band of A172C and red arrow indicates the position for dimer band of A172C.
**Figure 7.** Non-reducing Conditions Comparison of the oligomer formation ratios (percentages) between RecR native and mutant forms in non-reducing (i.e. without β-Mercaptoethanol) condition, as determined using Native PAGE gel-shifting assay and QuantityOne density analysis. G39C shows highest oligomer formation efficiency at same concentrations compare to A172C or RecR_Ecoli (A172C form shows higher efficiency of oligomerization than RecR_Ecoli).

**Figure 8.** Reducing Conditions Comparison of the oligomer formation ratios (percentages) between RecR native and mutant forms in reducing (i.e. with β-Mercaptoethanol) condition, as determined using Native PAGE gel-shifting assay and QuantityOne density analysis. The oligomerization efficiency differences among RecR_Ecoli, G39C and A172C are decreased at reducing condition. It proves indirectly the relationship between extra disulfide bond(s) of G39C and A172C and the oligomerization efficiency changes.

**Study 2.** Productions of recombination proteins (RecR, RecO, RecF, RecA and SSB) from and biochemical studies of complexes formation of the proteins

Recombinant proteins of RecR_DR and RecO_DR were produced using previously constructed expression clones and T7 bacterial expression system. The proteins were over-expressed in the forms of HisSUMO tagged recombinant proteins using pET_HisSUMO_RecR_DR and pET_HisSUMO_RecR_DR expression vectors. Each expression vector was transformed separately into BL21(DE3) expression host cell containing T7 RNA polymerase gene and T7 expression system. Each expression cell was used for over-expression of each target recombinant protein by IPTG induction (see Figure 9). The expressed HisSUMO tagged proteins (RecR_DR and RecO_DR) were purified using Ni-NTA affinity chromatography.
and the HisSUMO tag of each purified protein were cleaved using SUMOase digestion. The non-tagged forms of the proteins were purified further using 2nd round of Ni-NTA affinity chromatography (see Figure 9).

The purities of produced proteins were analyzed using Poly Acrylamide Gel Electrophoresis (Native-PAGE and SDS-PAGE) Analyses. The identity of each recombinant protein was characterized by MALDI-TOF mass spectroscopy (see Figure 10 for one of the examples of MALDI-TOF spectrum). The complex formations between RecR_DR and RecO_DR at different molar ratios were analyzed by native gel-shifting assay (see Figure 11).

Figure 9. A picture of SDS-PAGE for the purification of RecR
1: Protein Size Marker
2: Uninduced cell extract
3: Induced cell extract (expressed HisSUMO_RecR_DR)
4: Empty
5: Supernatant from sonication
6: Empty
7: Pellet from sonication
8: Flow-through from 1st Ni-NTA Chromatography
9: Wash from 1st Ni-NTA Chromatography
10: Elute fraction # 2 from 1st Ni-NTA chromatography
11: Elute fraction # 4 from 1st Ni-NTA chromatography
12: Purified HisSUMO_RecR before HisSUMOase digestion
13: After SUMOase digestion
14: Flow-through from 2nd Ni-NTA Chromatography
15: Wash from 2nd Ni-NTA chromatography

Figure 10. Mass spectrum results for purified recombinant RecR_DR. The experimental MW (23864.08) is almost identical to the theoretical MW (23763.2) of RecR_DR which confirms the protein’s identity.
4. Student Research Activity and Learning

During last academic year (fall 2010-summer 2011), Several Ramapo college students were involved in the proposed research project. They were worked on the studies through TAS research honors program.

Marykathryn Tynon (fall 2010–spring 2010) was a senior student majoring Biochemistry and she worked on the project (Study 2) through TAS research honor program. She graduated Ramapo now and is continuing her graduate education in Forensic Science with full scholarship at Arcadia University, PA.

Two Ramapo sophomore students (Adriana Loback and Julie Truong) have involved in the project during last year (fall 2010–spring 2011) through TAS research honor program. Adriana worked on the Study 1 and Julie worked on a part of the Study 2 during last year (fall 2010–spring 2011). Adriana is continuing her research work through her honor project and
Julie is continuing her research project (Study 2) in my research laboratory through TAS research honor program at present time.

There was one junior Biochemistry student (Josue Guzman) involved in the Study 1 during fall 2010 (one semester) through TAS research honor program. Also at present time, one of sophomore Biochemistry students (Kelsey Chetnik) involved in the Study 2 as a volunteer research student in my laboratory.

Through the research projects, the students were exposed various advanced biochemical research techniques and experienced academic research lab environment. The students learned various research techniques including molecular cloning, site-directed mutagenesis, over-expression of protein in bacterial system, protein purification techniques including various column chromatography, and agarose and poly acrylamide gel electrophoresis analyses for DNA and protein samples, gel-shifting assays and pull-down assays. The research experiences will help the future career of each student in the area of scientific research and other areas require independent research skills.

5. Future Studies

Further production and purification of various bacterial recombination proteins, including RecA, RecF and SSB proteins, will be carried out using expression cloning and bacterial expression system. The prepared pure proteins will be subjected to biochemical and structural studies to understand the function and mechanism of recombination repair system. In short term, the studies about oligomerization and DNA binding efficiencies of RecR and its mutants will be carried out to the completion stage. It will help us to understand the effects of the N- and C-terminal contacts on RecR for its tetrameric ring formation and DNA binding mechanism. The target systems for the future studies about bacterial repair system will not be limited to system. The studies will be expended to different bacterial systems including to study further about the complex formations between different complex partners in bacterial DNA repair and recombination system.

6. Supports by Ramapo SBR Grant (summer, 2011)

The Ramapo SBR Grant (summer, 2011) for the proposed research project has been used to support the summer 2010 stipend for Principal Investigator of the proposed project. The support by SBR Grant has been essential parts of successful continuation of the research project. Furthermore the research project which provided valuable research experiences and opportunities to the Ramapo students could not have been possible to be carried out without the support during last academic year (2010-2011).
SBR Report: Summer 2011

I am pleased to report that I was able to use the summer stipend SBR awarded me for Summer 2011 in order to work on my project “What Can Lexomics Tell Us about Beowulf?” The award enabled me to devote most of the months of July and August to work on this text as I was relieved of the necessity of teaching. I was able to utilize library resources at the University of Minnesota, where I was located during those months. In addition, I was able to meet with two of my collaborators, Profs. Michael Drout and Michael Kahn, at the International Congress in Medieval Studies at Western Michigan University in Kalamazoo, Michigan, where I presented some of my findings and had the opportunity to meet with several other professors, including Profs. Scott Kleinman and Sarah Downey, who are also applying the techniques of lexomics to their work. I was also able to travel to Wheaton College in Norton, Massachusetts in September 2011 and work with Profs. Michael Drout and Mark LeBlanc on the computer programs they have been developing with the help of the NEH grant they received. I was able to run a number of dendrograms and greatly expand my draft of the article, and produce a significant piece of work.

In addition to my major work on this article, I worked on several other projects. In June and July of 2011 I completed and submitted my essays and selection of articles on Saxo Grammaticus to Classical and Medieval Literature Criticism at Gale. They were preliminarily accepted; I await possible requests for revisions. The volume Picturing Tolkien: Essays on the Peter Jackson Lord of the Rings Trilogy, ed. Janice Bogstad and Philip E. Kaveny appeared from McFarland; this book includes my essay “Making the Connection on Page and Screen in Tolkien’s and Jackson’s The Lord of the Rings.” I was also able to submit a completed book proposal to Palgrave for Ægða: Women and Their Voices in Some Anglo-Saxon Texts, edited by myself and Marijane Osborn, professor emerita from University of California, Davis. Finally, I completed a draft of my essay “Poor Sméagol: Gollum as Exile in The Lord of the Rings” which has been accepted into the prestigious festschrift for T. A. Shippey, the leading scholar on J. R. R. Tolkien, entitled Author of the New Century: T. A. Shippey and the Creation of the Next Canon.

I would like to thank the college again for this award; it enabled me to devote a significant period of time to furthering my research goals and allowed me to substantially expand an important article.

Sincerely,
Yvette Kisor
MEMORANDUM

To: Dean Samuel Rosenberg, SSHS
From: Kathryn S. Krase
Re: Summer 2011 SBR- Summary Report
Date: August 10, 2011

My Summer 2011 SBR award funded my efforts towards the development of a manuscript submitted to the Journal on Public Child Welfare, and towards the development of a model training curriculum on advanced practice issues in the reporting of suspected child abuse and neglect. This manuscript and training curriculum are the direct result of research that I conducted through my Summer 2010 SBR award, my dissertation completed in 2009, and a current research project initiated as a result of the findings of my 2010 SBR project.

I used findings from research conducted with the assistance of two student research assistants through the school year to inform the manuscript, the training curriculum and two national conference presentations in July 2011. The manuscript and training curriculum focus on areas of weakness of professional reporters of suspected child abuse and neglect, highlighting the difference in report substantiation between professional report sources, pointing out that certain types of maltreatment are more difficult to report, and illustrating geographic differences and theories explaining these differences.

The training curriculum was targeted at teachers and social workers, two professional groups that are responsible for significant numbers of unsubstantiated reports of suspected child maltreatment, and with obviously significant access to children and families. Teachers and social workers are also professional groups that are accessible to training initiatives through professional continuing education requirements. In fact, I recently used the curriculum for a continuing education training of social workers through Monmouth University’s Professional Education Program. The evaluations were extremely positive.

I am also using the manuscript and model training curriculum as tools to advocate for policy development on this issue here in New Jersey, across the United States, and internationally. I am currently working with New Jersey’s Department of Youth and Family Services, Division of Youth and Family Services on such initiatives. The Commissioner of the New Jersey Department of Children and Families, Alison Blake, was aware of my research and training expertise and asked me personally to meet with senior level members of her staff to coordinate advocacy and training efforts with mandated reporters in New Jersey. Dr. Blake is a member of the Ramapo College Social Work Advisory Board.
Memorandum

To: SBR Committee

Re: 2011 Summer SBR Report

From: Tae Yang Kwak

Date: September 1, 2011

As planned, I spent the summer months completing a chapter on the “Koreagate” crisis of the 1970s. This will be one of the key chapters in a book manuscript based on my dissertation research as well as additional archival research conducted at the US National Archives and Records Administration (NARA) in College Park, MD as well as the ROK Government National Archives and Records Administration (GARA) in Taejon, ROK.

My summer project examines the consequences that the end of the Vietnam War had on the Korean-American relationship, particularly the damage done by South Korean President Park Chung Hee’s concerted influence-buying activities in the United States in the early 1970s. After Nixon announced his unilateral intention of removing a division of 20,000 American troops from Korea in 1970 as part of his global strategy of seeking “peace with honor” in Vietnam, Park immediately devised to centralize and intensify influence activities in the United States to improve South Korea’s image as well as his own despite his increasing authoritarianism. The concerted influence campaign to bribe, seduce, and coerce US Congressmen, journalists, scholars, and Korean-Americans was directed by KCIA operatives in the United States but involved unlikely partners, including unscrupulous businessmen and the Unification Church. Washington officials were aware that Park was conducting extralegal activities in the United States, but chose to look the other way because of their increasing dependence on Korean ground troops in Vietnam in light of their own withdrawals. However, after the Fall of Saigon in 1975, when the war was no longer a consideration, investigations into Park’s concerted influence-buying campaign were investigated by the US government and on the heels of Watergate, the American media dubbed the affair the “Koreagate” scandal.

This summer project is part of my larger project writing a manuscript for publication based on my dissertation which is the first comprehensive study of Korean participation in the Vietnam War.
To: Beth Barnett, Provost  
CC: Steve Perry, Dean CA  
From: Jonathan Lipkin, professor of digital media  

The Beach Project (working title)  
SBR Report for Summer 2010

In academic year 2009/10 I applied for and was granted a $1,000 stipend for the summer of 2010 to continue the Beach Project, in which I have been photographing the social activities of beachgoers along the eastern shore of the United States.

During that summer I made thirteen trips to beaches from Montauk to the southern Jersey Shore, taking some 3,433 photographs. I had planned to begin editing the work at the start of the semester, but was given two shows - a large solo show consisting of fifty photographs at Ramapo’s Pascal Gallery, and a group show at Davis Orton Gallery in Hudson New York. Printing for these shows has taken the better part of the semester, and I will begin my editing after Thanksgiving and continue through the fall and winter.

I will attend the FotoFest portfolio review in March of 2012 where I will present this work to gallerists and museum curators.
Ana Mendieta’s Rupestrian Sculptures Today

Iraida H. López
Professor of Spanish Language and Literature
School of American and International Studies
Report on SBR award (2010-2011)
July 5, 2011

In the fall 2010 I was approved for a Separately Budgeted Research (SBR) award to conduct further research on the time spent by visual and performance artist Ana Mendieta (1948-1985) in Havana, Cuba, her birthplace, in the early 1980s. My application stated the need to travel to Cuba to complete the research I had begun the year before when I received a first award that allowed me to accomplish significant progress. I was able to present on my initial findings at a major conference on Cuban Studies, Cuba Futures: A Symposium, at the Bildner Center for Western Hemispheric Studies, CUNY Graduate School, March 31-April 2, 2011.

This year my plans included visiting Escaleras de Jaruco, the site where Mendieta made her famed Rupesitrian Sculptures, and locating and interviewing some of Mendieta’s relatives still living on the Island. I am pleased to say that I accomplished these goals, in addition to covering other bases. I am confident that my research in Cuba, where I was from May 14th to June 4th, has now been completed, and that once I review Mendieta’s papers, located in Galerie Lelong in New York, I will be in a position to write a publishable paper or book chapter.

The day trip to Escaleras de Jaruco on May 24th was nothing if not outstanding. Thanks to my ongoing communication via e-mail over a year with René Francisco Rodríguez, an artist and professor at the Higher Institute of Art (ISA) knowledgeable about Mendieta, arrangements had been made for a bus to take me and a group of Rodríguez’s students from ISA to Jaruco. One of the students had already made the pilgrimage to Jaruco on her own this past October, and having found some of Mendieta’s sculptures, had made a performance on site, which she videotaped. On the bus, she talked about the experience, and I in turn was invited to share my memories of Mendieta, whom I used to know, and talk about the nature of my research. When we arrived to rugged terrain of Jaruco, this student led the group to a distant cave where we saw recognizable vestiges of a stone sculpture and two other sculptures carved on the limestone caves. There are clear, albeit residual traces of Mendieta’s work. The group explored other caves, but we did not succeed in identifying other traces. There are no signs or plaques in the
area to help those making the pilgrimage. Thirty years have passed since Mendieta worked in the area and regretfully it has not been properly maintained.

I was also successful in locating Tony Mendieta, one of Ana Mendieta’s relatives, in Varadero in the province of Matanzas. Although I had seen pictures of the Mendieta’s work in Varadero, where her grandparents lived, I did not know that the site where she made three sculptures on a huge rock could be visited. Not only did Mendieta’s cousin take me to this site, he also spoke to me at length about the artist as a family member and clarified some information. He also provided an unpublished photograph of her taken during one of her trips to Cuba.

In addition to these key visits, I spent some time at the Casa de las Américas library reviewing major cultural journals from the early 1980s to see whether Mendieta’s work in Cuba had been the subject of articles. Finally, an art critic I met last year, José Veigas, allowed me this time to go through his archives on Mendieta, where I found some useful material. And my conversations with faculty at the University of Havana gave me a more nuanced perspective.

If last year’s trip allowed me to see the underside of memory, forgetting, with regards to Mendieta’s traces on the island, this year provided me with the opportunity to see her legacy come alive. Seeing the students’ interest on the artist and their enthusiastic search for traces of her work now forces me to offer a more balanced view of Mendieta’s influence. It would seem that the sites where she worked, devoid of an official recognition to this date, are more attractive to young artists for this very reason. Paradoxically, her memory is being nurtured almost underground.

I am grateful to the Provost’s Office and the SBR committee for allowing me to make this crucial trip.
Rational Knots:
Determining the Minimal Degree Sequence of a Compact Rational Trefoil.
Solving some open problems in knot theory with the assistance of an undergraduate researcher.

I applied for SBR funds in order to extend the results of research on rational knots that I conducted as an undergraduate. My primary goal was to prove that the minimal degree sequence of the compact rational trefoil, a knot, is $\left(\frac{2}{3}, \frac{2}{3}, \frac{2}{3}\right)$. During my REU in 2002, I was able to find upper and lower bounds on the minimal degree sequence of this knot. Together with Samantha Pezzimenti, a Ramapo College undergraduate, we proved this by constructing a specific example of a compact rational trefoil. In addition, we were able to construct an example of the compact figure-eight knot with the minimal degree sequence.

My secondary goal was to encourage the research interests of undergraduates. My undergraduate assistant became very interested in this research project, and it led to her writing a paper that she presented at the Joint Mathematics Meetings in Boston, a national mathematics conference. This research project was also a contributing factor in Samantha going to a Ph.D. program in mathematics at Bryn Mawr. Ultimately, I hope that this will interest the NSF in funding future undergraduate research at Ramapo College.

Overall, I feel that the SBR funds helped me and my undergraduate research assistant complete a realistic undergraduate research project. There are several remaining open problems that I hope to study with other Ramapo College undergraduates in the future.
SBR Stipend Report for Summer 2011

To: Beth Barnett, Provost
Hassan Nejad, Dean of AIS
Judith Jeney, Associate VP, Academic Affairs

From: Sam Mustafa, Associate Professor of History (AIS)

Report Date: 7 August, 2011

In Spring 2011 I was grateful to be awarded a Summer Stipend of $4600 to carry out research on the project: “What’s Wrong With Westphalia.” (Copy of original project report available, if needed.) This Summer I examined archival records in Berlin, Braunschweig, and Kassel, many of which had been untouched for nearly 200 years.

I am happy to report that I exceeded my initial expectations on this trip and completed more work than I had originally planned. I had originally expected that this trip would be the first of several, toward this long-term project, and that I would at most complete enough research to publish a scholarly article from this initial foray. Instead, I left feeling confident that I had begun at least two articles, and indeed could complete a full book-length manuscript within the next few years, probably needing only one more Summer of work in Germany in 2012 or 2013.

A summary of some of my findings will appear in the form of a conference paper that I will submit this autumn to the Consortium on the Revolutionary Era (CRE), for their annual conference in early 2012. Further work will appear throughout 2012.

Again, I want to express my gratitude to the Provost for granting this support, and to my Dean for his endorsement and ongoing encouragement of my scholarship.

Sincerely,

Sam A. Mustafa