

Cover Letter

Re: Short-term Study Abroad Proposal for Studying Pathophysiology (Biol 494) and Current Public Health and Medical Issues (Biol 390) in Croatia Summer 2017 and 2018

Introduction and overview of the proposed short-term study abroad

It has become widely accepted that possessing firsthand experience with other cultures is very important. Traditionally, American undergraduates accomplish this by studying abroad. Yet the vast majority of undergraduate students in the United States do not acquire such experience in their academic careers. In fact, fewer than 5% of American college students will earn credit abroad before they graduate (1). In a time of financial restraints and budget cuts, a Short-term study abroad becomes an ideal form for gaining an international learning experience (2). Interestingly, among the Short-term studies abroad programs, the discipline of science is consistently underrepresented (3). Only 16% of study abroad students have been those majoring in the STEM fields (3). Another problem with the Short-term programs is that purport academic rigor is a fairly rare phenomenon (2). **I am proposing here a unique Short-term study abroad program in Biological Sciences that will provide academically rigorous experience for my American undergraduate students at the Croatian University in a context of collaborative learning with their Croatian peers. The Short-term study program will be organized in Croatia, at the University of Rijeka, Rijeka, where SCSU Biomedical Sciences students will study Pathophysiology (Biol 494) and Current Issues in Public Health and Medicine (Biol 390), paired with their Croatian peers, Biotechnology undergraduates from the University of Rijeka. In addition, Croatian professors from the University of Rijeka will lecture our students as well.**

There are five best practices that should be emphasized in a good Short-term international program: 1) strong, clear academic content, 2) a faculty competent and comfortable in experiential teaching, 3) integration with a local community, 4) bringing in the lectures from the host country, and 5) ongoing reflection for both individual students and the group as whole (4). In order to integrate all of these best practices, I propose to teach Pathophysiology (BIOL 494) and Current Issues in Public Health and Medicine (BIOL 390) by:

- 1) **Providing strong and clear academic content** (please see the Academic goals and assessment plan for both proposed courses). The question is why it is important to teach these courses in Croatia? What is a unique feature that Croatia can provide? Croatia is a former member of the East European block, which recently, in July of 2013, became a member of the European Union. In this transient phase, Croatia's socio-economic, cultural and ecological environment is substantially different than one in the U.S. Therefore, it is of great interest to study, compare and contrast certain pathologies, as well as public health and medical

issues that have been present or emergent in Croatia versus the U.S. Are the incidence, prevalence, epidemiology, cause, diagnosis, and therapy of particular pathologies same, similar, or totally different in Croatia than in the U.S.? What about current public health and medical issues? How do Croatians view and approach them compared to Americans? Those, and many other disease- and public health/medical issue-related questions will be asked, researched and explained during this short-term study abroad.

- 2) **Integration with the local community:** Both courses will be taught at the University of Rijeka campus (Department for Biotechnology), where my SCSU Biomedical Sciences students will be paired with Croatian students from the Department of Biotechnology. They will work in mixed Croatian-American groups to study pathologies, discuss and debate current public health and medical issues in Croatia and the U.S., and prepare their oral presentations and written assignments. My American students will not only learn about similarities and differences in particular pathologies, public health and medical issues in Croatia and the U.S., but will firsthand experience the Croatian students' perspective, attitude and approach towards the studied topics. Additionally, SCSU students will be accompanied with their Croatian peers while viewing the Croatian cultural/historical sights, and enjoying the free time activities. This all will provide real intercultural experience for my American students.
- 3) **Bringing in lecturers from the host country:** This "short-term study abroad" program will be the fifth (2017) and sixth (2018) collaborative experience for SCSU and University of Rijeka. Dr. Radojic-Badovinac, chair of the Department for Biotechnology, University of Rijeka, has expressed an enormous interest and appreciation in having such a program, that allows Croatian students to participate in a collaborative learning experience with American peers, at the Croatian Institution. Eight instructors from the University of Rijeka (an immunologist, virologist, hematologist, in vitro fertilization specialist, geneticist, medical ethics specialist, oncologist, and a director of Croatian Public Health Institute) have already participated in this short-term study abroad program (2013, 2014, 2015 and 2016), and offered to lecture again in 2017 and 2018.
- 4) **Faculty competent and comfortable in experiential teaching:** Having been born, raised and educated in Croatia, my background will allow me to integrate unique features of "Croatian perspective" about the proposed topics, to ensure that students recognize them, make connections and have an authentic learning experience.
- 5) **Ongoing reflection for both individual students and the group as whole:** Students will keep structured journals of their study abroad experience, using guided reflective practices, in order to help them process and understand their experiences. I will regularly engage in structured discussion with the whole group about their experiences.

A) Academic and international learning outcomes

Pathophysiology (BIOL 494) serves as a four-credit capstone course for the Biomedical Sciences major at SCSU. About 40 students have been enrolled in this course per semester. It has been offered during the spring and fall semesters over the last six years. The course has three major objectives: 1. it serves as a capstone experience for biomedical science major, 2. it is a course devoted to “writing in the discipline”, and 3. it is also a course that emphasizes collaborative learning.

Current Public Health and Medical Issues (BIOL 390) serves as a two-credit elective course for the Biomedical Sciences major at SCSU. The course has three major objectives: 1. It familiarizes Biomedical Sciences students with current public health and controversial medical issues, 2. It allows an exchange of opinions in the form of discussions and debates, 3. It emphasizes collaborative learning.

a. Academic learning outcomes

- Pathophysiology (BIOL 494):

- a. Capstone experience: through the study of pathophysiology (defined as the “*functional changes associated with or resulting from disease*”), the student is encouraged to integrate information obtained in required and elective courses of the major. Students will research literature, discuss, and report accurate and reliable information about diseases (their causes, epidemiology, pathogenesis (development), symptoms, therapy and recent advances) and b. public health/medical affairs topics in a context of biological/medical, socio-economic, historical, political and cultural factors.
- b. Writing in the discipline: essays, critiques, proposals, reports, and poster presentations are examples of writing expected of professionals in medical fields. Exercises in and evaluation of such writings will be stressed.
- c. Collaborative learning: Students, organized in the groups, will research, present and write about a particular disease.

Upon completion of this course, a student will be able to:

- a. utilize medical terminology appropriately
- b. write and speak proficiently in the discipline
- c. demonstrate knowledge of altered structure and function of some body systems
- d. identify signs and symptoms resulting from pathological changes in the human body
- e. demonstrate knowledge about the etiopathogenesis of several common diseases

- Current Public Health and Medical Issues (BIOL 390)

- a. Through the study of Current Public Health and Medical Issues, the student will learn to research literature and identify and understand some public health and medical issues in a context of socio-economic, historical, political and cultural factors.
- b. Discuss and debate scientifically accurate and reliable information: student will learn to express his own opinion, and respond in a civil way to different views about some public health and medical issues
- c. Collaborative learning: Students, organized in groups, will research, discuss, and debate some public health/medical issues.

Upon completion of this course, a student will be able to:

- a. define current public health and controversial medical issues*
- b. appreciate the scientific background of the public health/medical issues*
- c. identify ways that public health emerges in current events, and everyone's daily life*
- d. acknowledge several interventions for improving the public health*
- e. understand dichotomy of medical controversial issues*
- f. form and express his own view, based on scientific facts, about a particular public health/medical issue*

b. International learning outcomes

1. Discipline-specific:

- Pathophysiology (BIOL 494)

Upon completion of this course, a student will be able to:

- demonstrate knowledge about and compare and contrast*
- a. disease history in Croatia and the U.S.*
 - b. disease epidemiology in Croatia and the U.S.*
 - c. disease socio-economic, cultural and ecological impact in Croatia and the U.S.*
 - d. disease treatment in Croatia and the U.S.*

- Current Public Health and Medical Issues (BIOL 390)

Upon completion of this course, a student will be able to:

- a. recognize, compare and contrast some current public health and medical issues in Croatia and the United States*
- b. acknowledge different intervention approaches exercised in Croatia and the U.S. in attempt to solve some current public health/medical issues*
- c. appreciate different public opinions about some public health/medical issues in Croatia and the U.S.*

- d. describe the basic organizations of health care and public health systems in Croatia and the U.S.
- e. identify, compare and contrast criteria for evaluating health care systems in Croatia and the U.S., including issues of access, quality, and cost
- f. explain the burden of chronic diseases on morbidity and mortality and approaches to prevention, early detection, and disease management in Croatia vs. the U.S.

2. General International objectives:

- a. *acquisition of intercultural communication skills and competencies*
- b. *development of intercultural awareness*
- c. *recognition of global interdependence*
- d. *gaining “functional” knowledge about Croatia*
- e. *personal development and growth*

B) International experience of the proposer(s) and qualifications to lead a program to the proposed country

I am a SCSU Professor in the Department for Biology who has been teaching Pathophysiology (including current public health and medical issues) since the spring of 2007. I have served as director for Short-term study abroad program in Croatia for four years (summer 2013, 2014, 2015 and 2016). As a Croatian, born, raised, and educated (including M.D. and Ph.D. degrees) in Croatia, I am definitely qualified to lead a proposed Short-term study program in Croatia.

C) Proposer’s knowledge of and/or experience in the program country(ies) or region

As mentioned above (please see under B.), I am from Croatia, and have substantial knowledge about Croatia. I have an “inherited” Croatian point of view that will allow me to integrate unique “Croatian perspectives” in the discussions about the proposed topics. Moreover, I will ensure that students recognize those “views”, make connections and have an authentic learning experience. I am well connected with many colleagues in the Biotechnology Department, University of Rijeka. For example, just to name a few, Dr. Anđelka Radojčić-Badinovac (my primary collaborator), Chair of the Department of Biotechnology, University of Rijeka, have studied medicine at Medical Faculty in Zagreb at the same time as I. Dr. Kreso Pavelić, Assistant Chair of the Department for Biotechnology, was the head of the Division for Molecular Medicine at Ruder Bosković Institute, Zagreb, Croatia, while I was employed there (1988-1993).

D) How this program will enhance SCSU

SCSU's vision is "*St. Cloud State University will provide a transformative educational experience for all our students... ..that will leave SCSU prepared to be **global citizens***". This short-term abroad program is aligned with SCSU's vision: developing such a program will help our students gain global and cultural competencies important in preparation for work and life in the 21st century. This program will enhance SCSU's international efforts in providing the educational and experiential foundation necessary for global understanding.

Within MnSCU, SCSU has the largest number of students studying abroad, and the highest number of international relationships and partnerships. However, we are far from an ideal scenario where each major includes an education abroad option within its degree program. So far, the Biomedical Sciences major does not provide an education abroad experience that does not interfere with student graduation. This short-term abroad program will provide such an opportunity for our SCSU Biomedical Sciences major undergraduates.

This short-term program will be taught at the University of Rijeka (Croatia) by SCSU faculty, as well as by the faculty from the host university. Therefore, it will "open the door" and lay the foundation for future collaboration of SCSU and Croatian faculty.

SCSU has positioned itself as one of the most cost-effective US universities for international students. However, so far, there have not been Croatian international students enrolled at SCSU (*Source: Chronicle of Higher Education, Nov. 16, 2009*). Participation of Croatian students in this study abroad program will bring awareness about SCSU and potentially increase recruitment of students from Croatia.

References:

1. Chin, H. K. (Ed.). (2002). Open Doors Report on International Educational Exchange. New York: Institute of International Education.
2. Chieffo, L. and L. Griffiths (2004). Large-Scale Assessment of Student Attitudes After a Short-Term Study Abroad Program. *Frontiers: The Interdisciplinary Journal of Study Abroad*. Volume 10, 165-177.
3. Institute of International Education (2009). Promoting Study Abroad in Science and Technology Fields. White Paper Series. Issue 5.
4. Donnelly-Smith, L. (2009). Global learning through short-term study abroad. *Peer Review*, Vol. 11, 12-15.

2. An assessment plan listing program outcomes (academic and international) and how outcomes will be measured

a. Assessment of the academic and discipline-specific academic international learning outcomes:

Biol 494: Pre- and Post exam, 1 final exam, 5 quizzes, 1 group verbal disease presentations, 1 group disease paper, several individual papers

Biol 390: Pre- and Post-exam, 1 final exam, 1 individual paper based on discussion/debate about a current public health issues, 1 individual paper about a current controversial medical issue, preparation notes and participation in 2-3 debates

b. Assessment of General International learning outcomes:

There are several traits that are recognized as crucial for successful intercultural communication, such as, flexibility and open-mindedness, intercultural empathy, personal stability and emotional resilience (problem-solving and stress-managing abilities) (1, 2). In essence, the basis for intercultural communication skills is adaptability and sensitivity that can be measured by certain instruments (questionnaires'). Therefore, the intercultural communication skills will be assessed by a Post-survey that will assess functional knowledge-, international awareness-, personal growth-, and global interdependence-type questions (1).

References:

1. Chieffo, L. and L. Griffiths (2004). Large-Scale Assessment of Student Attitudes After a Short-Term Study Abroad Program. *Frontiers: The Interdisciplinary Journal of Study Abroad*. Volume 10, 165-177.
2. Williams, T. R. (2005). Exploring the Impact of Study Abroad on Students' Intercultural Communication Skills: Adaptability and Sensitivity. *Journal of Studies in International Education*, Vol. 9, 356-371.

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors in the order listed on Form Page 2.
Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME Marina Cetkovic-Cvrlje	POSITION TITLE Professor of Immunology		
eRA COMMONS USER NAME (credential, e.g., agency login) SCSUCETKOVIC-CVRLJE			
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	MM/YY	FIELD OF STUDY
Medical School University of Zagreb, Croatia	M.D.	05/86	Medicine
Medical School University of Zagreb, Croatia	M.Sc.	05/91	Immunology
Medical School University of Zagreb, Croatia	Ph.D.	11/97	Clinical Immunology
Biomedicum, Uppsala University, Sweden	Visiting Researcher	10/92-5/93	Autoimmune diabetes
The Jackson Laboratory, Bar Harbor, Maine, US	Postdoctoral Fellow	12/93-2/97	Autoimmune diabetes

A. Positions

- 2010-present Professor, Biological Sciences, Immunology Laboratory, Saint Cloud State University, St. Cloud, MN
- 2006-2010 Associate Professor, Biological Sciences, Immunology Laboratory, Saint Cloud State University, St. Cloud, MN
- 2003-2006 Director of Autoimmunity and Transplantation Research Program, Department of Immunology, Parker Hughes Institute, St. Paul, MN
- 1997-2003 Senior Staff Scientist and Director of Diabetes and Transplantation Research Program, Department of Immunology, Parker Hughes Institute, St. Paul, MN
- 1993-1997 Postdoctoral Fellow, Immunology of Diabetes, Jackson Laboratories, Bar Harbor, ME
- 1992-1993 Visiting Researcher, Molecular Cell Biology, Uppsala University, Uppsala, Sweden
- 1988-1992 Postgraduate research associate, Ruder Boskovic Institute, Zagreb, Croatia
- 1986-1988 General practitioner, Bjelovar Medical Center, Bjelovar, Croatia

B. Publications

1. Schoenfuss LH, Furlong ET, Phillips JP, Scott TM, Koeps WD, **Cetkovic-Cvrlje M**, Lesteberg EK, Rearick CD. Complex Mixtures, Complex Responses: Assessing Pharmaceutical Mixtures Using Field and Laboratory Approaches. *Environ Toxicol Chem.* 2015; doi: 10.1002/etc.3147
2. **Cetkovic-Cvrlje M**, Olson M, Schindler B, Gong HK. Exposure to DDT metabolite p,p'-DDE increases autoimmune type 1 diabetes incidence in NOD mouse model. *J Immunotoxicol.* 2016; 13:108-18.
3. **Cetkovic-Cvrlje M**, Ramakrishnan L, Dasgupta S, Brannan K, Subrahmanyam L. A Multi-disciplinary Analysis of Undergraduate Research Intensive Experiences in a Comparative Frame. *CUR Quarterly,* 2013; 33:16-22.
4. **Cetkovic-Cvrlje M**, Olson M, Ghate K. Targeting Janus Tyrosine Kinase (JAK) 3 with an Inhibitor Induces Secretion of TGF- β by CD4⁺ T Cells. *Cell Mol Immunol,* 2012; 9:350-60.
5. **Cetkovic-Cvrlje M**, Uckun FM. Effect of targeted disruption of signal transducer and activator of transcription (*Stat*)4 and *Stat6* genes on the autoimmune diabetes development induced by multiple low doses of streptozotocin. *Clin Immunol,* 2005; 114:299-306.
6. **Cetkovic-Cvrlje M**, Uckun FM. Dual targeting of Bruton's tyrosine kinase and Janus kinase 3 with rationally designed inhibitors prevents graft-versus-host disease (GVHD) in a murine allogeneic bone marrow transplantation model. *Br J Haematol,* 2004; 126:821-7.

7. **Cetkovic-Cvrlje M**, Tibbles HE. Therapeutic potential of Janus kinase 3 (JAK3) inhibitors. *Curr Pharm Des*, 2004; 10:1767-84.
8. **Cetkovic-Cvrlje M**, Uckun FM. Targeting Janus kinase 3 in the treatment of leukemia and inflammatory diseases. *Arch Immunol Ther Exp*, 2004; 52:69-82.
9. **Cetkovic-Cvrlje M**, Dragt AL, Uckun FM. Prevention of islet allograft rejection in diabetic mice by targeting Janus kinase 3 with [4-(4'-hydroxyphenyl)-amino-6,7-dimethoxyquinazoline] (JANEX-1). *Drug Research*, 2003; 53:648-54.
10. **Cetkovic-Cvrlje M**, Dragt AL, Vassilev A, Liu XP, Uckun FM. Targeting JAK3 with JANEX-1 for prevention of autoimmune type 1 diabetes in NOD mice. *Clin Immunol*, 2003; 106:213-25.
11. **Cetkovic-Cvrlje M**, Roers BA, Schonhoff D, Waurzyniak B, Liu XP, Uckun FM. Treatment of post-bone marrow transplantation acute graft-versus-host disease (GVHD) with a rationally designed JAK3 inhibitor. *Leukemia and Lymphoma*, 2002; 43:1447-53.
12. Uckun FM, Roers BA, Waurzyniak B, Liu XP, **Cetkovic-Cvrlje M**. Janus kinase inhibitor WHI-P131/JANEX-1 prevents graft-versus-host disease but spares the graft versus-leukemia function of the bone marrow allografts in a murine bone marrow transplantation model. *Blood*, 2002; 99:4192-99.
13. Uckun FM, Zheng Y, **Cetkovic-Cvrlje M**, Vassilev A, Lisowski E, Waurzyniak B, Chen H, Carpenter R, Chen CL. In vivo pharmacokinetic features, toxicity profile, and chemosensitizing activity of alpha-cyano-beta-hydroxy-beta-methyl-N-(2,5-dibromophenyl) propenamide (LFM-A13), a novel antileukemic agent targeting Bruton's tyrosine kinase. *Clin Cancer Res*, 2002; 8:1224-33.
14. Glowacki G, Braren R, Firmer K, Nissen M, Kuhl M, Reche P, Bazan F, **Cetkovic-Cvrlje M**, Leiter EH, Haag F, Koch-Nolte F. The family of toxin-related ecto-ADP-ribosyltransferases in humans and the mouse. *Protein Sci*, 2002; 11:1657-70.
15. **Cetkovic-Cvrlje M**, Roers BA, Waurzyniak B, Liu XP, Uckun FM. Targeting Janus kinase 3 to attenuate the severity of acute graft-versus-host disease across the major histocompatibility barrier in mice. *Blood*, 2001; 98:1607-13.
16. Glowacki G, Braren R, **Cetkovic-Cvrlje M**, Leiter EH, Haag F, Koch-Nolte F. Structure, chromosomal localization, and expression of the gene for mouse ecto-mono(ADP-ribosyl)transferase ART5. *Gene*, 2001; 275:267-77.
17. Novak-Mircetic R, Slijepcevic M, **Cetkovic-Cvrlje M**, Svetina A. Neonatal pancreas transplantation and liver enzyme activities in diabetic mice. *Acta Diabetol*, 1999; 36:185-90.
18. Bridget M, **Cetkovic-Cvrlje M**, O'Rourke R, Shi Y, Narayanswami S, Lambert J, Ramiya V, Baekkeskov S, Leiter EH. Differential protection in two transgenic lines of NOD/Lt mice hyperexpressing the autoantigen GAD65 in pancreatic β -cells. *Diabetes*, 1998; 47:1848-56.
19. **Cetkovic-Cvrlje M**, Gerling I, Langley SH, Leiter EH. Retardation or acceleration of diabetes in NOD/Lt mice mediated by intrathymic administration of candidate β -cell antigens. *Diabetes*, 1997; 46:1975-82.
20. **Cetkovic-Cvrlje M**, Leiter EH. Mono-ADP ribosyltransferase genes and diabetes in NOD mice: Is there a relationship? In *Biological significance of mono ADP-ribosylation in animal tissues*. F. Haag and F. Koch-Nolte, eds. Plenum Press, N.Y., 1997:217-27.
21. Hanson MH, **Cetkovic-Cvrlje M**, Ramiya VK, Atkinson MA, Maclaren NK, Singh B, Elliott JF, Serreze DV, Leiter EH. Quantitative thresholds of MHC class II I-E expressed on hematopoetically derived APC in transgenic NOD/Lt mice determine level of diabetes resistance and indicate mechanism of protection. *J Immunology*, 1996; 157:1279-87.
22. Koch-Nolte F, Kuhl M, Haag F, **Cetkovic-Cvrlje M**, Leiter EH, Thiele HG. Assignment of the human and mouse genes for muscle ecto mono (ADP ribosyl) transferase to a conserved linkage group on human Chromosome 11p15 and mouse Chromosome 7. *Genomics*, 1996; 36:215-16.
23. Eizirik DL, Sandler S, Welsh N, **Cetkovic-Cvrlje M**, Nieman A, Geller DA, Pipeleers DG, Bendtzen K, Hellerstrom C. Cytokines suppress human islet function irrespective of their effects on nitric oxide generation. *J Clin Invest*, 1994; 93:1968-74.
24. **Cetkovic-Cvrlje M**, Eizirik DL. TNF- α and IFN- γ potentiate the deleterious effects of IL-1 β on mouse

- pancreatic islets mainly via generation of nitric oxide. *Cytokine*, 1994; 6:399-406.
25. Inoue K, **Cetkovic-Cvrlje M**, Eizirik DL, Grill V. Irreversible loss of normal β -cell regulation by glucose in neonatally streptozotocin diabetic rats. *Diabetologia*, 1994; 37:351-7.
 26. **Cetkovic-Cvrlje M**, Sandler S, Eizirik DL. Nicotinamide and dexamethasone inhibit IL-1 β -induced nitrite production by RINm5F cells without decreasing mRNA expression for nitric oxide synthase. *Endocrinology*, 1993;133:1739-43.
 27. Misur I, Slijepcevic M, **Cetkovic-Cvrlje M**, Rocic B. Spontaneous diabetes in BB rats bred in our conditions. *Diabet Croat*, 1993; 22:25-8.
 28. Poljak-Blazi M, Hadzija M, **Cetkovic-Cvrlje M**, Kolesaric A, Slijepcevic M. The effect of parental insulin application on survival, humoral and cellular immune response and haematopoiesis of "young" and "old" healthy mice. *Diabet Croat*, 1992; 21:78-81.
 29. **Cetkovic-Cvrlje M**, Slijepcevic M. Immunological response of diabetic mice on day 60 after the syngeneic neonatal pancreas transplantation. *Vet Arh*, 1992; 62 (Suppl): S25-S30.
 30. **Cetkovic-Cvrlje M**, Slijepcevic M. Syngeneic neonatal pancreas transplantation in alloxan diabetic mice: II. Influence of insulin treatment. *Diabet Croat*, 1992; 21:59-62.
 31. **Cetkovic-Cvrlje M**, Slijepcevic M, Warnay M. Syngeneic neonatal pancreas transplantation in alloxan diabetic mice: I . Effects on haematological parameters in peripheral blood. *Diabet Croat*, 1991; 20:133-8.
 32. Gavella M, Lipovac V, Slijepcevic M, **Cetkovic-Cvrlje M**. Changes of erythrocyte filterability and age in alloxan diabetes. *Diabet Croat*, 1990; 19:209-12.
 33. **Cetkovic-Cvrlje M**, Slijepcevic M, Poljak-Blazi M. Transplantation of syngeneic neonatal pancreas and immunological response of diabetic recipients. *Period Biol*, 1990; 92:162-3.

C. Research Support

- Principal Investigator of NSF MRI grant "MRI:Acquisition of a BD Biosciences Flow Cytometer FACSCalibur 4 Color Dual Laser Basic for the Identification and Quantification of Cells", 2008-2012;
- Two times recipient of SCSU Research grant (2008 and 2009);
- Recipient of Hellervik prize (SCSU, 2009).

D. Previous and Current Experience Supervising Undergraduate Students

I have been pursuing undergraduate research in a field of autoimmune type 1 diabetes since I joined SCSU in Fall of 2006. I have formed a Laboratory for Immunology in the Department of Biological Sciences and supervised so far more than 100 Biomedical Sciences major undergraduates. Currently, 12 research undergraduates work in my lab.

E. Previous and Current Experience Supervising Graduate students

Since fall of 2006 I have supervised 9 MS (Thesis track) and 1 MA graduate students in the Cell and Molecular graduate study program at SCSU. Currently, I have been supervising two graduate students.

4. Short-term Study Abroad Program Syllabus
Pathophysiology, BIOL 494, 4 Cr. &
Current Public Health and Medical Issues, BIOL 390, 2 Cr
June/July 2016 & 2017

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Course Objectives:

Pathophysiology (Biol 494)

Current Public Health and Medical Issues in Croatia vs. USA (Biol 390)

The Biol 494 course has three major academic objectives (see a-c). The Biol 390 has three major academic objectives (see d-f). As both courses will be taught in Croatia, as parts of the short-term study abroad program, they contain academic (see 1-5 and 7-12) as well as international [discipline-specific (see 6 and 13-18) and general (see 19-23)] learning outcomes:

- a. The study of pathophysiology (defined as the *“functional changes associated with or resulting from disease”*), the student is encouraged to integrate information obtained in required and elective courses of the major. Students will research literature, discuss, and report accurate and reliable information about diseases (their causes, epidemiology, pathogenesis (development), symptoms, therapy and recent advances)
- b. Writing in the discipline: essays, critiques, proposals, reports, and poster presentations are examples of writing expected of professionals in medical fields. Exercises in and evaluation of such writings will be stressed.
- c. Collaborative learning: Students, organized in the groups, will research, present and write about a particular disease.
- d. Through the study of Current Public Health and Medical Issues, the student will learn to research literature, find and report accurate and reliable information about some public health/medical issues in a context of socio-economic, historical, political and cultural factors.
- e. Discuss and debate scientifically accurate and reliable information: student will express his own opinion, and respond in a civil way to different views about some public health and medical issues.
- f. Collaborative learning: Students, organized in groups, will research, discuss, and debate some public health/medical issues.

Upon completion of this short-term study abroad, you will be able to:

1. utilize medical terminology appropriately
2. write and speak proficiently in the discipline
3. demonstrate knowledge of altered structure and function of some body systems
4. identify signs and symptoms resulting from pathological changes in the human body
5. demonstrate knowledge about the etiopathogenesis of several common diseases
6. demonstrate knowledge about and compare and contrast
 - a. disease history in Croatia and the U.S.
 - b. disease epidemiology in Croatia and the U.S.
 - c. disease socio-economic, cultural and ecological impact in Croatia and the U.S.
 - d. disease treatment in Croatia and the U.S.
7. define current public health and controversial medical issues
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9. identify ways that public health emerges in current events, and everyone's daily life
10. acknowledge several interventions for improving the public health
11. understand dichotomy of medical controversial issues
12. form and express your own view, based on scientific facts, about a particular public health/medical issue
13. recognize, compare and contrast some current public health and medical issues in Croatia and the United States
14. acknowledge different intervention approaches exercised in Croatia and the U.S. in attempt to solve some current public health/medical issues
15. appreciate different public opinions about some public health/medical issues in Croatia and the U.S.
16. describe the basic organizations of health care and public health systems in Croatia and the U.S.
17. identify, compare and contrast criteria for evaluating health care systems in Croatia and the U.S., including issues of access, quality, and cost
18. explain the burden of chronic diseases on morbidity and mortality and approaches to prevention, early detection, and disease management in Croatia vs. the U.S.
19. acquire intercultural communication skills and competencies
20. develop intercultural awareness
21. recognize global interdependence
22. gain "functional" knowledge about Croatia
23. personally develop and grow

Tentative Course Schedule

Itinerary for the Short-term Study Abroad Course in Croatia

Biol 494 (4 credits) and Biol 390 (2 credits)

June/July 2017 & 2018 in Croatia + 3 days at SCSU

- Each credit =12.5 contact hours (Ch) with instructor (12.5 x 6 =75 contact hours = 75 of 50 min periods)
- Description and the contact hours for Biol 494 and Biol 390 are put together in this outline, because of the overlapping nature of these courses
- There will be total of 18 contact hours with instructor BEFORE the trip to Croatia (marked in *italic* on days -3, -2 and -1)

Time	Day	Description	Ch
8-11 12-3	-3 (F)	- <i>Intro about short-term study abroad program –overview, technical details: preparation, trip, details about housing and food, free activities (shadowing possibilities in Croatia, expectations (academic and behavioral), Q+A session</i> - <i>Pre-survey (Academic and International)</i>	6
8-11 12-3	-2 (M)	<i>Intro about Croatia – history, geography, culture, language</i>	6
8-11 12-3	-1 (T)	- <i>First contact with Croatian students via Skype</i> - <i>Syllabus discussion*</i> - <i>Intro to Pathophysiology: structure and overview of the course, literature, first assignments</i> - <i>Intro to Current Public Health/Medical Issues: structure and overview of the course, literature, first assignments</i>	3 1.5 1.5
	Day 1 (W)	Flight to Croatia (late afternoon/night flight)	
	Day 2 (Th)	Arriving at destination (Rijeka) – late afternoon/night (depends on the flight, TBA)	
8-11 11-12*** 12-3	Day 3 (F)	- Meeting Croatian peers - Proposing/choosing diseases and public health/ medical issues we are going to work on - Formation of groups**	3 3
After 3 p.m.****			
	Day 4 (Sat)	Free day: Visit to island Krk: Vrbnik, Krk, Punat, Baska, Stara Baska	0
	Day 5 (Sun)	Free day: Visit to Plitvice National Park	0

8-11	Day 6 (M)	- Lecture: Introduction to disease pathophysiology I (Cetkovic-Cvrlje)	1
		- Lecture: Introduction to public health (definition, history, application in a field of medicine) (Cetkovic-Cvrlje)	1
		- Lecture: What are current controversial medical issues? (Cetkovic-Cvrlje)	1
12-3		- Discussion about disease research (preparation for presentation)	1.5
		- Discussion about Public health/medical issues research (preparation for debates)	1.5
8-11	Day 7 (T)	- Lecture: Introduction to disease pathophysiology II (Cetkovic-Cvrlje)	1
12-3		- Lecture: Cell adaptation (Guest lecturer from Croatia)	1
		- Lecture: Primary, secondary and tertiary levels of prevention in public health (Marina Cetkovic-Cvrlje, guest lecturer from Croatia)	1
		- Preparation for group disease presentations	1.5
		- Preparation for group Public health/medical issues debates	1.5
8-11	Day 8 (W)	- Lecture: Cell death (apoptosis vs. necrosis) (Cetkovic-Cvrlje, guest lecturer from Croatia)	1
12-3		- Lecture: Is Inequality making us sick? Social determinants of health: Croatia versus the U.S. (Cetkovic-Cvrlje, guest lecturer)	2
		- Preparation for group disease presentations	1.5
		- Preparation for group Public health/medical issues debates	1.5
8-11	Day 9 (Th)	Lecture: Health care for all – Myths and Reality (Croatia vs. the U.S.) (Marina Cetkovic-Cvrlje)	1.5
12-3		- Lecture: The role of economic, social, cultural, and behavioral variables in determining health (Guest lecturer from Croatia)	1.5
		- 1 st Disease presentation	2.0
		- Reflecton about presentation	1.0
8-11	Day 10	- 2nd Disease presentation	2.5
12-3	(F)	- Reflection about presentation	0.5
		- 1 st Debate	2
		- Reflection about debate	1
	Day 11 (Sat)	Free day: Visit Zagreb - Croatian capital (downtown and uptown, historical sights, history museum, market, famous bakeries)	0
	Day 12 (S)	Free day: Boat trip to island Cres	0
8-11	Day 13	- 3rd Disease presentation	2.5
12-3	(M)	- Reflection about presentation	0.5
		- 2 rd Debate	2
		- Reflection about debate	1
8-11	Day	- Lecture: Major epidemics in Croatia and the U.S. (Cetkovic-	1.5

12-3	14 (T)	Cvrlje) - Lecture: Bioethics - Is there a difference between Croatia and the U.S.? (Guest lecturer from Croatia) - 4th Disease presentation - Reflection about presentation	1.5 2.5 0.5
8-11	Day 15	- 5 th Disease presentation - Reflection about presentation	2.5 0.5
12-3	(W)	- 3 rd Debate - Reflection about debate	2 1
8-12	Day 16	- Final Exams, Post-tests - Post-Surveys	4
1-3	(Th)	- Reflection and discussion about entire experience	2
	Day 17 (F)	Flight home – Arriving to Mn in late afternoon/evening	0
TOTAL CONTACT HOURS			78

* Both American and Croatian students will obtain the reading assignments and will be asked to think about diseases and public/medical issues they want to work on. Diseases and public health/medical issues will be proposed and voted on next time when we meet in Croatia.

** Formation of groups:

- Disease presentation groups: There will be 5 mixed groups (Croatian/American) for the Disease presentations – ideally 4 students /group (however, the number of students per group will depend on the number of students enrolled in the course).

- Debate groups: There will be total of 3 debates (1 with a current public health and 2 with controversial medical issues topics).

*** 11-12 – lunch time from M-F

**** After 3 p.m. M-F – free time. However there is an **expectation** for the students to spend at least 2 hours daily either **studying, researching literature, doing writing assignments or preparing for the presentation/debate.**

Evaluation

BIOL 494: Based on the final exam, class presentations, written papers, and classroom participation

BIOL 390: Based on the final exam, class debates preparation and participation, written papers

Grading

The following scale will be used for computing the final grade:

A = 90 - 100%
B = 80 - 89%
C = 70 - 79%
D = 60 - 69%
F = < 59%

Academic Dishonesty:

CHEATING AND PLAGIARISM WILL NOT BE TOLERATED. The standard penalty for academic dishonesty will be a zero on the assignment or exam.

Reference Text:

BIOL 494: McCance, K. L. and Huether, S. E. 2006. Pathophysiology – The Biologic Basis for Disease in Adults and Children, 5th Ed. St. Louis, Elsevier Mosby.

BIOL 390: Schneider, MJ 2014. Introduction to Public Health, 4th Ed. Sudbury, Jones and Bartlett.

5. Itinerary for the Short-term Study Abroad Course in Croatia

Biol 494 (4 credits) and Biol 390 (2 credits)

June/July 2017 & 2018 in Croatia + 3 days at SCSU

- Each credit =12.5 contact hours (Ch) with instructor (12.5 x 6 =75 contact hours = 75 of 50 min periods)

- Description and the contact hours for Biol 494 and Biol 390 are put together in this outline, because of the overlapping nature of these courses

- There will be total of 18 contact hours with instructor BEFORE the trip to Croatia (marked in *italic* on days -3, -2 and -1)

Time	Day	Description	Ch
8-11 12-3	-3 (F)	- Intro about short-term study abroad program –overview, technical details: preparation, trip, details about housing and food, free activities (shadowing possibilities in Croatia, expectations (academic and behavioral), Q+A session - Pre-survey (Academic and International)	6
8-11 12-3	-2 (M)	Intro about Croatia – history, geography, culture, language	6
8-11 12-3	-1 (T)	-First contact with Croatian students via Skype -Syllabus discussion* -Intro to Pathophysiology: structure and overview of the course, literature, first assignments -Intro to Current Public Health/Medical Issues: structure and overview of the course, literature, first assignments	3 1.5 1.5
	Day 1 (W)	Flight to Croatia (late afternoon/night flight)	
	Day 2 (Th)	Arriving at destination (Rijeka) – late afternoon/night (depends on the flight, TBA)	
8-11 11-12**** 12-3	Day 3 (F)	- Meeting Croatian peers - Proposing/choosing diseases and public health/ medical issues we are going to work on - Formation of groups**	3 3
After 3 p.m.****			
	Day 4 (Sat)	Free day: Visit to island Krk: Vrbnik, Krk, Punat, Baska, Stara Baska	0

	Day 5 (Sun)	Free day: Visit to Plitvice National Park	0
8-11 12-3	Day 6 (M)	- Lecture: Introduction to disease pathophysiology I (Cetkovic-Cvrlje) - Lecture: Introduction to public health (definition, history, application in a field of medicine) (Cetkovic-Cvrlje) - Lecture: What are current controversial medical issues? (Cetkovic-Cvrlje) - Discussion about disease research (preparation for presentation) - Discussion about Public health/medical issues research (preparation for debates)	1 1 1 1.5 1.5
8-11 12-3	Day 7 (T)	- Lecture: Introduction to disease pathophysiology II (Cetkovic-Cvrlje) - Lecture: Cell adaptation (Guest lecturer from Croatia) - Lecture: Primary, secondary and tertiary levels of prevention in public health (Marina Cetkovic-Cvrlje, guest lecturer from Croatia) - Preparation for group disease presentations - Preparation for group Public health/medical issues debates	1 1 1 1.5 1.5
8-11 12-3	Day 8 (W)	- Lecture: Cell death (apoptosis vs. necrosis) (Cetkovic-Cvrlje, guest lecturer from Croatia) - Lecture: Is Inequality making us sick? Social determinants of health: Croatia versus the U.S. (Cetkovic-Cvrlje, guest lecturer) - Preparation for group disease presentations - Preparation for group Public health/medical issues debates	1 2 1.5 1.5
8-11 12-3	Day 9 (Th)	Lecture: Health care for all – Myths and Reality (Croatia vs. the U.S.) (Marina Cetkovic-Cvrlje) - Lecture: The role of economic, social, cultural, and behavioral variables in determining health (Guest lecturer from Croatia) - 1 st Disease presentation - Reflecton about presentation	1.5 1.5 2.0 1.0
8-11 12-3	Day 10 (F)	- 2nd Disease presentation - Reflection about presentation - 1 st Debate - Reflection about debate	2.5 0.5 2 1
	Day 11 (Sat)	Free day: Visit Zagreb - Croatian capital (downtown and uptown, historical sights, history museum, market, famous bakeries)	0

	Day 12 (S)	Free day: Boat trip to island Cres	0
8-11 12-3	Day 13 (M)	- 3rd Disease presentation - Reflection about presentation - 2 rd Debate - Reflection about debate	2.5 0.5 2 1
8-11 12-3	Day 14 (T)	- Lecture: Major epidemics in Croatia and the U.S. (Cetkovic-Cvrlje) - Lecture: Bioethics - Is there a difference between Croatia and the U.S.? (Guest lecturer from Croatia) - 4th Disease presentation - Reflection about presentation	1.5 1.5 2.5 0.5
8-11 12-3	Day 15 (W)	- 5 th Disease presentation - Reflection about presentation - 3 rd Debate - Reflection about debate	2.5 0.5 2 1
8-12 1-3	Day 16 (Th)	- Final Exams, Post-tests - Post-Surveys - Reflection and discussion about entire experience	4 2
	Day 17 (F)	Flight home – Arriving to Mn in late afternoon/evening	0
TOTAL CONTACT HOURS			78

* Both American and Croatian students will obtain the reading assignments and will be asked to think about diseases and public/medical issues they want to work on. Diseases and public health/medical issues will be proposed and voted on next time when we meet in Croatia.

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CENTER FOR INTERNATIONAL STUDIES - ST. CLOUD STATE UNIVERSITY
Short-term Study Abroad Budget

Lawrence Hall 101 320-308-4287

CROATIA

SUMMER 2015 (20161)

(Mid June to end June/1st part July) 21 days

Marina Cetkovic

TOTAL STUDENTS	10	max: 12
Faculty	1	
Total	11	

	Exchange Rate	1.44		
	UNIT	UNIT	Program	Tuition
		FEE/	ACCOUNT	ACCOUNT
	UNIT	COST	TOTALS	TOTALS
REVENUE				
Tuition		1,332		13,320
Program fee	6 credits	3,300	33,000	
Total Revenue		<u>4,632</u>	<u>33,000</u>	<u>13,320</u>

EXPENSES:

Campus Expenses

Faculty Salary & Benefits	Faculty	10,221		10,221
International Student Health Insurance	student/fac	50	550	
Airfare for Faculty	Faculty	1,600	1,600	
Airfare for student	Student	1,600	16,000	
Administrative Fee	student	150	1,500	
Business Services Fee	student	200	2,000	
Subtotal: Campus expenses			<u>21,650</u>	<u>10,221</u>

On-site Expenses

# of days	per day Cost		Student	Faculty	Student and faculty	Group	Student and faculty	Student and faculty	Student and faculty
20	13.00	Student Lodging 14 nights 13.00 per night	\$ 260.00	\$ 2,860.00					
20	35.00	Faculty Lodging 14 nights 35.00 per night	\$ 700.00	\$ 700.00					
3	passes	Public Bus 3 passes 12 per pass	€ 36.00	\$ 570.24					
4	300	Group Transportaion Bus 4 days	€ 1,200.00	\$ 1,728.00					
17	15	Meals for Faculty and Students	€ 255.00	\$ 4,039.20					
		Cultural Events	\$ 50.00	\$ 550.00					
		Taxi	€ 26.00	\$ 411.84					

Subtotal: On-site Expenses

advance = 10,859 0

TOTAL EXPENSES

32,509 10,221

Balance

491 3,099

Salaries:

1703.51

6

10221.06

This budget was drafted for the last (2015) short-term study-abroad program in Croatia,