HAPS Eastern Regional Meeting
Saturday, March 15, 2014

SPRINGFIELD COLLEGE
Welcome HAPS Participants!

On behalf of the faculty, staff and students of Springfield College I am pleased to welcome you to our campus. It is an honor to host the Human Anatomy and Physiology Society’s regional conference. The program looks exciting, with sessions highlighting both current research and teaching innovations. Congratulations to our Organizing Committee for creating such an interesting and informative program.

We at Springfield College understand the vital role that quality instruction in Human Anatomy and Physiology plays in educating professionals for the 21st century. The College has been a leader in educating students in the life sciences and the health sciences for many years. Annually, graduates of our biology, sports biology and exercise science programs are admitted to the medical and dental schools of their choice. At the graduate level, students who complete our rigorous master’s degree and doctoral programs practice as physician assistants, physical therapists, and occupational therapists in a wide range of clinical and therapeutic settings across the country.

As you will learn during your visit to the College, our faculty members are outstanding professionals committed to teaching, scholarship and service. They excel at providing our students with challenging and creative learning experiences. We are proud of the work that they do every day to achieve the College’s mission of “educating students in spirit, mind, and body for leadership in service to others”.

I hope that you will enjoy your visit to the College and to the HAPS Regional Conference. Best wishes for a successful meeting.

Sincerely,

Jean. A. Wyld, PhD
Vice President for Academic Affairs
Springfield College
# HAPS Eastern Regional Conference:

## Schedule for Saturday, March 15th

<table>
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<th>Time</th>
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| 7:30 – 8:30 a.m. | On-site Registration - Dodge Room of Campus Union  
Continental Breakfast  
Posters                                                   |
| 8:30 – 8:45 a.m. | Welcome from SC administration                                                               |
| 8:45 – 9:30 a.m. | Update Seminar #1 - Dodge Room  
Dr. Samuel Headley  
“The Impact of Exercise on Chronic Kidney Disease”             |
| 10:00 - 10:45  | Workshop #1                                                                                     |
| 10:45 – 11:30 a.m. | Vendors and refreshments available in Dodge Room                                           |
| 11:30 a.m. – 12:15 p.m. | Workshop #2                                                                                      |
| 12:30 – 1:30 p.m. | Lunch in Campus Union Café – Ground Floor                                                        |
| 1:30 – 2:15 p.m. | Update Seminar #2 – Dodge Room  
Dr. Martin Kluger  
"Endothelial Cell Structure and Function in Vascular (Hyper-)Permeability" |
| 2:30 - 3:00    | Door prizes in Dodge Room of Campus Union                                                        |
| 3:00 - 3:45 p.m. | Workshop #3                                                                                      |
| 4:00 – 4:45 p.m. | Workshop #4                                                                                      |
Workshops will be held in one of 3 buildings: PE Complex, Allied Health Building, or Schoo-Bemis Science Building. Vendors, meals and update speakers will all be in the Richard B. Flynn Campus Union.
Eastern Regional HAPS Conference 2014 - Posters Presentations

1. Robert Curran, DC, Doctoral Scholar, CUNY in Brooklyn, “Clinical Relevance of Diastasis Rectus Abdominis”

2. Debra A. Rajaniemi and Vicky L. Navaroli, Goodwin College “The development of two anatomy and physiology courses that allows students to complete their course requirements at home using eScience”

3. Eric W. Dewar, Suffolk University “Your voice sounds fine: Using podcasts to promote learning”

4. Vasiliiy Kolchenko, New York City College of Technology, the City University of New York “Infogram Approach to Neurophysiology and Action Potential Generation in Undergraduate Anatomy and Physiology”

Committee Members:

Jeannette Hafey, MS - coordinator – Department of Biology/Chemistry, Springfield College
Rosana Darang, MD – Program Chair, Health Studies and Medical Assisting, Bay State College, Boston, MA
Hai Kinal, PhD – Department of Biology/Chemistry, Springfield College
Elizabeth O’Neill, PhD – Department of Exercise Science and Sport Studies, Springfield College
Kathleen Pappas, DPT – Department of Physical Therapy, Springfield College
Dustin Vale-Cruz, PhD – Department of Biology/Chemistry, Springfield College
Kathy Smith – Director, Conferences and Special Event, Office of Special Programs at Springfield College

With special thanks and gratitude for assistance to:

Jean A. Wyld, PhD, Vice President for Academic Affairs, Springfield College
Anne Herzog, PhD, Dean, School of Arts, Sciences & Professional Studies, Springfield College
Donna DiLullo, MEd., Instructor of Chemistry, Biology/Chemistry Department, Springfield College

Student Assistance provided by: Aimee Pascale and Stephanie Wheeler
Update Seminar #1
"The Impact of Exercise on Chronic Kidney Disease"

8:45 a.m. – 9:30 a.m.

Dodge Room

Richard B. Flynn Campus Union

Sam Headley, Ph.D., FACSM, RCEP

Sam Headley is a professor in the Exercise Science & Sport Studies Department at Springfield College. He is a fellow of the American College of Sports Medicine (ACSM) and a Registered Clinical Exercise Physiologist (RCEP). He is also a member of the Clinical Exercise Physiology Association (CEPA) and the coordinator of the Clinical Exercise Physiology track at Springfield College which is one of the few CAAHEP accredited clinical exercise physiology programs in the country. Dr. Headley’s current research is focused on the effects of exercise training in persons with chronic kidney disease (CKD).
Eastern Regional HAPS Conference  Workshops March 15, 2014

All sessions are 45 minutes:

Workshop #1  10:00 a.m. - 10:45 a.m.

Session 101:  PE Complex – Human Performance Lab
Experiential Learning of Anatomy and Physiology Through the Use of Exercise Science Assessments
Presenters: Elizabeth O’Neill and Michelle Boland, Springfield College

This session will offer those in attendance the opportunity to observe various Exercise Science related assessments that cover anatomy and physiology concepts in an applied setting. Body composition, muscle activation, ventilatory and heart rate information will be obtained through applied assessments utilizing the BOD POD, EMG, and Metabolic Cart.

Session 102: Schoo-Bemis 210
Transcription, Translation, & Protein Structure
Presenter: Kristin Rosler, Johnson & Wales University

In this workshop, we will use DNA sequences to build specific mRNA structures and their resultant proteins. The proteins determined will then be incorporated into a protein modeling exercise—using colored beads and pipe cleaners to ultimately “build” alpha-helical proteins like dystrophin. Mutations, like those resulting in Muscular Dystrophy, will also be introduced and students can observe the protein structure change from its mutated DNA sequence.

Session 103: Schoo-Bemis 207
Using Universal Design for Learning for a more inclusive anatomy and physiology class
Presenter: Dawn Tamarkin, Springfield Technical Community College

Universal Design for Learning (UDL) is an approach that can include more learners and lead to improved student success. By using UDL in your classroom it is possible to create a more active learning environment, increase student success, and maintain rigor in course content. Dawn has been incorporating UDL for 15 years in her classes at Springfield Technical Community College and will help you to learn how to apply this approach in your classroom. Cell Zone materials will be used for demonstration purposes only, and are not required for your classroom application of UDL.

Vendor Presentations, Posters and Refreshments in Dodge Room of Campus Union from 10:45-11:30 a.m.
HAPS would like to recognize and thank all of our conference exhibitors and sponsors. Their generous support makes this conference possible.

ADInstruments

Cell Zone, LLC

eScience Labs

John Wiley & Sons

Morton Publishing Company

Primal Pictures, LTD

Pearson

Thieme Publishers

Thermo Scientific

Visible Body

Note: Special thanks to Pearson Publishing Company for providing the lunch for the Conference
**Workshop #2 11:30 a.m. - 12:15 p.m.**

**Session 201: Schoo-Bemis 314**
*Presenter: Lakshmi Atchison, Chestnut Hill College*

Various human anatomic models are currently available as valuable tools to teach students in high school to medical school, and in doctor's offices for patient's quick understanding. However, no blood cell model is available to understand leukemia and blood cell disorders. Therefore a novel blood cell visual model was invented. The model is simple, unique, 3-dimensional, and conveys facts within minutes. Teachers at all levels can use this blood cell model, and doctor's can explain to patients who can instantly understand various types of leukemia and blood cell disorders. The model has received a US Patent & Trademark Office number.

**Session 202: Allied Health Building Lab B Ground Floor**
**Respect, Dignity and Chemicals? Considerations in the Human Anatomy Lab**
*Presenter: Kathleen Pappas, Springfield College*

This presentation will occur in the Human Anatomy lab, using human donors. As educators we must be aware of preservation chemicals, embalming protocols, exposure and safety for ourselves and students. Discussion will relate to the development of safety protocols and procedures related to the use of human donor specimens. Policies related to exposure of blood born products, brain tissue, and pregnancy will be discussed. Key points in development of a safety manual and maintenance of material safety data sheets (MSDS) to meet OSHA standards will be discussed. Participants will have hands-on contact with human donors to facilitate the discussion.

**Session 203: Schoo-Bemis 219**
**Title: The HAPS Laboratory Instructor Survey: A discussion of the preliminary data**
*Presenters: David Brashinger, American Public University*

The HAPS task force on Laboratory Learning Outcomes conducted an online survey of instructors for introductory undergraduate-level course sequences in human anatomy and physiology for the nursing and allied health student. The goal of this survey was to document the current learning outcomes and activities in the laboratory component of these courses. This workshop will review the preliminary survey data and discuss the role of the laboratory component in the introductory anatomy and physiology course.

**Session 204: Schoo-Bemis 210**
**Title: Breathing New Life into Dry Bones: How Forensics and Comparative Anatomy Offer a New Dimension to Learning Human Osteology**
*Presenters: Gina Semprebon, Bay Path College and Dr. Ann Marie, Anna Maria College*

Typical skeletal morphology laboratory exercises are largely observational, depend on memorization, and tend to be less active than other types of laboratory exercises that are more experimental in nature. Thus, students may view the process as painstaking and often tedious. Here we offer simple techniques for infusing forensic anthropology and comparative and evolutionary anatomy routinely into skeletal anatomy labs. Such techniques accomplish three important things that galvanize students to delve deeper into the subject matter and to facilitate learning: (1) “personalizing” the human skeleton (2) making anatomy more relevant, and (3) getting students in touch with their “inner animals”.

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Lunch 12:30-1:30 p.m. on Ground Floor of Richard B. Flynn Campus Union
Followed by Update Seminar #2: 1:30-2:15 p.m. Dodge Room of Campus Union

HAPS Eastern Regional Conference
Update Speaker #2

"Endothelial Cell Structure and Function in Vascular (Hyper-)Permeability"

1:30 a.m. – 2:15 p.m.
Dodge Room
Richard B. Flynn Campus Union

Martin Scott Kluger, Ph.D

Martin Kluger is a research scientist in the Department of Immunobiology at the Yale University School of Medicine and a National Heart Lung and Blood Institute-funded investigator. He is known as a vascular biologist with expertise in the field of microvascular endothelial cells. As member of the editorial board at the Journal of Investigative Dermatology he has reviewed and adjudicated many articles on vascular biology of the skin. The dysregulated barrier integrity of continuous blood microvessels is a cardinal feature of acute inflammation and his current work focuses on an often overlooked feature of the capillary segment of the microvasculature, namely the prevalence of tight junctions structures that contribute to basal barrier integrity and may play additional roles in the endothelial response to inflammation. Dr. Kluger trained in cell and molecular biology at the University of Connecticut, and following college studies in liberal arts at Yale College and music performance at Juilliard, joined the Springfield (MA) Symphony Orchestra where he still performs as their principal timpanist. Unanimously elected to the Yale Program in Vascular Biology and Therapeutics faculty in 2004, Dr. Kluger organized and now supervises their graduate student Research-in-Progress seminar series and has a strong interest in the teaching and training of future researchers.

Door Prizes in Dodge Room of Campus Union  2:30-3:00 p.m.
Workshop #3  
3:00 - 3:45 p.m.

Session 301: Schoo-Bemis 210
Title: Innovations in helping students succeed in the anatomy & physiology lab
Presenter: Stephen N. Sarikas, Lasell College

Do your students struggle with lab concepts and procedures? Do they get lost in their lab manual? Do you struggle to keep your students engaged with hands-on lab activities? Please join Stephen Sarikas, author of Visual Anatomy & Physiology Lab Manual, as he shares a unique approach to lab instruction that encourages reading, stimulates learning, and promotes confidence and success in the anatomy & physiology lab.

Session 302: Schoo-Bemis 207
Title: Recording Action Potentials from Intact Earthworms
Presenter: Tracy M. Hodgson, Northwestern University

I will discuss techniques to record action potentials from the intact anesthetized earthworm. Techniques discussed will include 1) use of a recording chamber "cage" and 2) use of pin electrodes to record action potentials through the earthworm body wall. The pros and cons of each technique will be discussed. These techniques eliminate the need for nerve cord dissection. AD Instruments will provide the computer and cables for the pin electrode recording demonstration using their data acquisition software.

Session 303: Schoo-Bemis 219
Anatomy in real 3D with Visible Body
Presenter: Robb Kneebone, Director of Business, Visible Body

Visible Body's 3D apps provide accurate, engaging reference points to help students learn. From a collection of more than 80 stunning animations to more than 3,800 human body structures in engaging 3D, our software provides digital and mobile solutions for educational institutions across the globe. The content is comprehensive, the 3D environment is lab-like, and the apps' presentation of content is visually stunning. Come learn about our award-winning best seller, Human Anatomy Atlas, as well as Anatomy & Physiology and our line of Premium apps, which offer deep dives into the muscular, skeletal, and circulatory systems.
Workshop #4  
4:00 - 4:45 p.m.

Session 401: Schoo-Bemis 219
Implementing Vision and Change: An Update on the Partnership for Life Science Education Initiative’s (PULSE) Progress Toward Galvanizing Changes in Life Science Education in the United States
Presenters: Gina Semprebon – Bay Path College, Sharon Gusk, Northwestern Connecticut Community College, Thomas Jack, Dartmouth College

In 2012, the National Science Foundation (NSF), the National Institutes of Health (NIH), and the Howard Hughes Medical Institute (HHMI) appointed a group of 40 Life Science faculty and administrators as Leadership Fellows in their newly formed Partnership for Life Science Undergraduate Education (PULSE) initiative to develop strategies to support the recommendations in the 2011 Vision and Change in Undergraduate Biology Education: A Call to Action report (visionandchange.org). In this workshop, three fellows will report on projects and partner with participants for input to strengthen PULSE initiatives and provide resources for answering the “Call to Action” at participants’ own institutions.

Session 402: Schoo-Bemis 314
iA&P - Teaching Human Anatomy & Physiology with the iPad
Presenter: Shari Litch Gray, Regis College

Incorporation of technology in undergraduate science classrooms is not a new concept but often is not considered as fundamental as more traditional methods. At Regis College students are supplied with iPads that they take with them to every class including A&P and expect this technology to be utilized in the delivery of content. This workshop will discuss the experiences, benefits and potential pitfalls of having this technology as an integral component of the teaching of Human Anatomy & Physiology.

Session 403: Schoo-Bemis 210
Title: I can do it myself, creating an effective model for an online science learning experience.
Presenters: Vicky L. Navaroli, Debra A Rajaniemi, and Kimberly Reese, Goodwin College
Abstract: Several science courses (Anatomy and Physiology 1 & 2, and Microbiology) have been developed with complete online instructions to allow students with flexibility in learning while maintaining completion of course outcomes. Lab kits are provided by eScience with comprehensive hands-on experiments include dissections, blood typing, protein and enzyme analysis, accessing microbial growth with specialized media, etc. eScience provides students with full-color lab manuals, customizable kits, safety equipment, animations and integration into an LMS. Students are accessed by completing weekly material including discussions, comprehensive lab manual work, lecture and lab quizzes, lab reports with pictures/video documentation, practicals, and lecture exams.