



AACA & HAPS Joint Regional Virtual Meeting

October 3, 2020



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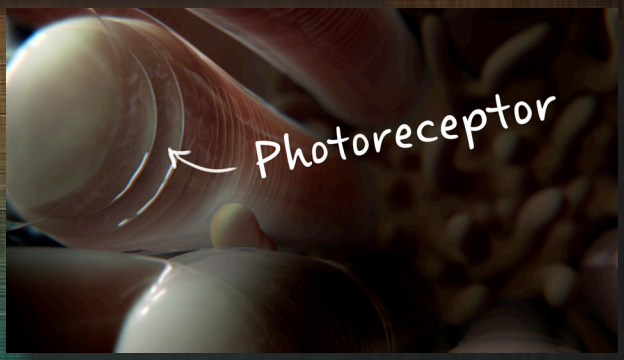

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A (Virtual) Welcome to Worcester!

Dear Colleagues,

We are pleased to welcome you to the 2020 Joint Eastern Regional Meeting of the Human Anatomy and Physiology Society (HAPS) and American Association of Clinical Anatomists (AACA). We began planning this meeting a year ago and at that time we were excited to not only showcase the University of Massachusetts Medical School facilities, faculty, and curriculum, but also to highlight our neighboring institutions. With a planning committee composed of faculty from Boston University, Northeastern University, Tufts University, Springfield College, and the University of Connecticut, this meeting was to be truly a sampling of the Best of New England!

By the spring of 2020, we were all seeing the effects of the COVID-19 pandemic. Annual scientific meetings were converted to virtual meetings or canceled altogether. Our planning committee had a decision to make: we could keep our fingers crossed that we would be able to proceed with an in-person meeting in the fall but risk having to cancel, or we could press forward with an intentional virtual meeting. We chose the latter, not looking at it as a challenge but as an opportunity to be innovative and help blaze the trail for future virtual conferences. The response from participants was very positive, and when proposals and abstracts were submitted, we saw one clear advantage: our “regional” meeting was no longer limited to participation from New England or the Northeast United States--we were now receiving submissions from all over the world! We are so grateful for our planning committee and the HAPS, AACA, and ASG administrators, who provided so much creative, technical, and administrative input and support in creating this meeting.

In this new virtual format, we would like to introduce this meeting: “Innovation in Integration”! We are excited to present a panel discussion in which members of our planning committee will discuss integrated curricula at their institutions. We also have 19 workshops covering topics of integration, curriculum, assessment, remote learning, diversity and inclusion, technology, wellness, and professional development. In addition, we have poster presentations covering a realm of anatomy, physiology, and educational topics. We also have created many opportunities for virtual networking in this meeting including a virtual lounge and a closing social. We hope you’ll engage on social media as well!

We look forward to an engaging meeting!

Sincerely,

Dr. Lela Giannaris and Dr. Alexandra E. Wink
Co-hosts

AACA/HAPS Regional Conference

Schedule of Events

Saturday, October 3, 2020

all times are in EDT

Time	Event
8:30 AM – 10:00 AM	**Welcome and Panel Discussion: *Innovation in Integration***
10:00 AM – 10:30 AM	**Exhibitor Presentation:** *HC Simulation & HHMI BioInteractive*
10:30 AM – 11:15 AM	**Concurrent Workshops** *(workshop schedule found on page 12)*
11:15 AM – 11:45 AM	**Exhibitor Presentation:** *3D4Medical & Autopsy.Online*
11:45 AM – 12:30 PM	**Concurrent Workshops** *(workshop schedule found on page 12)*
12:30 PM – 1:00 PM	**Exhibitor Presentation:** *iWorx Systems & Touch of Life Technologies*
1:00 PM – 2:00 PM	**Virtual Networking & Poster Presentations**
2:00 PM – 2:30 PM	**Exhibitor Presentation:** *BodyViz & 3D Organon*
2:30 PM – 3:15 PM	**Concurrent Workshops** *(workshop schedule found on page 12)*
3:15 PM – 3:45 PM	**Exhibitor Presentation:** *ADInstruments & InfoSight*
3:45 PM – 4:30 PM	**Concurrent Workshops** *(workshop schedule found on page 12)*
4:30 PM – 5:00 PM	**Exhibitor Presentation:** *Elsevier & 3B Scientific*
5:00 PM – 5:45 PM	**Concurrent Workshops** *(workshop schedule found on page 12)*
6:00 PM – 7:00 PM	**Closing Remarks and Virtual Social Hour**

AACA & HAPS Joint Regional
Virtual Meeting
Exhibitors

AACA and HAPS would like to recognize and thank our conference exhibitors. Their generous support makes this conference possible.

Exhibitors

3B Scientific

3D Organon

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ADInstruments

Autopsy.Online

BodyViz

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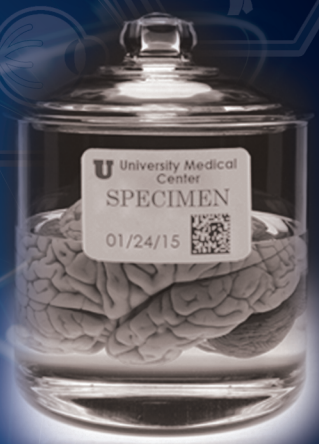
VIRTUAL MEETING

October 3, 2020

"Innovation in Integration"









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Poster Presentations

Poster 1:

Giving Thanks in a Virtual World: The Impact of COVID-19 on Donor Memorial Ceremonies

Presenter: Eli Arbov, Morehouse School of Medicine, earbov@msm.edu
Co-Authors: Darwish Alabyad, Morehouse School of Medicine, dalabyad@msm.edu, Christopher McClure, Morehouse School of Medicine, cjmcclure@msm.edu, Lilla Simon, Morehouse School of Medicine, lsimon@msm.edu, Kabriel Morehead, Morehouse School of Medicine, kmoorehead@msm.edu, Krystle Richmond, Morehouse School of Medicine, krichmond@msm.edu, Sarah Greene, Morehouse School of Medicine, sgreene@msm.edu

The importance of memorial ceremonies for anatomical donors is well-established. In light of the COVID-19 pandemic and its limitations with regard to institutions who rely on donations from external body donor programs (EBDP), creative and effective methods to communicate gratitude and honor the donors were explored. A Student Planning Committee was created to coordinate a ceremony whereby students could find closure. In compliance with EBDP confidentiality protocols, students also provided an exhibition recognizing the donors to be distributed to their families through these programs. The methods and impacts of these efforts will be shared along with considerations for continued implementation.

Poster 2:

Sympathetic Innervation of Lacrimal Glands: Textbook Contradictions and Long Lasting Conundrum in Research Literature

Presenter: Victoria Coutin, Nova Southeastern University, vc630@mynsu.nova.edu
Co-Authors: Noelani Gonzales, Nova Southeastern University, ng857@mynsu.nova.edu, Manda Mainville, Nova Southeastern University, mm5052@mynsu.nova.edu, Erik Perez, Nova Southeastern University, ep1058@mynsu.nova.edu, Yuri Zagvazdin, Nova Southeastern University, yuri@nova.edu

Sympathetic innervation to the lacrimal gland has been a long-disputed topic with contradictory information. Reports of both stimulatory and inhibitory effects have been found. We reviewed various historical/experimental articles and textbooks. No significant effect of surgical desympathization on the production of tears was found in most communications. Some studies, however, showed a transient decrease in lacrimal production after sympathectomy. In addition, a majority of the investigations focusing on direct sympathetic stimulation revealed an increase in lacrimal gland secretion. Our study aims to analyze the role of the sympathetic nervous system in the lacrimal gland secretion.

Poster 3:

Effect of Integration of Forearm Muscle Model-Based Instruction on Anatomy Learning Outcomes Among First-Year Medical Students

Presenter: Miraal Dharamsi, Texas Tech University Health Science Center El Paso, miraal.dharamsi@ttuhsc.edu
Co-Authors: Heather Balsiger, Texas Tech University Health Science Center El Paso, heather.balsiger@ttuhsc.edu, Anthony Bastian, Texas Tech University Health Science Center El Paso, anthony.bastian@ttuhsc.edu, Ricardo Belmares, Texas Tech University Health Science Center El Paso, ricardo.belmares@ttuhsc.edu

This study examines the impact of instruction using a muscle model on anatomy learning outcomes among first-year medical students, and the effect of its integration before (Group 1) and after (Group 2) prosection-based anatomy lab instruction. The 107 first-year medical students divided into two groups were assessed immediately prior to and following a 3.5-minute model-based video over anterior forearm musculature. An identical 5 question assessment was administered for both groups. Mean scores were 0.72 and 0.47 points higher for Groups 1 and 2 respectively, suggesting the intervention improved learning outcomes. The instruction method was well received by medical students.

Poster 4:

Cultural Neuroscience: Implications for Neuroanatomy

Presenter: Kawther Elsouri, Nova Southeastern University, ke552@mynsu.nova.edu

Co-Authors: Vania Arboleda, Nova Southeastern University, va378@mynsu.nova.edu, Yuri Zagvazdin, Nova Southeastern University

The notion that language/culture influences cognitive processing and brain connections appeared in pioneering studies of Tsunoda in the 1970's. Several innovative investigations have rekindled interest in this idea. Zhu et al. (2007) used functional magnetic resonance imaging to compare activity of the medial prefrontal cortex (MPFC) of Western and Chinese subjects who judged personal trait adjectives regarding self and mother. They found that MPFC is used to represent both the self and the mother by East Asians (interdependent/collectivistic culture), whereas Westerners (independent/individualistic culture) use MPFC to represent exclusively the self. We discuss the evidence of cultural influences on functional neuroanatomy.

Poster 5:

Cadaveric Case Study: Pelvic Kidney with Hydronephrosis

Presenter: Cullen Farragher, Campbell University School of Osteopathic Medicine, cdfarragher0402@email.campbell.edu

Co-Authors: Victoria Wood, Campbell University School of Osteopathic Medicine, vrwood1229@email.campbell.edu, Avery Faucette, Campbell University School of Osteopathic Medicine, a_faucette1014@email.campbell.edu, Alessandra Martorella, Campbell University School of Osteopathic Medicine, a_martorella0604@email.campbell.edu, David Green, Campbell University School of Osteopathic Medicine, dgreen@campbell.edu, Alan Proia, Campbell University School of Osteopathic Medicine, aproia@campbell.edu

Cadaveric dissection of a 91-year-old female revealed a right kidney just medial to the iliac crest. Cross-sectional gross analysis revealed dilation of the renal pelvis, indicating hydronephrosis secondary to obstruction. Light microscopy of the renal tissues treated with hematoxylin and eosin stain revealed sclerotic glomeruli and enlarged Bowman's spaces. This case study reviews pathologic changes associated with the abnormal renal ascent of pelvic kidneys. Non-ascended and malrotated pelvic kidneys result in ureteric shortening and increased risk of calculi formation. Consequent urinary outflow obstruction results in hydronephrosis and can lead to renal pelvis dilation, recurrent urinary tract infections, or kidney failure.

Poster 6:

Learning Approaches and Anatomy Performance of Doctor of Physical Therapy Students

Presenter: Christina Fojas, Marist College, christina.fojas@marist.edu

Student approaches to learning have an impact on assessment outcomes, long-term retention of material, and overall academic success. Within anatomy education, relationships between learning approach and student performance are explored as a way to understand and improve programmatic curricula. Prior studies correlate deep and strategic approaches with better student performance, and surface learning approaches with poor student performance. Learning approaches were evaluated using The Revised Approaches to Studying Inventory (RASI) in two cohorts of DPT students. The objectives of the current research are to characterize whether learning approach impacts performance in a graduate-level anatomy course.

Poster 7:

Mental Health and Quality of Life Considerations in Resuming Plastic Surgery During the COVID-19 Pandemic

Presenter: Makayla Gologram, Lake Erie College of Osteopathic Medicine, mgologram48574@med.lecom.edu
Co-Authors: Christine Lomiguen, Lake Erie College of Osteopathic Medicine, clomiguen@lecom.edu, Justin Chin, Touro College of Osteopathic Medicine, justinchindo@gmail.com

Plastic surgery, a largely elective specialty, involves remodeling the body for functional and/or cosmetic purposes. Elective plastic surgery reportedly increases mental and physical health and quality of life by enhancing physical features. Growth in number of procedures was expected in 2020; however, the COVID-19 pandemic derailed this surge as procedures were deemed non-essential. Considering benefits of elective cosmetic procedures, this literature review aims to raise awareness of implications plastic surgery and COVID-19 have on mental health, quality of pre- and post-surgical care, and demand for aesthetic surgery in a "new normal" society.

Poster 8:

Presence of Accessory Abductor Digiti Minimi Muscles in Two Cadavers

Presenter: Cristina Hamacher, Campbell University School of Osteopathic Medicine, c_hamacher0307@email.campbell.edu
Co-Authors: James Barton, Campbell University School of Osteopathic Medicine, j_barton0405@email.campbell.edu, Brock Browning, Campbell University School of Osteopathic Medicine, b_browning0620@email.campbell.edu, Nick Chase, Campbell University School of Osteopathic Medicine, n_chase0125@email.campbell.edu, David Green,Campbell University School of Osteopathic Medicine, dgreen@campbell.edu, Robert Larson, Campbell University School of Osteopathic Medicine, rlarson@campbell.edu

Accessory abductor digiti minimi (AADM) muscles originating from the tendon of palmaris longus were found bilaterally on the forearms of two male cadaveric donors, aged 92 and 86. Although AADM is a relatively common variant, having the muscles originate from palmaris longus is atypical. Our description of these muscles adds to well-documented accounts of variation in both palmaris longus and AADM origin, insertion, and function. We also discuss the potential clinical significance of these findings, including the risk of nerve compression within the ulnar tunnel and possible impacts on fifth digit function.

Poster 9:

Undergraduate Anatomy & Physiology Students Processes for Learning

Presenter: Staci Johnson, Southern Wesleyan University, sjohnson@swu.edu
Co-Author: Eliza Gallagher, Clemson University, egallag@clemson.edu

This qualitative study investigated processes used by undergraduate students enrolled in two semesters of anatomy & physiology, collecting data from interviews and weekly written responses to prompts designed to reveal the processes for learning course content. Four themes emerged- Actions, Outcomes, Shortcomings, and Affect. Identified actions described both internal and externally visible activities. Participants displayed a strong outcome-orientation as Actions frequently connected to a specific Outcome related to personal or course expectations. Overall, this study describes variations of student preferences that can inform instructor decisions about course activities and resources that support specific learning outcomes.

Poster 10:

Preference and Effectiveness of Different Teaching Modalities in Anatomy Used in Online During Covid Times

Presenter: Shifan Khanday, Dubai Medical college, shifanyasir@gmail.com
Co-Author: Yasir Ali Malik, Symbiosis Medical Centre, yasirmalik797@gmail.com

Context: Covid times came as a challenge to whole world as well as teaching, with Universities closed and all teaching shifting to online. A challenge was thrown to teachers to use and present different teaching modalities to a student's satisfaction and understanding. This study is a record and representation of what efforts and modalities were used in delivering online Anatomy course to "Net generation / Millennials". This paper highlights the teaching modalities used and how students who had initial apprehension started to like and set their preference for these modalities.

Poster 11:

Extended Reality (XR) Image Analysis of Dicephalic Parapagus Full-Term Conjoined Twins Collected by Dr. Jacob Henle Sometime Between 1844-1852

Presenter: Brandi Mikami, University of Hawaii, mikamib@hawaii.edu

Co-Authors: Scott Lozanoff, John A. Burns School of Medicine; Radial3D Inc., lozanoff@hawaii.edu, Thomas E. Hynd, James Madison University, hyndte@jmu.edu, U-Young Lee, Catholic University of Korea, SOM; John A. Burns School of Medicine, University of Hawaii, uylee@hawaii.edu, J Demeo, John A. Burns School of Medicine, University of Hawaii, jdemeo@hawaii.edu, Jesse Thompson, John A. Burns School of Medicine, University of Hawaii; Radial3D Inc., jessetho@hawaii.edu, Roman Sokiranski, Medical University of Varna, sokiranski@gmx.net, Sara Doll, University of Heidelberg, doll@uni-heidelberg.de

Online conversion of anatomy content is important due to currently limited in-person learning. The purpose of this study was to create online educational modules using extended reality (XR) visualization of conjoined twins housed in the Heidelberg Anatomy museum collected between 1844-1852 by Dr. Jacob Henle. The cadavers were subjected to CT and MR scanning, segmented, and XR visualized with Rad3d software on a Z-space cadaver. Results showed that the defect occurred prior to 28 days gestation and affected structures rostral to the yolk sac and dysmorphologies were identified. Application as a learning module is demonstrated.

Poster 12:

Anatomical Investigation of Two Cadaveric Cases of Aberrant Right Subclavian Artery Syndrome, Including the Effects on External Vascular Dimensions

Presenter: Mitchell Mirande, Midwestern University - Arizona College of Osteopathic Medicine, mmirande76@midwestern.edu

Co-Author: Madelyn Durhman, mdurhman96@midwestern.edu, Heather Smith

Retroesophageal aberrant right subclavian artery (ARSA) is an aortic arch variation that occurs asymptomatically in most patients; when symptomatic, it is most commonly associated with dysphagia or aortic aneurysms. This case study analyzed two cadaveric individuals with ARSA morphology in comparison to a normal sample. The diameter of the ARSA vessel was found to be substantially larger than both the right subclavian artery and brachiocephalic trunk of the subjects with classic aortic arch anatomy. As many ARSA individuals are asymptomatic, we hypothesize that the relative size of the ARSA may contribute to the presence and/or severity of associated symptomatology.

Poster 13:

Update on the Community College Anatomy and Physiology Education Research (CAPER) Project

Presenter: Chasity O'Malley, Nova Southeastern University and Palm Beach State College, comalle0@nova.edu

Co-Authors: Kerry Hull, Bishop's University, khull@ubishops.ca, Murray Jensen, University of Minnesota, msjensen@umn.edu, Ron Gerrits, Milwaukee School of Engineering, gerrits@msoe.edu, Kyla Ross, Georgia Tech, kyla.ross@gatech.edu, Betsy Ott, Tyler Junior College, bott@tjc.edu, Suzanne Hood, Bishop's University, shood@ubishops.ca, Heather Lawford, Bishop's University, hlawford@ubishops.ca

The Community College Anatomy and Physiology Education Research (CAPER) project has been a successful program that took an evidence-based teaching approach to provide instructors with useful techniques for enhancing engagement in their classrooms. Community College A&P instructors combined a professional development course with the design, implementation, and dissemination of a small-scale educational research project. In addition, data was collected from all participating students on learning and anxiety. Instructors learned about and implemented evidence-based instructional practices to promote student learning. This poster will highlight aspects of the first round of CAPER and a sneak peak of CAPER 2.0 (pending funding).

Poster 14:

Dissecting the Future: A Critical Review of Anatomy's Past, Present and Future Following the Carnegie Foundation's Call for Medical Education Reform

Presenter: Sherese Richards, The College of St. Scholastica, srichards5@css.edu

Co-Author: Hassan Amiralli, American University of Antigua, hamiralli@.auamed.net

In 2010, the Flexner Report released another call for medical education reform. This report resulted in medical associations emphasizing that 21st century medical education requires curricular integration of the basic sciences, which includes anatomy, with clinical experiences and other foundational basic sciences. How, what, and when to teach principles and concepts in anatomy education are requiring a fundamental re-evaluation of old forms of didactic lectures followed by laboratory dissections. This poster reviews past and present pedagogy and offers an alternative approach to the future of anatomy education through the use of digital dissection and more integrative didactic experiences.

Poster 15:

Flex Your Muscles: Exercise Videos in a Virtual Classroom

Presenter: Melanie Schroer, Stockton University, Melanie.schroer@stockton.edu

Student use of video response systems (VRS) in an online Anatomy and Physiology course may increase engagement and understanding of skeletal muscles and types of muscle contractions. In this study, students filmed a self-selected exercise routine, during which they applied course content to the movements occurring at several joints. Student-generated videos were accessible to all members of the class as a study tool. Data will show how the VRS impacted student interest, engagement, and efficiency in studying skeletal muscles, as well as student performance and efficacy.

Poster 16:

Smart Campus and the Smartphone: Are Medical Students Really Smart?

Presenter: Keerti Singh, The University of the West Indies, keerti.singh@cavehill.uwi.edu

Co-Authors: Sankalan Sarkar, The University of the West Indies, sankalan.sk@gmail.com, Subir Gupta, The University of the West Indies, subir.gupta@cavehill.uwi.edu, Peter Adams, The University of the West Indies, peter.adams@cavehill.uwi.edu, Bidyadhar Sa, The University of the West Indies, bidyadhar.Sa@sta.uwi.edu, Md. Anwarul Majumder, The University of the West Indies, azim.majumder@cavehill.uwi.edu

Smartphone usage has increased among medical students and physicians. The aim of this study is to identify smartphones and education apps usage by medical students. Questionnaire-based study was conducted among 1st and 2nd year students. 43% respondents considered using smartphones for academic purpose when they bought/received; however, ultimately 92% used for learning, and 80.3% particularly for anatomy. Google (95.5%) and Medscape (67.9%) were frequently used search engine and information source respectively. The popular apps were: "Teach me Anatomy" (11.9%) and "Up to Date" (10.3%). University should have specific policy as smartphones/apps are widely used by students.

Poster 17:

Complementary Learning Modalities: the Benefit of Cadaver and Digital anatomy in a time of Covid-19.

Presenter: Kathleen Tallman, Azusa Pacific University, ktallman@apu.edu

Co-Authors: Grace Matsuda, Azusa Pacific University, gmatsuda@apu.edu, Susan Shore, Azusa Pacific University, sshore@apu.edu

Digital anatomy was integrated into a first semester doctoral physical therapy program (DPT) in the spring of 2020. Students spent equal time in cadaver and digital anatomy labs (Primal Pictures) during weeks 1-9. Covid-19 then moved the university to a fully online format (weeks 10-16). A pre- and post-survey at the beginning and end of the semester evaluated student perceptions of digital and cadaver learning modalities. Both modalities had a high satisfaction rate. However, most students preferred the cadaver (73.53%) compared to digital anatomy (38.24%). This action research supports the benefits of both digital and cadaver modalities in PT anatomy.

Poster 18:

The Left Vertebral Artery Directly Arising From The Aortic Arch: A Case Report

Presenter: Isilsu Ezgi Uluisik, Bahcesehir University School of Medicine, isilsuezgibaumed@gmail.com
Co-Authors: Ece Onrat, Bahcesehir University School of Medicine, onratece@gmail.com, Gursel Ortug, Bahcesehir University School of Medicine, gurselortug@gmail.com

We herein report on a variant aortic arch branching pattern observed on a 82 years-old white male cadaver whose primary cause of death reported as a cardiovascular disease, during routine dissection in our anatomy laboratory. It was observed that the left vertebral artery was seen arising directly from the aortic arch medial to the left subclavian artery and lateral to the left common carotid artery. In addition to that, the left vertebral artery had a long prevertebral course before ascending deeply to enter the transverse foramen of cervical vertebrae at the level of the lesser horn of the thyroid cartilage.

Poster 19:

Multimodal Integration of Anatomy and Physiology to Provide a Better Understanding of Cardiovascular Diagnostics at the University of the Incarnate Word School of Osteopathic Medicine (UIWSOM)

Presenter: Earlanda Williams, University of the Incarnate Word School of Osteopathic Medicine, elwilli2@uiwtx.edu
Co-Authors: Jessica Bradley, University of the Incarnate Word School of Osteopathic Medicine, jmbradle@uiwtx.edu, Irina Nizamutdinova, University of the Incarnate Word School of Osteopathic Medicine, nizamutd@uiwtx.edu, Lora Watts, University of the Incarnate Word School of Osteopathic Medicine, lwatts@uiwtx.edu

During the cardiovascular unit for second year osteopathic medical students, faculty utilize a multimodal approach to integrate gross and microscopic anatomy of the heart to its physiology. Cardiac ultrasound and electrocardiography (ECG) are utilized to relate the concepts of anatomy and physiology to cardiac abnormalities. The goals of the session are to: 1) apply knowledge of cardiac anatomy to understand cardiac functional deficits; 2) relate microscopic structure of the heart to its function; 3) demonstrate and acquire a cardiac ultrasound and ECG. This presentation will provide an in-depth view of the approach used at UIWSOM to integrate across disciplines.

Poster 20:

Students' Perspectives on the Mentorship Program Implemented for First Year MBBS Students: A Cross Sectional Study

Presenter: Rosemol Xaviour, KUHS University, rosemolxaviour@gmail.com

Whenever someone enters into a Medical profession, it is a transition stage from school life to college life where they are subjected to vast changes in the syllabus, teaching and learning methods and a totally new environment with new set of teachers and friends. As a result many feel stressed and quite a few has dropped the course. In order to help the budding medicos Kerala University of Health Sciences has started a Student Support and Guidance Programme under which we arrange mentoring sessions for the students. Aim: The present study is intended to know the effectiveness of mentorship programme implemented for first year MBBS students. Material & methods: A cross-sectional study was carried out, among first year undergraduate medical students from our medical college during the period of January 2019 to June 2019. Results: Overall rating of mentorship program seems to signal it as heartwarming for the students. Conclusion: In-depth sessions and more interactions with students may help the institution to harness good quality responsible confident future doctors as they feel they are an asset to the institution and society.

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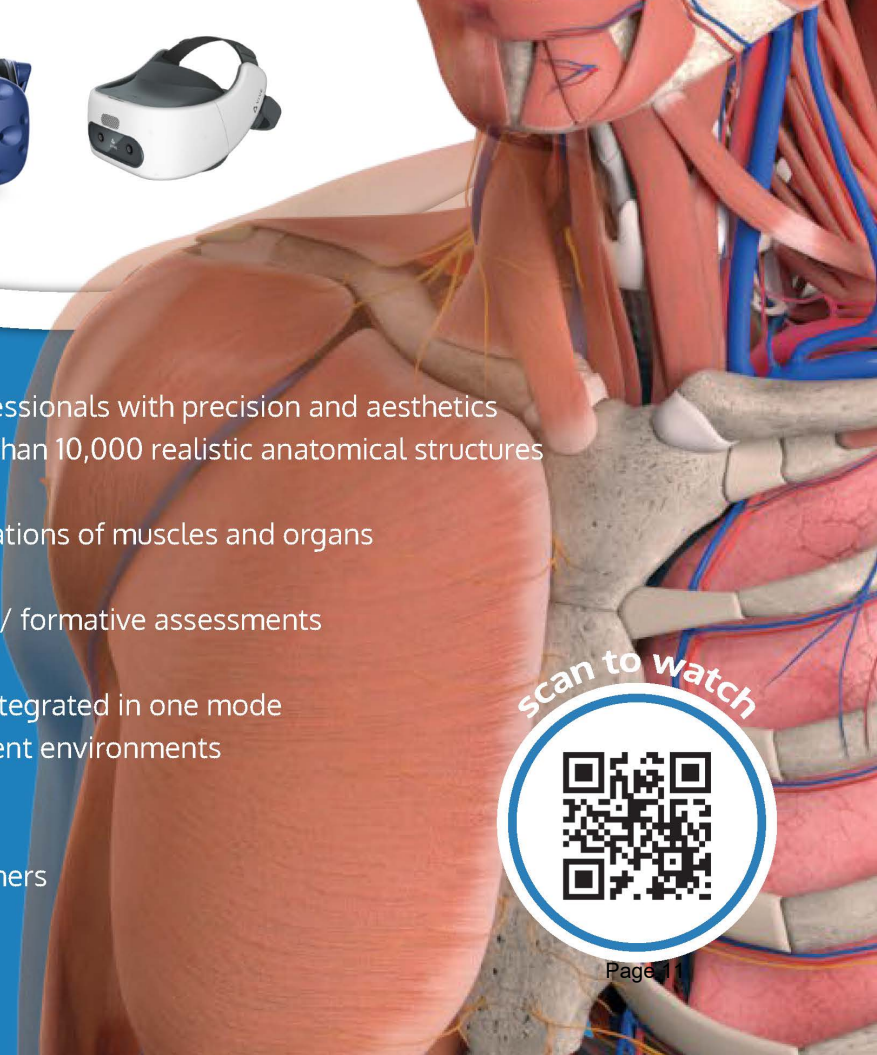

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Workshop Presentations

Workshop Session 1 – 10:30 AM – 11:15 AM

Workshop A - Student Achievement of Learning Objectives

Terence Ma, PlaceNets Consulting, terencema@placenets.com

After the work of Bloom, faculty have been focused on writing learning objectives using the "right" verb to designate the level of student achievement expected in the educational experience. This has been a challenging, especially with the expectation that student achievement of each learning objective is documented. This workshop will review the historical approach to learning objectives and will present an alternative approach to expressing learning achievement, which helps learners understand what is expected to achieve the learning objective and aid faculty in documenting student achievement of the learning objective.

Workshop B - Meaningful Online Synchronous Review Sessions

Tom Lehman, Coconino Community College, Tom.Lehman@Coconino.edu

Here are a few formats for offering online synchronous review sessions that students will find meaningful. Their time is as valuable as yours, so these sessions should be of value to both you and them (without being a bunch of busywork for either).

Workshop C - A Meta Team-Based Learning Session: Principles and Application

John Harrison, University of Connecticut Health Center, harrison@uchc.edu, M. Melinda Sanders, University of Connecticut Health Center, msanders@uchc.edu

What better way to learn about team-based learning (TBL) than to experience the pedagogy first-hand? In this session, you will participate in all aspects of a TBL session, including individual Readiness Assurance Test (iRAT), team Readiness Assurance Test (tRAT) and several Application Exercises, all of which will illustrate the core principles involved in implementation of the TBL pedagogy. We will also touch on adaptations of TBL that have been introduced into the histopathology component of our first and second year medical school curriculum.

Workshop D - Anatomicalterms.info: Innovative Open-Access Solution to Facilitate Communication

Anthony Weinhaus, University of Minnesota Medical School, weinh001@umn.edu, Sara Sulaiman, School of Anatomy University of Bristol, sara.sulaiman@bristol.ac.uk

Variability still exists among academics, such as anatomists and physiologist, and clinicians in adopting Terminologia Anatomica (TA) terms, published by The International Federation of Associations of Anatomists (IFAA). Lack of distribution and familiarity are few reasons mentioned in the literature explaining why the use of colloquial, synonymous or eponymous terms is still preferred. This workshop aims to present an innovative open-access online depository of anatomical terms and definitions, (www.anatomicalterms.info (ATI)). This resource can facilitate communication among and within various academic and clinical disciplines.

Workshop Session 2 – 11:45 AM – 12:30 PM

Workshop A - Incorporation of LGBTQ+ Considerations into Anatomical Education

Yasmin Carter, University of Massachusetts Medical School, yasmin.carter@umassmed.edu, Amanda Collins, University of Massachusetts Medical School, amanda.collins@umassmed.edu

It is important to promote diverse populations and their experiences in anatomical education; however, the actuality of making this happen can be daunting. This workshop will focus on understanding the role and importance of LGBTQ+ considerations within curricula and departments. Two areas of inclusion will be demonstrated. One area of inclusion is through lecture-based instruction focusing on sex and gender, with a focus on appropriate terminology. The second area of inclusion is through the practices of the Anatomical Gift Program. Time will be left to brainstorm further methods of inclusion and requests from the audience.

Workshop B - Creating Community When Teaching Online: An Equity-Minded Practice

Wendy Riggs, College of the Redwoods, wendyk-riggs@redwoods.edu

One of the biggest challenges in online teaching is ensuring students feel connected to their instructor and classmates, despite the inability to share physical space. This capacity to co-create online community is particularly valuable in STEM classes like Human Anatomy and Physiology. In this workshop, we will play with different tactics, both synchronous and asynchronous, that help “humanize” online classes and facilitate these critical connections. Participants will leave with a toolbox of strategies and resources.

Workshop C – Integration of Ultrasound into Your Anatomy Course: A Roadmap to Success

Rebecca Lufler, Tufts University School of Medicine, rebecca.lufler@tufts.edu, John Harrison, Uconn School of Medicine, harrison@uchc.edu

Ultrasound (US) is an easy, portable, and fun way to reinforce anatomical relationships in a clinically applicable way. During this session, we will review US basics, discuss resources, practice application, and provide examples of how to integrate US into anatomy curricula. Attendees will leave with a roadmap to ultrasound integration.

Workshop D - Shades of Transparency: What Does it Mean to be Transparent, Anyway?

Kristen Platt, University of Kentucky, platt.kristen@uky.edu, April Hatcher, University of Kentucky, arich3@uky.edu, Katie Salmeron, University of Kentucky, katie.guell@uky.edu, Sam Franklin, University of Kentucky, samuel.franklin@uky.edu, Brian Higgins, University of Kentucky, brian.higgins@uky.edu

Perhaps one student defined transparency best: "being see-through". While transparency in higher education is a topic of growing emphasis, it has different connotations for different stakeholders. In this workshop, we will explore a wide range of learner perspectives on transparency, by discussing survey feedback from students ranging from undergraduate to professional status. These perspectives will inform group discussion about how we can be transparent in our classrooms, in our advising, and in our other professional roles. These practices are important for creating more inclusive learning environments that cultivate student success.

Workshop Session 3 – 2:30 PM - 3:15 PM

Workshop A - Interdisciplinary Approach to Student Led TBL Sessions

Linda Afifi, Boston University School of Medicine, lafifi@bu.edu, Jonathan Wisco, Boston University School of Medicine, jjwisco@bu.edu

Team Based Learning (TBL) is one pedagogical best practice that helps students collaborate as they apply their knowledge, typically within the context of a singular course. We propose a modified TBL approach that 1) integrates content across systems-based courses, and 2) utilizes students as the principal teachers. In our model, students within a group are pre-assigned to act as basic science experts from a variety of disciplines to analyze a clinical case together. The peer-teaching approach achieves objectives in collaboration, knowledge integration, and professionalism.

Workshop B - Making Your Static Zoom Room a Dynamic Classroom

Ellen Krumme, Galen College of Nursing, ebkrumme65@gmail.com, Shiloh Graham, Galen College of Nursing, sgraham@galencollege.edu

Now that we are working in a virtual world how can we continue to have a high level of engagement and opportunities for student learning and participation. In this workshop we will share ways to collaborate and share teaching strategies that can make the virtual classroom dynamic again. Some examples of this will include how to leverage online meeting rooms in the classroom, peer to peer interaction, games and activities in an attempt to replicate a more face to face learning environment.

Workshop C - Using Lactase Persistence as a Model to Teach the Interconnectedness of Body Systems in a Remote Classroom

Melissa Haswell, Davenport University/HHMI BioInteractive, mhaswell@davenport.edu, Kathy Jones, Howard Community College

Students taking anatomy and physiology courses often place more emphasis on memorizing anatomical structures than understanding overarching physiological concepts and the interconnected required between body systems to maintain homeostasis. The goal of this 30-minute workshop is to introduce participants to a learning activity, which is a modification of an HHMI BioInteractive activity on Lactase Persistence to be used in a remote classroom setting. The activity help students recognize the interconnectedness of the digestive, respiratory, and circulatory systems with regard to pH and fluid balance. In addition, this activity provides students with an opportunity to link evolutionary processes to human form and function, which is rarely emphasized in anatomy and physiology courses.

Workshop D - Adapting to Change; Engaging and Supporting Students

Kathleen Pappas, Springfield College, kpappas2@springfieldcollege.edu, Chris Hakala, Springfield College, chakala@springfieldcollege.edu

Participants in this workshop will have the opportunity for discussion on engaging students in and outside of the classroom. The focus will be on student cognitive development and best practice for classroom engagement. We will explore ways to improve student performance with both non-major and healthcare majors. You will leave the session with new ideas and enthusiasm that translates to your students.

Workshop Session 4 – 3:45 PM - 4:30 PM

Workshop A - Body and Soul: Religious, Spiritual, and Secular Conversations in Human Anatomy and Beyond
Edgar Meyers, University of Arkansas for Medical Sciences, ermeyer@uams.edu
Many institutions of higher learning focus on promoting diversity, equity, and inclusion, especially for underrepresented groups on the basis of race, gender, and ethnicity. However, there are limited discussions celebrating diversity regarding students' and employees' religious, spiritual, and secular beliefs. This workshop will present influences of medical students' religious, spiritual, and secular beliefs on their perceptions of humanity and dissection during anatomy. It will also address implications of inter-faith dialogue among students, faculty, and staff at educational institutions. Attendees will engage in small-group discussions regarding benefits and challenges of implementing similar inter-faith activities in their courses or at their institutions.

Workshop B - Doing More with Less: How to Keep Up With the Curriculum Kardashians with Fewer Resources
Rebecca Lufler, Tufts University School of Medicine, rebecca.lufler@tufts.edu, Jeffrey Marchant, Tufts University School of Medicine, jeffrey.marchant@tufts.edu
As teaching needs increase and faculty numbers decrease, we are left with finding creative ways to teach more with fewer resources. We will present multiple ways we have adapted in person (jigsaw method peer teaching) and virtual (small group collaborative) anatomy labs for various class sizes.

Workshop C - Multimodal Integration of Anatomy and Physiology to Provide a Better Understanding of Cardiovascular Diagnostics at the University of the Incarnate Word School of Osteopathic Medicine (UIWSOM)
Earlanda Williams, University of the Incarnate Word School of Osteopathic Medicine, elwilli2@uiwtx.edu, Jessica Bradley, University of the Incarnate Word School of Osteopathic Medicine, jmbradle@uiwtx.edu, Irina Nizamutdinova, University of the Incarnate Word School of Osteopathic Medicine, nizamutd@uiwtx.edu, Lora Watts, University of the Incarnate Word School of Osteopathic Medicine, lwatts@uiwtx.edu
During the cardiovascular unit for second year osteopathic medical students, faculty utilize a multimodal approach to integrate gross and microscopic anatomy of the heart to its physiology. Cardiac ultrasound and electrocardiography (ECG) are utilized to relate the concepts of anatomy and physiology to cardiac abnormalities. The goals of the session are to: 1) apply knowledge of cardiac anatomy to understand cardiac functional deficits; 2) relate microscopic structure of the heart to its function; 3) demonstrate and acquire a cardiac ultrasound and ECG. This workshop will provide an in-depth view of the approach used at UIWSOM to integrate across disciplines.

Workshop D - The Fact is, Faculty are Needed for Feedback, and Less for Facts
Jonathan Wisco, Boston University School of Medicine, jjwisco@bu.edu, Mina Moussavi, Boston University School of Medicine, mmoussa@bu.edu
All too often assessments are viewed by students and teachers as an adversarial activity. Case in point, how many times has the question, "what do I need to know for the exam?" been raised? Since students can access vetted content from multiple online sources, the role of faculty is shifting from being content experts towards becoming mentoring resources for the application, analysis, synthesis, and evaluation of knowledge. We will discuss best practices for establishing a non-threatening, self-sustaining learning environment in which students and faculty learn from each other through formative and summative feedback.

Workshop Session 5 – 5:00 PM - 5:45 PM

Workshop A - Jumping into a TBL Approach One Step at a Time

Mina Moussavi, Boston University School of Medicine, mmoussa@bu.edu, Jonathan Wisco, Boston University School of Medicine, jjwisco@bu.edu

There is a current shift in education towards engaged learning environments. Team-based learning (TBL) utilizes small-group dynamics in the application of course content towards problems and cases. The primary objective of this workshop is to provide educators with a workflow for developing a TBL activity as they consider their institutional resources, experience, and culture. We will introduce a novel questionnaire, which guides users through a logic model of best practices and refers to additional resources for a remotely-taught TBL. This stepwise pathway will provide a mechanism for intuitive and accessible TBL design.

Workshop B - Effective Online Teaching Strategies to Enhance Visualization and Comprehension of 3D Anatomical Structures and Spatial Relationships Correlated with A&P Course Learning Outcomes

Caitlin Burns, County College of Morris, cburns@ccm.edu, Frank Pietropollo, County College of Morris, fpietropollo@ccm.edu

This workshop will introduce several strategies that have been successfully implemented in Anatomy and Physiology I and II, during the online transition at the community college level, that aim to increase student success by increasing student visualization of 3D anatomical structures, comprehension of 3D spatial relationships, and mastery of course learning outcomes. Strategies include high impact, active learning techniques, and inquiry-based activities that enhance student engagement and interaction.

Workshop C - Using the web-HUMAN Simulation to Teach Systems Physiology Concepts

Roy Meyers, Skidmore College, rmeyers@skidmore.edu

Web-HUMAN (webhuman.us.es/human) provides educators and students with a no-fee, web browser-accessible full implementation of Tom Coleman's classic systems physiology simulation, HUMAN. It is comprehensive, encompassing 6 major core systems (cardiovascular, renal, fluid balance, respiratory, acid-base balance, thermoregulatory and aspects of 3 other systems) and it is fully interactive (user experiments are run by changing one or more of 67 user-alterable physiological and clinical parameters). Results (graphic and tabular) are monitored via user selection from among137 user-assessable physiological variables. Participants will engage in setting up and executing sample physiological (e.g. endurance exercise, thermoregulation) and clinical (e.g. fever) simulations.

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On behalf of the American Association of Clinical Anatomists (AACA) and the Human Anatomy and Physiology Society (HAPS) we would like to thank you for participating in our Fall 2020 joint regional virtual meeting. We especially thank the workshop and poster presenters for their commitment to scientific rigor and educational innovation as well as their creativity in adapting their content to a virtual format.

We would like to once again acknowledge the members of our planning committee: Dr. Linda Afifi, Dr. John Harrison, Dr. Rebecca Lufler, Dr. Mina Moussavi, Dr. Kathy Pappas, and Dr. Jonathan Wisco, for their contributions to the content and structure of the meeting.

This conference could not have happened without the support of HAPS, AACA, and ASG, especially from Brittney Roberts, Caitlyn Hyatt, Kendra Tyner, Jennifer Whitlow, Peter English, and Christina Lewis.

We would like to acknowledge the participating exhibitors and thank them for their continued support of both societies.

Although we are no longer meeting on the campus, we would still like to thank the University of Massachusetts Medical School leadership and administration for their enthusiastic support of this meeting: Dr. Max Rosen, Chair of the Department of Radiology; Dr. Anne Larkin, Senior Associate Dean for Educational Affairs and Dr. Melissa Fischer, Associate Dean of Undergraduate Medical Education.

We look forward to engaging with you again in the future!

Sincerely,

Dr. Lela Giannaris and Dr. Alexandra E. Wink
Co-hosts