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HAPS-EDucator is the official publication of the Human Anatomy and Physiology Society (HAPS) and is published four times per year. Major goals of the Human Anatomy and Physiology Society are: to promote communication among teachers of human anatomy and physiology in colleges, universities, and related institutions; to present workshops and conferences, both regional and national, where members can obtain information about the latest developments in the health and science fields; and to encourage educational research and publication by HAPS members. HAPS was established in 1989.

Annual membership dues are $50 for full time faculty, and $35 for part time and retired faculty. Annual membership renewals shall be due on January 1, April 1, July 1, or October 1. New members shall renew on whichever date most closely follows the date of their initial membership. HAPS Hotline: (800) 448-HAPS (4277). Information on membership, meetings, and more! Send correspondence to: HAPS, 8816 Manchester, Suite 314, St. Louis, MO 63144. Check out our new webpage at: http://www.hapsweb.org/

SUBMISSIONS TO HAPS-EDucator

Papers for publication, requests for information, positions available and wanted, and letters to the editor are welcomed. Articles may be submitted to the editor as an e-mail attachment as a Microsoft Word or Word Perfect file, 3.5” double density disks, or CD-Rom—please include a hard copy as a backup. If references are included, please follow the methods suggested in Scientific Style and Format: The CBE Manual for Authors, Editors, and Publishers. 6th Edition, Style Manual Committee (Council of Biology Editors) Cambridge, Cambridge University Press. 1994.

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DEADLINES FOR SUBMITTING MATERIAL TO HAPS-EDucator: April 15 (Summer issue); August 1 (Fall issue); November 1 (Winter issue); February 1 (Spring issue).

CONTACT THE HAPS-EDucator Editor: Susan Baxley, 8816 Manchester, Suite 314, St. Louis, MO 63144, hapsed@hapsweb.org
I am writing this after barely four months in office, yet by the time you read these words another three months will have passed, and the January board meeting will have occurred. Given the rate at which things have been happening within (and to) HAPS, I will apologize in advance for the fact that much of what I am now writing may, by that time, be rather out of date.

Perhaps some other long-time HAPS members may know of a more tumultuous start to a term of office, but I certainly cannot remember one. In the period from July 1 to November 1, six board meetings were held to address both regular and emergency issues. Let me begin, with a quick review of what your Board has accomplished since my last Greeting appeared in the HAPS-EDucator.

In July, the Board:

1. appointed Mark Bolke as Secretary
2. revised the methods for recording the Minutes to improve efficiency and timeliness (the new format will be apparent if you have accessed the minutes archived on the website)
3. eliminated the room rebate policy thereby reducing the cost of registration to future annual meetings, at some cost to our bottom line
4. set up an Annual Conference Budget Subcommittee, to project and track the finances of each annual meeting
5. revised and reprinted the membership brochure
6. designed and produced HAPS business cards for use and distribution by the board
7. approved the selection of the Sheraton Hotel in San Diego for the HAPS 2007 annual meeting.

Compared to July, August was a cake-walk, and our work was done in one meeting rather than three. That month, the Board handled a number of procedural matters related to the last conference, committee reports, and grant awards.

In September, the Board:

1. appointed Jon Jackson as Chair of the Membership Committee (congratulations and thanks to Jon for his willingness to assume this key position)
2. discussed a plan for HAPS representation at the meetings of other societies
3. created an Ethics panel
4. approved the donation of $2500 to the hurricane relief program of the American Red Cross on behalf of the membership
5. began working on a formal contract with our HAPStract artist, Grace Nirschi as a prelude to commissioning additional works.

In late September, we received pleas for assistance from HAPS members in Florida who were struggling to cope with the aftermath of sudden and extreme changes in the accreditation for A&P courses at schools monitored by the Southern Association of Schools and Colleges (SACS). All members of HAPS who have email addresses on file will have seen the reports and updates sent out from HAPS Headquarters on this topic, and all of you will certainly understand the seriousness of the situation. As a result of our efforts, the SACS criteria were clarified and the most unreasonable aspects, regarding the nature of one’s degree and the required graduate courses, were changed. However, the criteria as revised left the issue of faculty qualifications to the college, but then required that the college justify the decisions regarding competency to SACS – without stating what qualifications would or would not be deemed acceptable for accreditation purposes.

The resulting ambiguities have led us to take a closer look at what HAPS can do for the membership to clarify things further, and in doing so prevent similar problems from arising in the future. The most obvious solution is to have our own standards of instructor certification and to have them reviewed and approved by accrediting agencies as the gold standard for A&P credentialing. After extensive input from the membership – almost 1000 emails received in the week prior to my writing this note – I believe that we are ready to create standards that will satisfy the concerns of our members and ensure the integrity and quality of A&P courses.

It is my goal to have such a document approved by the Board and posted on the HAPS website by the time you read this column.

The other issue under discussion by your Board is one of promoting continuing education in the field of A&P. In addition to setting HAPS standards, it would be helpful to set up a mechanism for our members to obtain continuing education credit that could be used to document important skill-sets, maintain currency in the field, and be used in any faculty evaluation in future years. Again, this is an area of special interest to the Board, and you will hear more about it as our plans mature.

As we have considered these issues, it has become apparent that we have very incomplete information concerning the courses taught by our members. To remedy that situation, our Web-Guru, Carl Shuster, has created survey forms on the website to collect data that will be useful as we move forward. The first survey concerns the size and instructional profile of the 2-semester (or equivalent) A&P course at your institution. If you have not already done so, I would ask you to please take a few minutes (~5) and complete the survey. These data will help provide us with useful background information and leverage as we distribute our position statement.

I think that all of the above can be taken as evidence that HAPS
Greetings - continued from page 3

has a committed Board of Directors, and that they are working well

together and enjoying the combination of planning and problem

solving involved in each meeting. We have accomplished much in

the past few months, and I am looking forward to accomplishing

a great deal more before our general meeting in Austin next May.

It will be a terrific meeting and a grand 20th Anniversary celebra-

tion as well. Over the interim, please keep a weather eye on the

listserv, and feel free to contact me at any time with comments or

suggestions for ways HAPS can assist its members.

1001 Uses for Plastinated Specimens

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The Anatomy and Physiology program at Orange Coast

College (OCC) comprises six different courses: General Human

Anatomy, Human Physiology, Anatomy/Physiology, Cross-sec-
tional Anatomy, Advanced Cross-sectional Anatomy, and Patho-

physiology. Students have access 40 hours per week to a dedicated

multimedia facility. The facilities also include a large Plastination

Laboratory. Approximately 1001 (no, really!) students per year at

OCC utilize the plastinated specimens in our facilities as part of

their classroom experience.

Over 30 years ago, Sharon instituted a prosection program at

Orange Coast College. When Ann joined the faculty a few years

later, they were able to expand the program and, in the mid 80’s,

oversaw the building of a dedicated prosection facility. In the

early 90’s, the Plastination Laboratory opened. The Plastination

Laboratory was constructed with grant money obtained through the

Hoag Family Foundation. Hoag Hospital is the premier facility in

Orange County and has funded numerous health education projects

at OCC, including our multimedia laboratory. Likewise, many of

our former Allied Health, Nursing, and Physical Therapy students

are employed at Hoag Hospital. It is a productive and mutually

beneficial relationship.

Sharon and Ann have used plastinated specimens as an integral

part of their Anatomy, A&P, and Pathophysiology courses for more

than 10 years.

• The General Human Anatomy class observes specimens,

  both intact and sectioned, to augment their study of nor-

  mal anatomy.

• The cross-sectional anatomy classes focus on the plasti-

  nated, transversely sectioned cadaver (named Bernadette

  to better connect the students to her as a person). Berna-

  dette is used in nearly every class, as well as for testing

  purposes. Intact organs are used as well.

• Pathophysiology students concentrate on the large col-

  lection of diseased organs, many obtained via donation

  from a local medical school and plastinated in the lab.

In addition to classroom use by OCC students, the facility

provides tours for local high schools and professional schools.

This program was initiated over 25 years ago. Currently, more than

20 schools visit annually. The experience affords beginning A&P

students an opportunity to see “the real thing,” to ask questions that

may not come up until they see “the real thing,” and to have some

hands-on experience if they so desire. In the Plastination Lab, stu-

dents view cirrhotic livers, smoker’s lungs, alcoholic brains, aortas

with aneurysms and filled with plaque, diseased kidneys, ovarian

tumors, and other pathological specimens. The specimens never

fail to grab their attention and to provoke lively discussions and

many questions. They also view the cross-sectioned cadaver and

“hear” her story. Last year, over 1500 high school students toured

our facilities. They are invariably amazed and stimulated by the

plastinated specimens and impressed by the variety and severity

of disease processes.

OCC also hosts an annual Community Science Night that is at-

tended by more than 3,000 students of all ages. Our facility exhibits

dozens of diseased plastinated organs, displayed next to anatomical

models showing normal anatomy to demonstrate what we do to our

bodies and what the consequences can be. The exhibit is always

one of the most popular. There are many comments, usually from

children to their parents, such as “Dad! You HAVE to quit smoking!

Look at these lungs!!” Or, “Look what too much alcohol will do
to your liver!! What does the liver DO??” “My grandpa died from
drinking too much.” “My mom has diabetes—will it kill her??”

Faculty who staff the exhibit provide straightforward, non-judg-

mental information, and students remember it because they SEE

the results.

Plastinated specimens may be checked out by local health care

professionals as well. Currently, several local chemical dependency

facilities take advantage of this service. We have also prepared

plastinated specimens for local educational and medical institutions,

including a set of smoker’s lungs for Hoag Hospital’s anti-smoking
education program for fifth graders. We prepared approximately 80 specimens that are on permanent exhibit at the California Science Center in Los Angeles, site of the recent (and wildly successful) Body Worlds exhibit.

Because plastinated specimens are user friendly, they engage the students at a different level, rather than just being shown a model or a picture. Students are able to relate to an alcoholic liver that they can hold or relate to a real smoker’s lung that they can compare to a real non-smoker’s lungs.

Sharon and Ann hope they have provided insights and ideas about how to use plastinated specimens to educate students and the public. They agree with Gunther von Hagens that education begets awareness, and awareness begets better health practices. They believe that those who donate their bodies do so with this in mind: that others will learn from them and live healthier lives. How else can future health care professionals understand the consequences of their professions? And what better legacy is there?

Western Regional HAPS Conference 2007
“Biotechnology in the Rockies”
Learn about HAPS and the latest educational and research technology.
A one-day event, 2nd weekend in February, 2007
Check the HAPS website for more details as they come.
For more information, contact the Conference committee:
Tom Lehman (Morgan Community College) Tom.Lehman@MorganCC.edu
Terry Harrison (Arapahoe Community College) Terry.Harrison@Arapahoe.edu
Stephanie Irwin (Front Range Community College) Stephanie.Irwin@FrontRange.edu
EDU-Snippets is a column designed to let you – the members of HAPS – share your personal or institutional educational experiences. So, here are this edition’s contributions! In this issue we have tried to stress the use of available Internet resources in A&P education. We asked our readers to tell us what sites they used and liked – and they did! Because of the volume of very good Internet sources, we may repeat this theme a few issues down the road.

For the sake of column continuity, we have done a bit of editing. We have also avoided quotation marks (except in-text). However, we think everyone will be able to tell where our introductions and commentaries leave off and where our contributors’ words begin. We have also used a modified outline format to help with the organization.

Since this column does include many Internet sources, we issue the following disclaimer. We do not guarantee the validity of the information found on any of the Internet sources listed. Furthermore, the inclusion of a particular website does not constitute an endorsement of that site by HAPS – nor should the inclusion of a website be construed as an endorsement of any type of cyber copyright violation.

I. Techno-Histology

Brian Shmaefsky (Kingwood College, Brian. Shmaefsky@nhmccd.edu) started us off with a great site for working with histology.

My favorite website is the Pathology Atlas of Gross and Microscopic Images at http://cait.camc.columbia.edu:88/dept/curric-pathology/pathology/pathology/pathoatlas/index.html. I use the images (microscopic and gross) when students are doing regular histological and gross anatomical laboratory activities. The students are asked to compare and contrast the normal specimens to those with pathology. I like projecting the images on a screen so as a class we can discuss the pathological signs. Of course, by learning the abnormal, the students also learn to recognize the normal.

II. Techno-Discovery – Molecular Style

Pat Bowne (Alverno College, Pat.Bowne@alverno.edu) sent us numerous website ideas – all geared to helping students understand anatomy and physiology at the molecular level.

I very often begin class by calling up one of HAPS member, Murray Jensen’s WebAnatomyQuizzes (http://www.gen.umn.edu/faculty_staff/jensen/1135/webanatomy/) and letting various students come up and answer the questions. This gives those who are good at memorizing a chance to shine, and they like seeing the scores at the end.

When we begin discussing action potential and ion flow, I like to use the Sheffield’s GetBodySmart page on ion flow (http://getbodysmart.com/ap/nervoussystem/cellphys/restpot/fig3sup.htm). The students first form hypotheses and then test their hypotheses about which ions are causing the action potential and repolarization. They can drag ions through the ion channel and see how cell potential changes on the oscilloscope. They are often amazed at the differences they see.

For G-protein mechanisms, I show the Hayes & Baynes’ animation of a peptide hormone at http://camel.conncoll.edu/academics/zooology/courses/zoo202/Endocrine/peptide.html and have students construct their own flow chart of the steps in the sequence.

An animated version of Otto Loewi’s experimental discovery of acetylcholine is available at Chudler’s ‘Neuroscience for Kids’ site (http://faculty.washington.edu/chudler/chnt1.html#receive) and can be played and replayed until the students figure out what the results indicate. The same site has a long list of neurotoxins with their respective mechanisms (http://faculty.washington.edu/chudler/toxin1.html) that I have students use as a source for writing case study questions. One group gives the scenario and symptoms and another group has to decide what poisoned the victim.

For students learning the muscles that move the eye, Lasslo’s EyeSim (http://cim.ucdavis.edu/eyes/version1/eyesim.htm) allows the interactive participant to choose various muscles or nerves to paralyze and then to see the results. I let students create the injury and then see if the rest of us can figure it out.

I always tell my students to e-mail the author of any site they like. Few of them remember to do this, but those who do remember are excited when they get a return message - which they always do! Guess web-site creators are starved for compliments!

Sources:


III. Techno-Cardio
Sheri Boyce (Messiah College, SBoyece@messiah.edu) got us interested in some techno-tips for the cardiovascular system.

I use the Yale Introduction to Cardiothoracic Imaging website (http://info.med.yale.edu/intmed/cardio/imaging/) when we study the cardiovascular system. I pull up images and video clips that show what a normal heart looks like as it beats and what happens during abnormal conditions such as mitral valve prolapse. Students usually seem to appreciate seeing the “real thing” instead of drawings.

Sheri signed up to receive the table of contents from the New England Journal of Medicine. She explains that each issue has two “Clinical Images in Medicine” and usually one of these is free to non-subscribers. Often she can show the picture and relate the case study to a topic in class, again, showing the students some real-life applications.

IV. Techno-Immuno
Ellen Arnestad (Southern Alberta Institute of Technology, ellen.arnestad@sait.ca) reminded us of the Calgary Conference.

Here are a couple of web sites that I use. Do you remember the speaker in Calgary who talked about immunology? This is his website and if you look at the video, you will see the leukocyte rolling and adhesion that was discussed in the presentation. I show this video to my students in the immunology section every year. This site really makes the point. The other website has an animation of the concepts that I use earlier in the presentation. It is also a nice way to show some of the recent research that is being done right in our city (Calgary). http://www.irg.ucalgary.ca/irg.nsf/IRG http://www.med.ucalgary.ca/webs/kubeslab/home/

V. Techno-Hemo
Kenneth Hoekstra (University of British Columbia, khoekstra@interchange.ubc.ca) sent us the following very interesting site that should fit right into anyone’s teaching of hematological functions – another animated gif of neutrophils in acute inflammation. http://www-medlib.med.utah.edu/WebPath/INFLHTML/INFL070.html

VI. Techno-Visibility
And one of the members of this writing team (Anne Arundel Community College, rfaircloth@aacc.edu) has his own personal favorite. We both believe that this is a site that students and instructors alike can look at and marvel. http://www.nlm.nih.gov/research/visible/visible_human.html

VII. And We Hope You Will….
Keep those cards and letters coming! We thank you all for your EDU-Snippet contributions. You can submit your ideas now and maybe next issue you too will see your EDU-Snippet in print!

In Memorium
Kent Van De Graaff

Wednesday, December 7, 2005, Kent Van De Graaff passed away as the result of cancer. He had an illustrious career but few realized the for many years he struggled to keep on teaching and writing despite severe liver problems, the result of a bad blood transfusion during a stomach operation early in his career. Clearly the pain and discomfort did not deter him from a successful and rewarding career as an educator, author, and father. The year that HAPS was formally organized at the Reno, Nevada Meeting, Kent was sponsored by Wm. C. Brown Publishing as the keynote speaker. His five sons are all practicing physicians. Those who knew Kent personally will remember him for his warmth and friendship. Below are edited comments from the news release in the Ogden Standard Examiner of Thursday, December 8, 2005.

OGDEN – The Weber State University community is mourning the loss of zoology professor Kent Van De Graaff, who helped restructure the university’s pre-med program. He passed away Wednesday after a battle with cancer. Van De Graaff helped many students prepare for medical school. He also wrote several textbooks on human anatomy published by Wm. C. Brown, McGraw-Hill, and Morton publishing houses that were used worldwide and have been translated into several languages. He was named the university’s 2004 John S. Hinckley Fellow.

Van De Graaff earned a bachelor’s degree in biology from Weber State in 1965; masters degree in zoology from the University of Utah in 1970; and doctorate in zoology from Northern Arizona University in 1973. Starting in 1975, he spent 20 years teaching at Brigham Young University, where he earned many awards and honors, including BYU Professor of the Year in 1978 and the Karl G. Maeser Teaching award in 1986. He has been a member of the Weber State faculty since 1995.

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It is now clear that tiny, unique molecules of RNA play a role in controlling whether or not certain proteins are synthesized. This role of RNA is not only a very “hot” research area in molecular biology, but it could go a long way towards a total understanding of how organ systems actually develop. Further, this function of RNA may be a way of shutting down the proliferation of cancer cells.

At the 2005 HAPS meeting in St. Louis, Dr. Sarah Elgin presented an elegant talk on these roles of RNA. Many of us got a bit lost since the background material necessary to understand the more advanced concepts was not presented. My objective in writing this article is to fill in those gaps such that this very significant topic can become part of our educational protocol.

For many decades, it was believed that RNA molecules were merely "soldiers" taking orders from DNA. Classic cases in point:

1. The primary transcript is made up of RNA bases whose sequence is totally dictated by sense DNA.
2. Messenger RNA (mRNA), which ultimately orchestrates the synthesis of a protein, is made of small pieces of the primary transcript.
3. Transfer RNA binds to mRNA codons whose sequence and position are determined by sense DNA.
4. The sequence of ribosomal RNA is determined by the sequence of mitochondrial DNA.

We now know that certain RNA molecules have much different roles and “march to their own drummer.” Before diving into this fascinating subject, how about a brief glossary?

1. **Dicer:** Normally, the only RNA in the cell cytoplasm is single-stranded. If double-stranded RNA (dsRNA) is formed, an endonuclease enzyme called “Dicer” cuts it up into very small segments, about 19–28 base pairs long. These very small fragments are called “small-interfering RNA,” or siRNA. With what do they interfere? Read on…

2. **RISC:** After Dicer “dices” dsRNA into small segments, the two strands separate. If one of these is complementary to a normal mRNA, it is called “antisense RNA.” The antisense RNA combines with an “escort” protein. The combination of the two is termed **RNA-Induced Silencing Complex**, or RISC. The antisense RNA is then “escorted” to the mRNA and combines with it, forming an RNA duplex. This prevents mRNA from binding to polyribosomes, and no protein can be made.

3. **RNA interference:** The activity of RISC results in RNA interference, abbreviated “RNAi”. Obviously, antisense RNA “interferes with” the normal function of mRNA.

4. **PTGS:** Since the gene is silenced after transcription is complete, but before translation occurs, this is called Post-Transcriptional Gene Silencing, or PTGS. The gene is certainly not damaged, but its message is silenced. Since mRNA is silenced, there is no protein synthesized.

So, what is going on? These VERY short RNA fragments, 19–28 nucleotides in length, have been observed for many years. However, because of their much larger relatives, they were ignored as being innocuous or simply discarded when they turned up in research venues. Early in 1990, geneticists discovered that such small RNAs could suppress the expression of various genes in worms. dsRNA was created by synthesizing single-stranded RNA and allowing it to “kink” or double back on itself. However, these were organized kinks, engineered so that complementary pairing occurred, giving a double-stranded appearance. This RNA was injected into worms and immediately separated. One strand of this RNA interacted with cytoplasmic messenger RNA, thus interfering with the synthesis of protein. This phenomenon was later replicated in fruit flies and other organisms. The bottom line is: we now know that RNA can control DNA function by inhibiting the expression of its RNA product.

The whole process starts with cytoplasmic double-stranded RNA. Although the appearance of this abnormal RNA is not well-understood, it is generated on a regular basis, indicating a “method to its madness.” Remember that this renegade RNA has to be manufactured by GENES!!! It has been suggested that this is a protective mechanism used by cells to proofread newly created mRNA and to prevent the production of defective protein molecules. When the dsRNA is diced, a complement (antisense) is produced to cytoplasmic mRNA (the usual product of transcription). The antisense RNA and mRNA hybridize, producing
a double stranded RNA duplex. This, of course, "interferes" with the activity of mRNA attempting to make a protein.

This technology has been applied to studying gene activity using “knockout” organisms, such as mice. These organisms are normal in every respect, except that the gene being studied is deleted (“knocked out”). This requires many generations of inbreeding the mice, resulting in two lines of mice whose only difference is the absence of a target gene, a labor- and time-intensive process. If the mRNA sequence of any gene is known, knockouts can be effectively produced right away by "silencing" the mRNA construct. This is now being tried to eliminate the very long time it takes to create knockout organisms. It also allows for verification of the mRNA sequence of the gene. This application of RNA interference in mammalian cells has the potential to revolutionize the field of functional genomics. The ability to effectively, simply, and accurately down-regulate the expression of genes in mammalian cells holds enormous scientific, commercial, and therapeutic potential.

One more VERY interesting application of this technology involves controlling cancer. When a normal gene mutates into an oncogene (cancer-producing gene), the result is a gene product whose phenotype is ultimately out-of-control cell division. Would it not be nice if the mRNA that synthesizes this abnormal gene product could be “interfered with” before translation? In vitro experimentation and mouse studies are very promising. However, the in vivo application has a long way to go.

For more detailed information on this topic, go to the following web sites:

Assistant or Associate Professor of Science/Department Chair
Troy University – Montgomery Campus

Responsibilities: Administration of the Department of Science on the Montgomery campus, leadership in course and program development in the biological, chemical, and physical sciences, mentorship of the department faculty, representation of the department in the university and to the community and outside institutions, external promotion of the programs, development of innovative instructional approaches, scholarship, and university service. Teaching responsibilities at a reduced load will be required.

Required Qualifications: An earned Ph.D. in biology or an earned doctorate with a graduate degree in biology from an accredited institution of higher education. Must demonstrate experience in teaching a variety of undergraduate courses and knowledge and practical experience in a variety of instructional delivery methods. Evidence of scholarly/professional activity is required. Candidates must meet employment eligibility requirements in accordance with the Immigration Reform and Control Act of 1989.

Desired Qualifications: Teaching experience in the major field and experience as a department chair; additional courses and teaching experience in other areas and experience in dealing with adult learners; experience in curriculum development and distance learning.

Application Procedures: Send a resume with cover letter; the names, addresses, e-mail, and phone numbers of three references; and transcripts to the director of Human Resources, Troy University – Montgomery Campus, P.O. Drawer 4419, and Montgomery, AL 36103-4419. Start date by August 1, 2006. Review of applications will begin January 31, 2006 and continue until the position is filled. Troy University - Montgomery is an Equal Opportunity/Affirmative Action Employer and encourages applications from women, individuals with disabilities, African Americans and other qualified minorities.
Introduction

Advances in digital imaging and image processing have afforded opportunities for broad application of these technologies in biology education (Ogren et al., 2004; Leonard, 2003; Thomason, 2002; Mills et al., 2001). This report describes simple, innovative and engaging laboratory exercises designed to facilitate the learning of anatomy. As a component of Anatomy & Physiology laboratories (in a two semester sequence A&P course), students use standard digital cameras (with at least one megapixel resolution) with modest (10X) zoom capability and common software programs (e.g., Microsoft PowerPoint™) in studying anatomy of the musculo-skeletal system (exercise titled CAtlas), the brain (BrAtlas) and the heart (CardiAtlas).

These activities were developed to promote interaction and involvement of students with their anatomical specimens and reference materials. Assignments involve: 1) digital photography of student’s dissections, 2) labeling of anatomical structures on the images and integration of related information - (e.g., origins and insertions of muscles, anatomical directions) - and; 3) compilation of class ‘digital atlases’ (posted on the college intranet and accessible by all students in the classes).

Major objectives of the assignments are to reinforce and extend what students actively learn through their dissections, to promote effective utilization and greater comprehension of reference materials, and to create course-specific study resources (i.e., class atlases). Evaluation of the activities is based upon student responses to course and exercise-specific surveys, as well as by the observations of the instructor.

Methods

The exercises described were designed as companion activities to student anatomy dissections. Classes are provided written instruction and demonstration on the operation of the (departmental) digital cameras as well as on importing and labeling images in PowerPoint™. Students have access to a computer in the laboratory and three computer labs in the building. Lab time (at least two hours) is allotted for students to work on each project.

Assignments are graded and each accounts for about 2.5% of the course grade (anatomical knowledge is also assessed in lab practical exams). Stated grading criteria are based upon quality of dissection, accuracy of identification and information, and clarity of images and labeling. Completed projects are placed on file in the course’s space on the college intranet and are thus accessible by all students in the course as a study resource.

**CAAtlas.** Students are responsible for dissection and identification of about 60 skeletal muscles in preserved cat specimens. In the companion activity, each group of two students is assigned a subset of 20 muscles (generally clustered in regions) for imaging and labeling after isolation by dissection. Students are also responsible for integrating origin and insertion information for each of these muscles into their projects.

**CardiAtlas.** Groups of two or three students label 25 structures/regions on images from their dissected, preserved or fresh pig hearts. They also are required to label the directional perspective of each image and to include on each image a four-point “compass” indicating anatomical direction.

**BrAtlas.** Each group of two students is responsible for labeling 40 structures/regions on images of the dissected, preserved sheep brain.

To determine reactions to these exercises and to address the value of each in learning, students completed the activity-specific surveys reproduced below. A Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) was applied to survey questions 1 through 6. Students were also asked for written comments indicating specific positive and negative aspects of the activity.

1. Activity effectively helped me learn muscular/heart/brain anatomy
2. Activity helped make me more familiar with the muscular/heart/brain anatomy of my specimen

Educational Issues - continued on page 11
Educational Issues - continued from page 10

3. Activity made me become more familiar with materials in my lab manual and other resources
4. Activity was valuable in promoting effective group work
5. Activity was technically difficult
6. Activity was an effective learning tool and should be continued to be used in A&P
7. How many hours do you estimate that you (individually) spent on activity?

Results
Each group of students generally takes a different approach in fulfilling the assignment. Thus, the number of images, the style of indicating/identifying particular structures, and the manner in which ancillary information (i.e., origins and insertions, directions) all tend to vary from group to group (see Figures 1 and 2).

A: Soleus (1: Origin – fibula  2: Insertion – calcaneus)

B: Peroneus Longus (1: Origin – proximal fibula  2: Insertion – tendon to bases of metacarpals through malleolus)

Figure 1

Figure 2

Figures 1 and 2. Examples of representative images from CAtlas projects illustrating ways students chose to specify and label structures. Some groups incorporated muscle origin and insertion on their images (as here) while others included this information in tables separate from images. An average of about 15 panels of images/text was used per CAtlas project for illustrating and listing origin/insertion information for 20 muscles.

Figure 3

Figure 3. Representative image from a CardiAtlas project. Group projects consisted of an average of about 9 panels illustrating the 25 required structures/regions of the porcine heart dissections.

In developing these exercises, intended outcomes focused on: 1) promoting an engaging, student-centered approach to dissections, 2) connecting student’s hands-on specimens with reference resources [lab manuals (e.g., Marieb, 2005; Gilbert, 1994)] and internet materials (e.g., The Sheep Brain Dissection Guide; Web Based Cat Dissection Review) providing a personal, readily accessible record of dissections, 4) creating a class atlas of projects available for study, and 5) promoting effective group work and a positive learning activity.

Figure 4.

Figure 4. Results of student surveys of satisfaction with and effectiveness of CAtlas as a learning activity. See Methods section for questions and Likert scale scoring. In general, students rated the exercise highly as a learning activity and did not find it technically difficult. The time reported spent on CAtlas per student was about 5 hours. For purposes of presentation, data shown are means of student responses with standard error indicated.

Responses to surveys and observations of the instructor indicate agreement between intended and actual outcomes for the activities. In general, students reacted positively to the opportunity to work on creative, graded assignments associated with their dissection efforts.
Results of formal student evaluation of the CAI atlas exercise are illustrated in Figure 4 (very similar evaluation results, not shown, were obtained for the CardiAtlas and BrAtlas exercises). These surveys indicate that students found particular value in the exercise as a learning tool and that most students did not find the activity to be technically difficult. Students indicated that it took them an average of 5 hours to complete the CAI exercise, though there was a good deal of variability in reported times.

Positive aspects of the activities cited by students in comments on surveys included: easy to quiz yourself; more interesting than studying from a book; incorporated computer skills; gave another view beyond the book. Examples of negative aspects cited in comments were: some structures hard to distinguish; time consuming; other group’s identifications could be wrong; some images not clear.

There are a number of modifications that might improve these activities, including incorporation of more specific structural, directional and functional information. The exercises could also potentially be expanded to become internet-based activities and involve custom student-produced quizzes. However, any modification or expansion needs to be balanced against time considerations and the relative value of the activities to meeting overall course and lab outcomes.

Student-centered anatomy imaging is seen as a worthwhile supplement to the A&P curriculum, and may be a particularly good alternative to other forms of study aid (i.e., drawing). In addition, the application of student-produced imaging projects may be amenable to other areas of study in A&P (e.g., histology).

**Literature Cited**


The sheep brain dissection guide. University of Scranton Neuroscience Program <http://academic.uofs.edu/department/psych/sheep/>


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**Reminder!**

**HAPS grant proposals are due February 1, 2006!**

Who is eligible? HAPS Faculty Members and Their Students

**Criteria for faculty awards:**

1. membership in HAPS of at least one of the applicants.
2. project must relate to anatomy and/or physiology or the teaching of these subject areas.
3. proposal must be exceptional in concept or expected outcome.

Note: Grants are not intended to be used *solely* or *predominantly* for the purchase of equipment or creation of instructional materials or equipment.

**Award:** $1000-$1500

**Criteria for student awards:**

1. completion of, or currently enrolled in, an anatomy and/or physiology course taught by a HAPS faculty member.
2. a minimum GPA of 3.0 on a 4-point scale.
3. possess a positive, open attitude toward learning as judged by the sponsoring faculty member.

**Award:** $250-750

For complete details, see the HAPS website (www.hapsweb.org).

Amy Way
2006 HAPS Grants and Scholarships Committee Chair
814-768-3431
Every Body Has a Story to Tell

John Wiley and Sons, Inc. congratulates HAPS Members

Gail W. Jenkins
Christopher P. Kemnitz
Gerard J. Tortora

On the publication of the first edition of

Anatomy and Physiology
From Science to Life

Offering a novel approach to teaching and learning anatomy and physiology, this new text offers innovative solutions to common issues in A&P education, such as student motivation, student preparation, and conceptual understanding.

Chapters designed into conceptual modules, high-interest case stories that develop over the course of each chapter, step-by-step questions that build critical-thinking skills, and an accompanying DVD rich in content, animation and activity set this text apart from the rest.

You can read more about Anatomy and Physiology: From Science to Life 1e and its supporting ancillaries, view a complete sample chapter of both text and DVD content, and order an examination copy online at: www.wiley.com/college/jenkins

HAPS-EDucator - Winter 2006 - page 13
Instead of purchasing abnormal “urine,” I have developed recipes for modifying my own urine into “clinical specimens” that test positive for diabetes, bladder infection, liver disease, and kidney disease. The specimens can be made in an hour, used repeatedly by many students, and kept for at least a year if frozen. Screw-cap 13 by 100 mm test tubes holding about 9 ml of urine make convenient specimen containers because they are deep enough to immerse urine test strips and can be tightly sealed for storage.

The specimens are designed to work with urine test strips such as Bayer’s Multistix 10SG™ and Roche Diagnostic Chemstrip 10 UA™. Bottles of 100 strips cost about $85. Expired bottles are sometimes available from local clinics at no cost; I have used outdated strips without problems.

Three of the recipes use Bayer’s Chex-Strip Positive Control Strips™, which can be purchased for $65 per bottle. One bottle will last for several years. Chex-Strips™ are positive controls for checking test strip function. Each Chex-Strip™ has a row of paper squares impregnated with abnormal urine components intended to make all of the tests on a urine test strip come out positive. Since I want only some of the tests to come out positive, I cut Chex-Strips™ apart and use particular squares as indicated in the recipes. The figure on the left shows what a Chex-Strip™ looks like and what each paper square contains. Please note that the figure does not show a urine test strip. Urine test strips are read by comparing them to a color label on the urine test strip bottle.

Here are the recipes:

**Diabetes:** To each 10 ml aliquot of urine add 0.2 grams of glucose and test squares #6 and #7 from two Chex-Strips™. Remove the squares after they have soaked for twenty minutes. If test squares are not available, substitute a few drops of acetone. Acetone provides positive ketone reactions on Chem-Strips 10 UA™, but unfortunately not on Multistix 10SG™. I have no idea why.

**Bladder infection:** To each 10 ml aliquot of urine add 5 milligrams of sodium nitrite and two of the number 4 test squares which contain leukocyte components. Remove the squares after they have soaked for twenty minutes.

**Liver disease:** To each 10 ml aliquot of urine add two of the #5 squares containing bilirubin. Remove the squares after they have soaked for twenty minutes.

**Kidney disease:** To each 10 ml aliquot of urine, add one milliliter.
Teaching Tips - continued from page 14

ter of raw egg white and a drop or two of blood.

To reduce costs, students may be divided into groups of four. Each student tests one of the four simulated specimens then reports the results to the members of the group. Students enjoy testing their own urines as well. Some of my students have discovered they are diabetics. A handout such as the following helps students make diagnoses:

<table>
<thead>
<tr>
<th>Condition</th>
<th>Test</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bladder infection</td>
<td>Positive nitrite test</td>
<td>Bacteria infecting urine convert nitrate, which is normal in urine, to nitrite.</td>
</tr>
<tr>
<td>Diabetes mellitus</td>
<td>Positive glucose test</td>
<td>High levels of glucose in the blood spill over into the urine. The kidney is unable to reabsorb all of it.</td>
</tr>
<tr>
<td></td>
<td>Positive ketone test</td>
<td>Diabetics without insulin burn fat instead of sugar for energy. Too much fat catabolism creates acidic ketones that accumulate in blood, are smelled on the breath, and spill over into urine. Ketone acidosis causes diabetic coma.</td>
</tr>
<tr>
<td>Glomerulonephritis</td>
<td>Positive protein test</td>
<td>The filters of the kidney are perforated, allowing albumin from the blood to pass into the filtrate.</td>
</tr>
<tr>
<td>Liver disease</td>
<td>Positive bilirubin test</td>
<td>If there is a high concentration of bilirubin in blood, it will spill over into the urine. Look for jaundice too.</td>
</tr>
</tbody>
</table>

Central Regional HAPS Conference

Hosted by the University of Wisconsin-Green Bay  
Saturday, April 1, 2006  
Keynote address: Stem Cells  
Scheduled workshops at this time include:  
Clearing and Staining of Biological Specimens,  
Lab Safety, Human Performance Testing  

Check the HAPS website for more details as they become available.

For more information, contact the conference committee:  
James Marker (UW-Green Bay) – markerj@uwgb.edu  
Dan Meinhardt (UW-Green Bay) – meinhada@uwgb.edu  
Donna Ritch (UW-Green Bay) – ritchd@uwgb.edu
Selecting Future Leadership for HAPS

Joseph Griswold, President-Elect
Chair, 2005-2006, Nominating Committee
Professor Emeritus, Dept. of Biology
The City College of New York
222 Hagen Rd.
Brigantine, NJ 08203
(609) 264-9142
(609) 264-7278 fax
jggris@comcast.net

The annual process of identifying candidates for the 2006 HAPS election is underway. The Nominating Committee, consisting of Joe Griswold (chair), Bill Perrotti, Kevin Petti, and Donna White, will be assembling a slate of candidates to fill each of the offices that have terms ending on July 1, 2006. These are President-Elect, Treasurer, Eastern Regional Director, and Western Regional Director. The following operating principles will guide the Nominating Committee in its work:

• A maximum of two candidates will be nominated for the position of President-Elect. This ensures that whoever is elected is supported by a majority of those members who vote. The maximum number of candidates for offices other than President-Elect has been set at three.
• Members of the Nominating Committee will solicit recommendations for candidates from other HAPS members. You are invited to submit your own name to the Nominating Committee on or before February 15, 2006, in order to be considered for nomination.
• The Nominating Committee will compile a list of possible candidates for each office and prioritize the lists according to criteria approved by the HAPS Board of Directors. The criteria include the following:
  1. length of HAPS membership,
  2. committee participation and/or leadership,
  3. current or previous elected or appointed positions,
  4. attendance at regional and/or national conferences,
  5. presentations made at regional and/or national conferences,
  6. other special work for HAPS,
  7. evidence of support from the home institution, and
  8. willingness to serve.
• The nominees will be selected from a prioritized list developed by the Nominating Committee. Each final candidate will be asked to provide both a biography and position statement.
• All discussions of potential candidates will remain confidential within the Nominating Committee.

In April, each member of HAPS will receive brief biographies of the candidates and their position statements along with ballots on which to indicate their choices. Write-in candidates are acceptable at the time of balloting. However, if you choose to enter a write-in vote for someone other than yourself, it is requested that you obtain the candidate’s approval before doing so. All ballots are to be submitted directly to the national office where they will be counted by the staff. It will be my pleasure to announce the results of the voting during the annual business meeting at the HAPS 2006 Conference in Austin, Texas.

Description of the offices to be filled in the 2006 election:

President-Elect: The office of President-Elect actually involves a three-year commitment (first as President-Elect, then President, and finally Past President). The year-long training period of the President-Elect includes a position on the Board of Directors and ensures a smooth transition to the presidency the following year. The President-Elect works closely with the President and is privy to all the decision-making and much of the correspondence in which the President engages. During the training year, the President-Elect is responsible for chairing the Nominating Committee for the next election and developing relationships with other professional societies.

Regional Directors: The Regional Directors are elected by the entire membership and exist to ensure that there will be individuals from across the continent serving on the Board of Directors. Each Regional Director is responsible for communicating with his/her constituents via small group meetings and written communications. They also serve as members of the Regional Conference Committee to promote local/regional conferences in their respective areas. Regional Directors are responsible for support and communication with various HAPS committees assigned to them. The term of office for this position is two years with the opportunity to be re-elected for one additional consecutive term. The positions up for election this year are the Eastern and Western Regional Directors. See the members area of the HAPS web site (www.habsweb.org) to determine the states within each region.

Treasurer: The Treasurer is the chief financial officer of the Society and member of the Executive Committee. He/she oversees all financial transactions of the Society, keeps a complete set of financial records for all Society business, and presents financial reports as required. The Treasurer is a voting member of the Board of Directors and works with the Board in preparing the annual budget and overseeing periodic accounting reviews. The term of office for the Treasurer is two years and consecutive terms may be served.
The beautiful fall morning of October 22 started with a crisp breeze, slight drizzle, and a group of enthusiastic HAPS members scurrying around making the final touches on what would be the all-day Regional Conference at the Catonsville Campus of the Community College of Baltimore County, Baltimore, Maryland. After a continental breakfast, the conference started with greetings from Dr. Lillian Archer, Interim Campus Administrator, Professor Frederick Hickok, Science Chairman, CCBC Catonsville, and Dr. Richard Faircloth, HAPS Eastern Regional Director.

The keynote speaker was Dr. Renty B. Franklin, Professor of Biomedical Sciences, University of Maryland at Baltimore (UMB). His presentation “Combining Basic Endocrine Research and Teaching Endocrinology” was well received by the sixty-eight plus attendees. Having advertised the conference with the membership e-mail list and on the HAPS website, we had attendees from as far away as upstate New York, Indiana and Florida. Anyone else putting on a regional conference should definitely utilize those resources for advertisement.

The rest of the day continued with a wonderful luncheon and two sessions of peer workshop presentations with the following titles and presenters: Introduction to “LabTutor®,” Presenter: Jacki Reeves-Pepin, ADInstruments; “Narrating Power Point™ Presentations and Interactive Physiology Experiments,” Presenter: Phil Stephens, Villanova University; “Cellular Respiration-A Drama” Presenter: Terri Bidle, Hagerstown Community College; “Using Structure/Function Relationships to Stimulate Critical Thinking,” Presenters: Richard Faircloth and Michael Glasgow, Anne Arundel Community College; “Creating Customized Histology CD’s for Anatomy and Physiology Classes,” Presenters: Joyce R. Kronberg and Marshall S. Griffin, West Virginia University Parkersburg; “Microcirculation-Capillary Observation,” Presenter: Edward Brandt, Shenandoah University, Winchester; and “Awesome Analogies, Dynamic Demos, & Mnifty Mnemonics: Skeletal, Muscular and Nervous Systems,” Presenters: Javanika Mody and Carol Veil, Anne Arundel Community College. Door prizes and closing remarks ended the day that was filled with camaraderie, networking, and lots of new ideas to further the mission of HAPS, “Promote excellence in the teaching of Human Anatomy and Physiology.”

This very successful conference would not have been possible without the support and participation of the following organizations: The Human Anatomy and Physiology Society, CCBC-Catonsville, Association of Faculties for Advancement of Community College Teaching (AFACCT), CCBC Bookstore, CCBC Media Services, Benjamin Cummings Publishers, John Wiley & Sons Publishers, McGraw-Hill Publishers, Primal Picture, Cleveland Medical Devices, The American Association of Anatomists, ADInstruments, and iWorx.

The Regional HAPS Conference @ CCBC Planning Committee Members were, Ewa Gorski, Chairperson, Steve Kabrhel, Vice-chair, and Ellen Lathrop-Davis, Vice-chair from CCBC, Richard Faircloth, HAPS Eastern Regional Director, Javanika Mody, Chair of HAPS Regional Conference Committee, Joanne Settel and Sarah Spence from The Baltimore City Community College, Mary Quigg from CCBB, and Carol Veil, Chair of HAPS Curriculum and Instruction Committee.

I would encourage you to explore the possibility of having a regional conference at your school. For information please contact Javanika Mody at jmody@aacc.edu or 410-777-2272.
Contacting the past grant and scholarship recipients was an idea conceived around the upcoming celebration of our 20th Anniversary of the beginning of HAPS. Finding out what they are doing now and how HAPS has influenced their lives and careers shows me that our work on the Grants and Scholarship Committee was successful. The following messages are from the recipients in chronological order of their awards.

Chad Troller, Student Grant 2001

Chad responded by remarking that he is really surprised that it has really been four years since “I had the opportunity to attend my human dissection course with the generous aid of the HAPS grant. Looking back at life, I guess it has.” He reports the following:

“I currently live in San Diego, CA, but am writing this update in a hotel in Coon Rapids, MN. I have become accustomed to life on the road as I travel about 80-90% of the time with my career as a Clinical Research Associate. For those less familiar with clinical research, in layman’s terms, I monitor clinical research to ensure the trials are run in accordance with good clinical practice and FDA regulations. I love my job. In my profession, I work extensively with physicians and nurses. I do not have a medical degree, but despite this, I have excelled rapidly in my profession due to the knowledge and experience I obtained during my human dissection course. My dissection course was enriched to its fullest potential with the generous grant provided by HAPS. I am confident in my knowledge of human anatomy and physiology, therefore I am confident in my career.”

Colleen Nolan, Faculty Grant 2001

Professor and Chair
Department of Biological Sciences
St. Mary’s University
San Antonio, TX

Colleen tells us that after receiving the HAPS grant for developing laboratory exercises in physiology she continued to modify the two laboratory exercises in her course. She is currently using both of the laboratory exercises in her general physiology and endocrinology courses. In September 2002, she applied for promotion to full professor and the grant application, as well as the development of these two laboratory exercises, were included in her promotion application as part of her Scholarship of Teaching.

At St. Mary’s, undergraduate faculty members are expected to be active in two of the four areas of scholarship described by Boyer (Scholarships of Teaching, Discovery, Application, and Integration) and she is sure the grant work helped in her promotion in June 2002. She was appointed Chair in June 2004 and still continues to teach both endocrinology and general physiology. The experiences in developing these laboratory exercises have proved valuable in that she will be using some of the same techniques to work on developing other laboratory exercises primarily for the endocrinology course. In the next 3–5 years she hopes to develop a laboratory exercise using gel electrophoresis that demonstrates the conformational change of protein kinase A upon binding cyclic AMP, contingent upon finding funding for the initial supplies and the time over the summer to work on the project.

Colleen concluded by saying, “If you need more information please let me know and I will try to get it to you. I hope all is going well with you and that you have a good crop of students this year. I hope to get to Austin for the HAPS meeting, but given that it is the same time as summer school registration (just like last year’s meeting) I may not be able to attend. I miss seeing you and many others.”

Chaya Gopalan, Faculty Grant 2002 & 2004
St. Louis Community College
Florissant Valley
St. Louis, Missouri

Chaya reports, “I have been very fortunate to have received the faculty grant twice from the Human Anatomy and Physiology Society (HAPS), once in 2002-2003 and again in 2004-2005. The request for funds has enabled me to enhance the understanding of anatomy and physiology among students through hands-on research experience. My students who participated in this research activity not only mastered several research techniques, such as high performance liquid chromatography, column chromatography, UV spectroscopy, histology (students learned to section the rat brain and isolated specific areas such as the hypothalamus or processed the brain sections for staining), cell culture, animal handling, and surgeries but also had the opportunity to participate in data analysis and manuscript preparation. Several students of mine have now become coauthors of a research paper that was published early this year and are part of another manuscript to be
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submitted. Thanks to the funds from HAPS, students at our community college were given this unique opportunity.”

Amy Way, Robert Anthony Scholarship 2002 and Faculty Grant 2003
Lock Haven University Clearfield Campus
Clearfield, Pennsylvania

Here is what has happened to Amy since she first attended HAPS in Spring 2002:

“I received the Robert Anthony Scholarship and went to Phoenix. I loved attending the meeting and getting to know colleagues across the country. I have a research background and was interested in starting a research program in which undergraduates at my university could get involved in scientific research. I applied for and was awarded the HAPS Faculty grant in 2003 and used it as a springboard to begin a research program at the campus where I am located. I also was recruited by Rich Faircloth to join the Grants and Scholarship Committee. In 2004, I presented a poster at HAPS on the results of the grant I received. I was promoted to the rank of associate professor in August 2004. I presented again at the HAPS meeting in 2005 and in July, I was appointed chair of the Grants and Scholarships Committee. I owe much of my professional development in the past four years to HAPS and the opportunities it has provided. In addition, I have had tremendous fun attending each meeting since my first in Phoenix, meeting new people and learning about so many ways to improve myself as an educator.”

Joseph Gar, Robert Anthony Scholarship 2002
West Kentucky Community and Technical College
Paducah, Kentucky

“Before 2000, I was a Human Anatomy and Physiology instructor who did not know about the Human Anatomy and Physiology Society (HAPS). In 2002, I received the Robert Anthony Scholarship which partially funded my attendance at my first HAPS annual conference in Phoenix, Arizona. Since then, I have served on the Grants and Scholarship Committee (starting in 2003), presented two workshops at a HAPS annual conference (Canada, 2004), published several articles in the HAPS-EDucator, twice received the top (Exceptional) rating for the performance of my duties at my college (West Kentucky Community and Technical College), and began a two year term as HAPS Southern Regional Director (2005).”

Georgia Purdom, Robert Anthony Scholarship 2003
Mount Vernon Nazarene University
Mt. Vernon, Ohio

“This will be my last year at Mount Vernon Nazarene University. I have decided not to renew my membership to HAPS the next time it is up for renewal. I am going to be a speaker, writer, and researcher for an organization called Answers in Genesis beginning next June.”

Ken Hoekstra, Robert Anthony Scholarship 2004
Rehabilitation Sciences & Medical/Dental Undergraduate Program
University of British Columbia
Vancouver, British Columbia, Canada

“Shortly after I received the Robert Anthony Scholarship and
attended the annual HAPS conference in Calgary 2004, I accepted a faculty position to teach pathology in the Faculty of Medicine, School of Rehabilitation Sciences and the Medical/Dental Undergraduate Program. I divide my time equally between the two programs. In the School of Physical Therapy, I teach our Masters of Physical Therapy students pathology relevant to the rehabilitation sciences. In the MD undergraduate program, I participate as a Problem Based Learning tutor leading small groups of 1st and 2nd year medical students through a case-based curriculum, administration of PBL program, and guest lecturing on topics relevant to my area of expertise (cardiovascular pathology). When time permits, I still conduct a little research on the oxidant/antioxidant imbalance in atherogenesis. Since becoming a member of HAPS, I have been an active member on the Grants & Scholarship Committee, and look forward to meeting more of our members at future HAPS meetings.”

Muffie Slater, Robert Anthony Scholarship 2004
Elgin Community College
Elgin, IL

“Since receiving the Robert Anthony Scholarship that enabled me to go to the HAPS Conference in Calgary, I have been a member of the Grants and Scholarship Committee. I have been able to incorporate some of the ideas I picked up from the HAPS conference into my classes (both lecture and lab ideas). I am into the 5th semester teaching full time, and the school will be deciding my tenure fate this coming spring. I truly do love my job and I feel that I have gained tremendously as an instructor by learning from other more seasoned instructors at the HAPS annual conferences. I am so grateful to be able to participate with such a nice group of folks!”

Sherry Stewart, Robert Anthony Scholarship 2004
Navarro College
Corsicana, TX

“Since receiving the Robert Anthony Scholarship, I attended the HAPS annual conference in St. Louis and worked on the Scholarships and Grants and the Annual Conference Committees. I am on the committee for the Austin Annual Conference and am serving as the chair for speakers. This semester, I am teaching an Introduction to A&P course for the first time. I got the idea for the course at the Calgary conference and have implemented it here at Navarro. It is taught at Tyler Junior College and at other colleges in Texas, I learned of the course from Betsy Ott at Tyler. The course is designed to give students a background in A&P before they take the two semester courses in A&P. I hope that it will become a popular course and will be helpful to students who have a poor background in biology, so that they can be successful in A&P and then allied health courses.”

Cynthia Drake, Robert Anthony Scholarship 2005
Delta College
Freeland, Michigan

“I am still working at Delta College. I have already put many things I learned to good use. Just a couple of examples of things that I have been doing that directly relate to attending HAPS:

1. I use information from the skeletal forensics presentation to discuss with students the difficulties in determining gender from a skeleton and some of the key markers they

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can look for to attempt it.

II. I have my students do muscle fiber clay modeling and they have expressed to me that this has really helped them to get the idea of what is really happening in the muscle when it contracts and relaxes.

III. I have taken an endocrine card game that we were shown, modified it to fit my class and teaching style, and have had decks printed up for my students (and some for other faculty to share).

IV. I am having my cell chemistry class do relevance journals since they have the most difficulty in relating the class information to their real lives.

This is a small snippet of what I gained from HAPS. Thank you again for the wonderful opportunity to attend!

My limited professional development funds have pretty much been exhausted for the next year already. I will be attending NABT this fall to get some different ideas for other classes I teach. I am encouraging my husband to apply for the scholarship that I received for the HAPS annual conference in 2007.”

Jill Feinstein, Robert Anthony Scholarship 2005
Richland Community College
Decatur, Illinois

“Things are going fine with the pregnancy. I am at 24 (written in mid-September) weeks and the baby moves a lot!

As for my A&P career, since attending the HAPS conference back in May/June, I have incorporated some of the lab ideas that I learned at the conference, and they have been a great success. I am also developing one of our A&P courses into a hybrid course, where the lecture portion is online and the students come onto campus for lab. I am using software called Camtasia™ that allows me to audio-tape my lectures along with images from the book and put these files on webCT™ for the students to view. This way they do not miss out on the explanation that is crucial to this type of course.”

Casey Armour, Robert Anthony Scholarship 2005
Daemen College
Amherst, New York

“I am a new member of the Grants and Scholarship Committee. The latest addition to our family is Camdan, born on September 28th. I have not had a chance to do much since I had a baby and I taught classes for only three weeks. Attending the HAPS annual meeting gave me many great ideas, and I know that my classes will benefit in the future. In the spring I plan to incorporate more case studies and active learning in my courses (which I learned about in the seminars). I did use some of the pointers I learned about teaching histology. I think I was able to simplify the information so the students were less overwhelmed than usual.”

Now we are up to date with all of the grant and scholarship recipients from back to 2001. I hope you have enjoyed reading how HAPS has influenced the recipients personally and professionally.

FUTURE

HAPS ANNUAL CONFERENCES

2006 in Austin, Texas
2007 in San Diego, California
2008 in your city???
2009 in your city???

How about hosting an annual conference in your city? The format is already in place and you’ll get a lot of help from the HAPS business office and the marketing manager. It’s not as hard as you might think it is! Go ahead! Explore the possibility!

If you are interested in possibly hosting a HAPS Annual Conference, please contact:
Izak Paul, Chair of the Annual Conference Committee
Mount Royal College
4825 Mount Royal Gate SW
Calgary, AB T3E 6K6 Canada
(403) 440-6173
(403) 440-6095 fax
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