MESSAGE FROM THE PRESIDENT

On behalf of the Executive Committee of HAPS, I would like to extend a warm welcome to those of you who have only recently joined the Society and who are receiving your first HAPS News. A hearty welcome back also goes out to all of you “old timers.”

The conference held in Madison, Wisconsin, was an unqualified success, with about 175 members in attendance. We owe a big thank you to Gary Johnson and Madison Area Technical College for putting the event together.

Next year’s conference is being organized by Karen LaFleur and Art McConnell at Greenville Technical College in Greenville, South Carolina. Furman University in Greenville and Clemson University in Clemson will serve as cohosting institutions. From everything we have learned so far, it looks like these institutions will provide us with another excellent conference, following in the tradition of those held at Triton, Reno, and Madison. Details and a registration form will be available in the next issue of our newsletter. We hope you will be able to join us for our first get-together in the southeast. Since we would like to have the HAPS conference scheduled two years in advance, we are now looking for hosts for 1992 and beyond. If you and your institution are interested to serve in this capacity, please notify any Executive Committee member.

During the coming year, we want to provide you with an outstanding newsletter that will give all of us an opportunity to learn from one another. We have a very fine newsletter editor and editorial board, but the quality of the newsletter is going to be primarily a reflection of the willingness of all of us to participate by submitting articles for publication. I encourage each of you to make a contribution.

In addition to the conference and newsletters, HAPS plans to serve its members by setting up a computer database whereby we can determine in which fields members have experience. If, for example, you were starting a cadaver program and wanted assistance, you could be provided with a list of names and addresses of those HAPS members having experience with cadaver programs. Implementation of this system requires that you fill out the information sheet enclosed in this newsletter. It may resemble forms you have filled out for HAPS previously, but please give it your attention. The success of this program depends on the data you supply. We are especially interested in your areas of expertise or experience, including any not listed. Please specify these.

With the organized presentations and workshops at the annual conferences, the numerous personal contacts at the conferences, the newsletter, and the sharing of information that will be possible with our new computerized system for cataloging members’ skills, HAPS will continue to grow as an organization that can be of service to all instructors of human anatomy and physiology.

Richard Welton, HAPS President
IMPRESSIONS OF THE 1990 HAPS MEETINGS

As my wife and I drove the 1500 miles back home from Madison to Rexburg, Idaho, I reflected on the events of the week. What a week! The annual HAPS conference and workshops had been a tremendous success. The hopes and expectations of a first-time participant were certainly fulfilled. The meetings had presented information and experiences that will help me in my teaching of anatomy and physiology, not only for this summer’s classes, but also for all future ones.

For the benefit of those who couldn’t attend, here’s a summary of the conference. The week began with registration at the Concourse Hotel in downtown Madison during the afternoon of Sunday, June 3. Later, we enjoyed an informal get-acquainted evening over a beautiful table loaded with succulent morsels of a great variety of foods. The first two meeting days featured update symposia on a variety of interesting and pertinent topics.

Dr. Leonard A. Wisneski’s two talks on Clinical Psychoneuromuscular and The Pineal Gland were not only informative but also delivered in such an interesting manner that he kept our attention throughout two 70-minute presentations. The moderator found it difficult to close the question and answer period at the end of each topic.

Dr. Glenn Schmiege presented a lively series of demonstrations to illustrate various aspects of medical physics, ideas that would definitely enhance any instructor’s physiology lecture. After the session, he was deluged by those of us who wanted more details on how he performed the demonstrations.

An update on Alzheimer’s disease (see page 6) was delivered by Michael J. Siebers, M.D. Many questions were generated in response to his presentation. I thought the topic was very appropriate for a time when our nation is aging and those we teach will be confronted with this and other aging disorders as they enter the health care fields.

Another interesting and timely topic was a report by R. Timothy Mulcahy, Ph.D. on ways to study tumor cells in vitro in microenvironments that approximate conditions in a living organism. His studies have some interesting implications for cancer chemotherapy.

The final topic of the update sessions dealt with eating disorders. The presenters were Judith A. McNeely, Ph.D. and Susan Neff, BSN, both of the University of Wisconsin Hospitals Eating Disorders Program. Their presentation provoked much thought and discussion, which carried beyond the allotted time. Time seemed literally to fly at all sessions. [Editor’s note: future issues of HAPS News will feature summaries of these talks.]


Tuesday morning’s business meeting was very productive (see article on page 5). That evening at the banquet an excellent buffet dinner was enjoyed along with great conversations. The highlight of the evening was Elaine N. Marielb’s masterful and humorous talk, “From Ivy-covered Halls to Graffiti-covered Walls.” She shared some of her experiences in teaching, some of the changes she has seen in her students over the last decade, and some of the things she has done to become a better anatomy and physiology teacher.

The next two days consisted of a variety of workshops and visits to the University of Wisconsin Hospitals, where a number of demonstrations were given. The swap sessions were especially helpful to me.

The last day of the conference was a tour through the Wm. C. Brown Publishing Company in Dubuque, Iowa, followed by lunch and a river cruise on the mighty Mississippi. Sadly, I couldn’t join the fun because summer school classes were looming on the horizon.

The HAPS meetings were just what I wanted. As I arrived back home, I thought: “Those anatomy and physiology teachers who didn’t come this year really missed out!” I was glad I had made the effort to be at the 1990 meetings, and I am already looking forward to the 1991 meetings in Greenville, South Carolina. Y’all come—see you there!

Larry Hibbert
Ricks College (ID)

The following HAPS members have been selected to serve on committees during 1990-1991. Thanks for volunteering!

Membership Committee
Sandra Uyeshiro, Chair; Modesto Junior College (CA)
Bob Anthony; Triton College (IL)
John H. Dustman; Indiana University Northwest
Mildred Galliher; Cochise College (AZ)
Oren J. Hill, Sr.; Stanly Community College (NC)
Jamie H. King; Craven Community College (NC)
Henry Ruschin; Humber College (Canada)

Nominating Committee
Virginia Rivers, Chair; Truckee Meadows C. C. (NV)
Felicia Lee Harvey; Eastern New Mexico University
Elaine Marielb; Holyoke Community College (MA)
Eloise Ranwand; Providence Hosp. School of Nursing (OH)

Annual Conference Committee
Karen LaFleur, Coordinator; Greenville Tech. College (SC)
Robert Anthony, Triton College (IL)
Gary Johnson; Madison Area Technical College (WI)
Virginia Rivers, Truckee Meadows C. C. (NV)

Editorial Board of Newsletter
Sandra R. Grabowski, Editor; Purdue University (IN)
Donna VanWynsbergh, Chair; Univ. Wisc.-Milwaukee
Larry Hibbert; Ricks College (ID)
Wayne Carley; Lamar University (TX)
John A. Knesel; Northeast Louisiana University
Steven Trautwein; Southeast Missouri State University

HAPS News September 1990 2
Overcoming health hazards in the Cadaver Lab

The use of cadavers for teaching human anatomy and physiology adds a dimension of understanding that simply cannot be achieved with small animal dissection. I feel very fortunate to teach in a college that provides its students with cadavers, and I urge any school that has the proper facilities to do the same. If cadavers are used, however, the health hazards caused by the fixing and preserving chemicals must be addressed.

Cadavers are fixed in formalin for a minimum of two weeks before they are delivered to the institution. Thereafter, they must be sprayed periodically with a "wetting solution" to prevent drying out and to replenish the formaldehyde, which evaporates more quickly than the water. If it is not replaced, the specimen can end up in a solution that is more than 90% water and thus is subject to invasion by pathogens. Thus, specimens normally are "fixed" and then kept in a submersion tank or periodically sprayed with wetting solutions. Our wetting solution contains formalin, glycerol and phenol. All three present health hazards.

Formaldehyde is primarily a mucous membrane irritant that in high doses over prolonged periods of time is carcinogenic to the nasal passages of rats (3). In lower concentrations, it causes itching, burning, watering and swelling of the eyes, sore throat, burning and stuffiness of the nose, cough, shortness of breath and wheezing (1). The OSHA standard for human exposure to formalin fumes is 1.0 PPM over an 8-hour day, and 2 PPM for any 15 minute period of time (2). These numbers are much lower than they were previously due to a recent court order to the Labor Department mandating a change in the previous 3 PPM allowable level.

Just this past year, one of my students experienced bronchospasms shortly after working over the cadaver and required immediate medical care. Her physician's impression was that the formaldehyde brought on the attack only because she was already under stress and had not slept well for two nights. It is of note that formaldehyde can be especially irritating to people who wear gas-permeable contact lenses because the formaldehyde molecule becomes trapped behind the contact lens and is held in close contact with the conjunctiva.

Phenol, whether it is in a liquid or gaseous state, enters the body primarily by absorption through the skin. It can cause severe skin burns, dermatitis, cell necrosis, headaches, nausea and even tachycardia at doses of 5 PPM (4).

Glycerol is usually a hazard only when it is ingested. Fumes or liquid touching the skin have not been shown to be a major health hazard concern. (I assume that my students do not drink from the wetting solution bottle!)

The risk of health problems from these chemicals is much greater to instructors than to students because of our many years of exposure. However, the current climate of liability insurance claims makes the risk to students the one that demands immediate preventative measures. It is wise, indeed, to be able to verify that you have provided a classroom that complies with federal safety standards.

The ventilation of the cadaver room, or morgue, is obviously a key factor in fume control. Our cadavers are in a separate room that has a wall with vents directly to the outside. A forced air refrigeration unit maintains a positive pressure inside the room, so the air is always vented out. Weather-stripping on the door between the morgue and the main lab where the students work prevents leakage of fumes during class time that does not involve cadaver work.

The refrigeration unit is set to maintain the temperature in the morgue at 16-18°C (62-65°F). The forced air unit can be turned off while students are working on the cadaver, so a more comfortable temperature can develop and fumes are not forcibly vented into the main lab. However, some fumes do get through. We currently keep our cadavers in latex-covered, zippered body bags. Except when the cadaver is in use, the zippers are closed to control fumes and to help slow desiccation. In addition, moist towels and plastic covering are kept over the cadavers, inside the body bags.

Lastly, judicious use of the cadaver can be a help in fume control. On lab days when the cadaver is needed, such as during the muscle identification lab, I instruct the students to first learn the muscles on the charts and models in the main lab. I allow about one hour for this. Then open the morgue for the remainder of class so they can locate the muscles on the cadaver. They are able to do this fairly quickly since they now already know the names and locations of the muscles. If students use their time wisely, they can limit work on the cadaver to half an hour and still learn the material well.

Of course, we insist on the use of rubber gloves by the students when they work on any preserved specimen. It is of interest, however, that allergies to latex are quite common and
can produce an extremely itchy rash on the hands and even on the chest and abdomen simply from using rubber gloves. Sprinkling of body powder over the hands and into the glove before gloving can be effective in prevention.

We monitor the formaldehyde fumes in our lab by having instructors wear formaldehyde vapor monitors that clip onto their lab coats. The exposed discs are then sent to the manufacturer for analysis (included in the purchase price). The cost runs about $35 to $45 per disc, a small price to pay for verification of your lab’s safety status. The badge-type monitors can be purchased through any large chemical or biological supply house. We also recently invited OSHA to visit our lab on a consultation basis to assess fume levels. The OSHA official came during a regular lab period and monitored both instructor and students with a Miran Air Analyzer. This monitor is much more sensitive than the badges and allows the operator to assess how the fume levels vary in different parts of the room and during different activities. We were under the allowable limits, and we now have this report on file to verify our compliance with federal laws. In addition, the inspector was helpful with suggestions on how to further minimize exposure for both students and instructors.

Initially, it may seem as though there are numerous problems and concerns with chemicals and fumes when using cadavers. However, most of the precautions mentioned here are, in reality, necessary when using any chemically preserved specimen, including fetal pigs and cats. In my opinion, the benefit to my students who learn anatomy on human cadavers is well worth the additional effort to me and the expense to my college.

### Literature Cited


**Virginia Rivers**  
Truckee Meadows Community College

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**Semipermeable or Selectively Permeable: What is the difference?**

There is considerable misuse of the terms *semipermeable* and *selectively permeable*. The confusion arises over the inappropriate use of the term selectively permeable when talking about artificial membranes. By definition a membrane is **permeable** when it allows all materials to pass through it, **impermeable** when nothing will pass through, and **semipermeable** when it will allow the passage of some molecules but not others. This permeability limitation in artificial membranes is a function of the pore size in the membrane and nothing else.

A selectively permeable membrane, on the other hand, is not only semipermeable, but it also is capable of changing its permeability. Usually, only a living membrane can allow the passage of a material at one time and then change to deny it at another. Selectivity implies change. It demonstrates that cells use a variety of criteria to control the entry of materials into the cell, and molecular size is only one of them.

If one takes a dead cell, its membrane will act as a semipermeable, but not as a selectively permeable, membrane. If you stress the fact that living systems must be and are adaptable to environmental conditions, this distinction in the use of the term selective reinforces that concept. The classic diagram in texts showing a U tube or cellophane sac in a beaker should be called semipermeable, not selectively permeable. Furthermore, making this distinction about the functional changes that may occur in membrane function affords a good bridge into discussions of transport systems. Using the example of ADH and the collecting duct of the kidney is good to illustrate how membrane function can change to meet the needs of homeostasis.

**Dr. John Dustman**  
Indiana University Northwest  
3400 Broadway  
Gary, IN 46408

[Editor’s note: some of our colleagues prefer stricter definitions for both semipermeable (meaning only solvent can penetrate) and selectively permeable (not necessarily implying capacity for variable permeability). How do you use these terms? I'd like to know!]

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*Do you have a contribution, request for information, letter to the editor, etc. for HAPS News? Send a double-spaced typed or printed copy together with your name, address, and school affiliation to the Editor. HAPS News is created in Microsoft Word on a Macintosh computer. Your editor welcomes files on 3.5" microdisks or 5.25" double density PC disks. If you use a word-processor other than Word, please specify.*
HOW ABOUT A SWAP?

Some of the most popular workshops at the June HAPS meeting were the Swap Sessions, exchanges of lab exercises, lecture demonstrations, and teaching methods and strategies. I can almost hear you saying:

But I couldn’t come to Madison. How do I hear about all this good stuff?

Look for reports (see page 7) from the Swap Sessions held at Madison in each issue of HAPS News.

I have a lab exercise/in-class example/ neat trick/testing tip/discussion topic/ demonstration that others might use. Do I have to wait until next year’s conference in Greenville, SC, to share it?

I’m glad you asked. NO, you don’t have to wait. A planned feature of HAPS News is the SWAPSHEET.

That sounds good, but I doubt if anyone would be interested in what I have to say.

You obviously have never attended a HAPS Conference and thus have never met the interested, interesting, open, and sharing people who are HAPS members.

Anything I would send in would be too long to put in a newsletter. My lab exercise is four pages long!

That is NO PROBLEM. You could write a short summary of the exercise and give your name and address for interested readers who want to ask you for a copy of the entire writeup. Get the picture? We’re interested in your ideas for teaching Anatomy and Physiology.

HAPS News is also a forum for asking questions, getting advice, advertising academic positions, and whatever else you want it to be.

Please send your SWAP ideas to:

Steve Trautwein
SWAPSHEET Editor
Department of Biology
Southeast Missouri State University
One University Plaza
Cape Girardeau, MO 63701-4799

MINUTES OF THE ANNUAL MEETING
THE HUMAN ANATOMY AND PHYSIOLOGY SOCIETY
JUNE 4, 1990 MADISON, WISCONSIN

Richard Steadman opened the meeting by introducing the outgoing 1989-90 Executive Committee and thanking them for their efforts during the past year: Richard Steadman, President; Richard Welton, President-elect; Lewis Milner, Secretary-Treasurer; John Lutz, Past-president and Member-at-Large; Virginia Rivers and Sandra Grabowski, Members-at-large.

Lew Milner distributed the June 4, 1990 Treasurer’s report showing a total income of $8,986.83 since June 1988 and expenses of $5,072.86 with a remaining balance of $3,913.97. The total membership in the Society as of May 31, 1990 was 415.

Steadman announced the election results for the 1990-1991 Executive Committee and the appointments of the Committee Chairs: Richard Welton, President; Virginia Rivers, President-elect; Lewis Milner, Secretary-Treasurer; Richard Steadman, Past-president; Robert Anthony, Member-at-Large, Archivist; Larry Hibbert, Member-at-Large; Gary Johnson, Member-at-Large; Sandra Grabowski, Newsletter Editor; Sandy Uyeshiro, Membership Committee Chair; and Donna VanWynsberghe, Editorial Board Chair.

Milner distributed copies of the three proposed amendments to the constitution. Motions were made and seconded to accept each of the amendments. The motions passed and the amendments were adopted.

**Article 10 AMENDMENTS TO THE CONSTITUTION**

10.1 The expiration date for the membership year shall be changed from the end of the calendar year to May 31.

10.2 If the Society were to be dissolved, then all remaining funds shall be divided equally among the current membership.

10.3 From June 1, 1990 through May 31, 1991, the Executive Committee may, with a unanimous vote, amend the constitution as necessary to comply with nonprofit status as defined by the Internal Revenue Service.

Steadman announced the site for the 1991 Anatomy and Physiology Conference and Workshop. It will be held at Greenville Technical College in Greenville, South Carolina. The conference and workshop coordinator will be Karen LaFleur. Thanks were extended to Karen and Art McConnell, department head, for offering to host the 1991 meeting. An appeal for a 1992 site was made.

Martin Frank, Executive Director of the American Physiological Society, informed HAPS members of the "Animal Research Facility Protection Act" that is under consideration in Congress (HR3270). This bill would aid prosecution of groups or individuals involved in the destruction of experimental data gathered through animal research. Support for this bill can be shown by contacting your congressional representatives.

Richard Steadman thanked members for attending the meeting and supporting the Society. A motion made to adjourn the meeting was seconded and passed, and the meeting was adjourned.

Lew Milner
HAPS Secretary-Treasurer

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ALZHEIMER'S DISEASE  
by Dr. Michael J. Siebers,  
Assistant Professor  
U. of Wisconsin Medical School  
A study in the November 10, 1989 issue of the Journal of the American Medical Association (JAMA) suggests the prevalence of Alzheimer's Disease (AD) is higher than reported earlier. AD is strongly age associated. Of those 65 to 74 years old, 3% had probable AD, compared with 18.7% of those 75 to 84 years old and 47.2% of those over 85 years. These figures suggest that clinically diagnosed AD is a much more common condition than previously thought.

One of the principal pathological findings in the Alzheimer's brain is the presence of neurofibrillary tangles. These are bundles of badly twisted filaments. The tangles occur in the nerve cell body and dendrites and contain birefringent material thought to be amyloid. In AD victims, the tangles are concentrated in the hippocampus in far higher numbers than in brains of normally aging persons. They also are plentiful in the cerebral cortex, particularly in the parietal-temporal region.

Correlations suggest that tangles are directly linked to impairment of brain function, though research has not yet uncovered precisely what that link might be. Some research suggests that tangles have a role in neuronal deterioration and destruction. Current research on neurofibrillary tangles focuses on identifying the composition and abnormal protein source of the paired helical filaments. A major problem has been the difficulty of solubilizing the tangles so they can be characterized more fully. They may represent an abnormal form of microtubule.

The other notable pathologic feature of the Alzheimer's brain is the presence of neuritic or senile plaques. As with tangles, plaques are found in the brains of normally aged persons; however, they appear in far more significant concentrations in the brains of AD victims. Plaques are found outside neurons, and amyloid is a part of their composition.

Considerable data indicates that AD disables the brain's cholinergic system. For unknown reasons, cholinergic neurons begin to lose both their neurotransmitter and critical enzymes (choline acetyltransferase and acetylcholinesterase) and are selectively destroyed. Cholinergic dysfunction in the hippocampus and in the frontal/parietal areas of the cortex is quite pronounced. The nucleus basalis of Meynert suffers a loss of 44 to 75 percent of its neurons in AD. This loss will reduce stimulation to the cortex and hippocampus.

Several studies have demonstrated that the risk of AD is increased in certain families. Some data now suggests that autosomal-dominant inheritance may operate in a large number of AD cases. In some family kindreds, an early-onset type AD may be associated with an abnormal gene on chromosome 21. The same chromosome contains a gene that is responsible for producing a major protein component of amyloid. This may be the amyloid that collects in the walls of blood vessels and/or plaques in both older persons with Down's syndrome and individuals with AD. It is not clear if vascular amyloid, which is fairly common in both AD and old age, has the same origin and chemical composition as the amyloid in neuritic plaques.

reported by Dick Welton

WORKSHOPS

A Problem-Solving Approach to Teaching Anatomy and Physiology  
by Phil Tate  
This well-organized and well-presented workshop began with the question, "What does it mean to think?" Following was a discussion of Bloom's six major classes of cognitive processes: Knowledge, Comprehension, Application, Analysis, Synthesis, and Evaluation. The last four are considered to be problem-solving activities. Descriptions and examples were provided for each of these six processes. The lively discussions of these examples provided insights into the benefits as well as the pitfalls of using a problem-solving approach in teaching anatomy and physiology.

The second half of the workshop dealt with implementing a problem-solving approach in A&P classes. General suggestions and specific strategies were presented. Ways to make more time for problem-solving activities include: selecting more responsibilities; making the students responsible for acquisition of some material;

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increasing the efficiency of delivery; and changing the nature of the delivery.

A very helpful set of handouts was also provided, consisting of reprints of editorials and articles from such publications as The American Biology Teacher and The Teaching Professor. Each of the reprints documented and/or complemented the implementation strategies that had been discussed.

-- reported by Steve Trautwein

✓ Have you filled out your information sheet and returned it to John Dustman?

S W A P S E S S I O N S

Lab Ideas

from Larry Hibbert
Ricks College
Rexburg, ID

To help with the cadaver preparation, each year Prof. Hibbert enrolls 8 top students from the Anatomy course in a 1 credit Gross Anatomy Lab (3 hours per week). He works closely with them to dissect and prepare the cadavers for the general anatomy course. This has sparked the students' interest in the health professions and made a tedious one-man task much easier and more enjoyable.

from Phil Dowling
San Ramon, CA
Diving Reflex Lab

Dish tubs containing water at various temperatures (5, 10, 20, 37, and 45 °C) are used for face immersion while recording Lead I ECGs and pletysmograms. Records are made after the first 15 seconds (after the shock effect has past). Subjects also make records while standing, holding their breath, and immersing their face with and without a snorkel mask.

Basketball Lab

This was adapted from the old Physiology Teacher of APS. Subjects take their pulse rate, oral temperature, and weight before and after playing basketball for 15 minute bouts. They measure all water intake and excretion and calculate heat loss and storage.

--reported by Gerald D. Tharp

Lecture Demo Idea

from Richard Steadman
A Simple, Fast Illustration of Molecular Motion and Diffusion

Using a one-inch diameter glass tube one to two feet long, one can easily demonstrate diffusion and diffusion rate on an overhead projector in a lecture setting. A cotton plug is placed in each end of the glass tube. Five or six drops of hydrochloric acid are placed on one of the cotton plugs, and the same amount of ammonium hydroxide is placed on the plug at the other end. Within five to ten minutes, a very distinct white cloud of ammonium chloride will form in the tube toward the end with the Cl− since NH₄⁺ has a lower formula weight and thus diffuses more rapidly. This is an excellent problem-solving exercise, dramatically illustrating the movement of molecules by Brownian motion. The cloud of ammonium chloride is distinct and shows up readily with overhead projection.

-- reported by Dick Wellon

FROM YOUR MEMBERSHIP COMMITTEE

Please send names and addresses of A&P teachers who might like to join HAPS or receive information about our annual meeting to:

SandyUyeshiro
Modesto Junior College
435 College Ave.
Modesto, CA 95350

Bob Anthony subjected himself to determination of body fat composition by the Long Skin Fold Caliper method. Virginia Rivers, true to her name, elected to undergo hydrostatic weighing (underwater densitometry) for body fat determination. Test results were not released for publication.

The U. of W. recommendations for body fat percentages in young adults are:
- males 15-16% (7% min.)
- females 22-23% (12% min.).

According to Clark, 33% body fat in females is border-line obesity.

-- reported by Shirley Mulcahy and only slightly altered by the Editor
1991 HAPS CONFERENCE AND WORKSHOPS
AT GREENVILLE, SOUTH CAROLINA
HOSTS: GREENVILLE TECHNICAL COLLEGE
FURMAN UNIVERSITY
CLEMSON UNIVERSITY
MAY 25-30, 1991
Mail Completed Application to:
John H. Dustman
Biology Department
Indiana University Northwest
3400 Broadway
Gary, IN 46408

Check One
- Application for Membership
- Renewal of Membership
- If you are currently a member and only updating the information on the questionnaire - Check here.

Human Anatomy and Physiology Society

Name: ____________________________
  Last
  First

Institution _______________________
Institutional Address
  Street
  City State ZIP

Home Address
  Street
  State ZIP

To determine how members could help each other, please mark those areas you have had some experience you would be willing to share.

☐ Use of cadavers
☐ Electronics in the laboratory
☐ Lecture testing methods
☐ Laboratory testing methods
☐ Machine test grading
☐ Gradebook programs
☐ Disabled students in the laboratory
☐ Team teaching
☐ Physical facilities design
☐ Museum displays
☐ Grantsmanship
☐ Club leadership
☐ Computer simulations
☐ Computer assisted instruction
☐ Administration
☐ Computerized library searches
☐ Computerized data acquisition systems
☐ Videoimage acquisition systems
☐ Instructor evaluation by students
☐ Laboratory safety
☐ Authorship
☐ Radioisotope use in the laboratory

(Turn Over)
Informational Survey

Please answer the following questions to assist us in forming an informational database about our membership. This database will allow us to be more responsive in supplying our members with answers to concerns they might have in the areas of Human Anatomy and Physiology. Place a check in each answer box that appropriately answers the question.

<table>
<thead>
<tr>
<th>Your Institution is best described as:</th>
<th>Community College</th>
<th>4 Year College or University</th>
<th>Diploma School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check One</td>
<td>High School</td>
<td>Private Business</td>
<td>Other</td>
</tr>
</tbody>
</table>

What is your academic specialty?

How many years teaching experience have you had?

Number of years teaching an A&P course (combined or separate)?

What is the full time teaching load?

In contact hours per year.

In credit hours per year.

What % of your load is:

Teaching  Research  Admin.  Other

Are you?

Check appropriate boxes

Are you? Full time  Tenured  Part-time  Nontenured  No tenure track system

How many different HAP courses does your school offer?

Number of student credit hours for the introductory HAP?

Is the introductory HAP course?

Check appropriate boxes

1  2  3  Semester  Quarter  Combined  Separate

Do you use living animals in your laboratory?

Yes  No

Do you use cadavers and how?

Yes  Dissected  No  Prosected  No, but would like to.

Do you use computers in your HAP course and what kind?

Yes  No  Apple [Je/Gs  IBM/MS-DOS  Macintosh  Others

Please indicate the authors & title of the textbook you are using in your introductory HAP course.

What kinds of dissection animals are used in the laboratory?

Check appropriate boxes

Frogs  Mice  Rats  Primates  Dogs  Cats  Turtles  Pigs

Do you have any pressures applied to this use by animal rights groups?

Yes  No

Please indicate the authors & title of the laboratory manual you are using in that course.